

ORNL/NUREG/NSIC-138

*Annotated Bibliography of
Safety-Related Occurrences in
PRESSURIZED-WATER NUCLEAR POWER PLANTS
as Reported in 1976*

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PREPARED FOR THE U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REGULATORY RESEARCH
UNDER INTERAGENCY AGREEMENTS ERDA NO. 40-55-1-75 and 40-55-2-75

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PRESSURIZED-WATER NUCLEAR POWER PLANTS
AS REPORTED IN 1976**

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Manuscript Completed - August 1, 1977
Date Published - August 1977

PREPARED FOR THE U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REGULATORY RESEARCH
UNDER INTERAGENCY AGREEMENTS FRDA NO. 40-551-75 AND 40-552-75

Prepared by the
OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37830
operated by
UNION CARBIDE CORPORATION
for the
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

MASTER

Printed in the United States of America. Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road, Springfield, Virginia 22161
Price: Printed Copy \$12.00 ; Microfiche \$3.00

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FOREWORD

The Nuclear Safety Information Center (NSIC), which was established in March 1963 at Oak Ridge National Laboratory, is principally supported by the U.S. Nuclear Regulatory Commission's Office of Nuclear Regulatory Research. Support is also provided by the Division of Reactor Development and Demonstration of the U.S. Energy Research and Development Administration. NSIC is a focal point for the collection, storage, evaluation, and dissemination of safety information to aid those concerned with the analysis, design, and operation of nuclear facilities. A system of key words is used to index the information cataloged by the Center. The title, author, installation, abstract, and key words for each document reviewed are recorded at the central computing facility in Oak Ridge. The references are cataloged according to the following categories:

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4. Aerospace Safety (inactive ~1970)
5. Heat Transfer and Thermal Hydraulics
6. Reactor Transients, Kinetics, and Stability
7. Fission Product Release, Transport, and Removal
8. Sources of Energy Release under Accident Conditions
9. Nuclear Instrumentation, Control, and Safety Systems
10. Electrical Power Systems
11. Confinement of Nuclear Facilities
12. Plant Safety Features - Reactor
13. Plant Safety Features - Nonreactor
14. Radionuclide Release, Disposal, Treatment, and Management
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15. Environmental Surveys, Monitoring, and Radiation Dose Measurements
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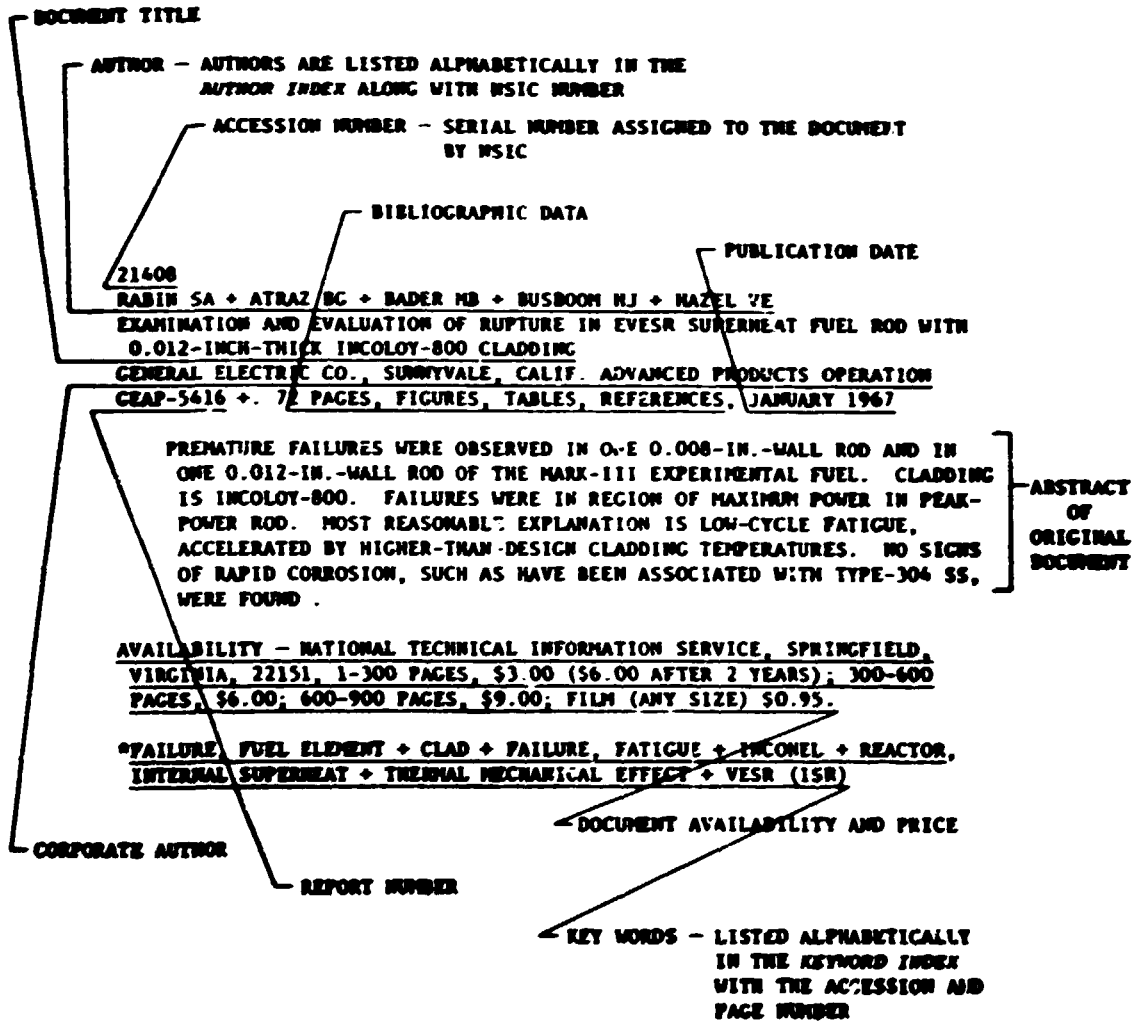
19. Internal Exposure Effects on Humans Due to Radioactivity in the Environment (inactive September 1973)
20. Effects of Thermal Modifications on Ecological Systems (inactive September 1973)
21. Effects of Radionuclides and Ionizing Radiation on Ecological Systems (inactive September 1973)

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PARTS AND METHOD OF INDEXING ABSTRACTS



PREVIOUS REPORTS IN THIS SERIES

1. W. R. Casto and E. N. Cramer, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1967 and 1968*, ORNL/NSIC-69 (July 1970) (available from NTIS for \$5.50).
2. R. L. Scott and W. R. Casto, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1969*, ORNL/NSIC-87 (August 1971) (available from NTIS for \$5.50).
3. R. L. Scott, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1970*, ORNL/NSIC-91 (December 1971) (available from NTIS for \$10.50).
4. R. L. Scott and R. B. Gallaher, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1971*, ORNL/NSIC-106 (September 1972) (available from NTIS for \$12.50).
5. R. L. Scott and R. B. Gallaher, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1972*, ORNL/NSIC-109 (December 1973) (available from NTIS for \$15.00).
6. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Nuclear Power Plants as Reported in 1973*, ORNL/NSIC-114 (November 1974) (available from NTIS for \$15.00).
7. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Nuclear Power Plants as Reported in 1974*, ORNL/NSIC-122 (May 1975) (available from NTIS for \$15.00).
8. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Boiling-Water Nuclear Power Plants as Reported in 1975*, ORNL/NUREG/NSIC-126 (July 1976) (available from NTIS for \$11.00).
9. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Pressurized Water Nuclear Power Plants as Reported in 1975*, ORNL/NUREG/NSIC-127 (July 1976) (available from NTIS for \$10.75).

ANNOTATED BIBLIOGRAPHY OF SAFETY-RELATED OCCURRENCES IN
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AS REPORTED IN 1976

R. L. Scott R. B. Gallaher

ABSTRACT

This bibliography contains 100-word abstracts of reports to the U.S. Nuclear Regulatory Commission concerning operational events that occurred at pressurized-water reactor nuclear power plants in 1976. The report includes 1264 abstracts that describe incidents, failures, and design or construction deficiencies experienced at the facilities. They are arranged alphabetically by reactor name and then chronologically for each reactor. Key-word and permuted-title indexes are provided to facilitate location of the subjects of interest, and tables summarizing the information contained in the bibliography are presented. The information listed in the tables includes instrument failures, equipment failures, system failures, causes of failures, deficiencies noted, and the time of occurrence (i.e., during refueling, operation, testing, or construction). A few of the unique events that occurred during the year are reviewed in detail.

INTRODUCTION

This report (along with ORNL/NUREG/NSIC-137) represents the ninth of a series issued annually by the Nuclear Safety Information Center (NSIC) which presents abstracts of safety-related occurrences reported by light-water reactor licensees in the United States during the previous year. In particular, this report contains abstracts of 1264 occurrences reported by licensees of pressurized-water reactor nuclear power plants in the United States during 1976. The nine previous reports¹⁻⁹ covered the period 1967 through 1975. In addition, four related NSIC reports¹⁰⁻¹³ contain information on reactor operating experiences reported by the U.S. Nuclear Regulatory Commission (formerly the Atomic Energy Commission) for the period 1966 through 1974.

Previous reports in this series contained the occurrences for both pressurized- and boiling-water reactor facilities; however, due to the continual growth in the number of facilities and consequently in the

number of occurrences reported, it has been necessary since 1975 to list the occurrences in two separate reports. The report that contains the 1976 occurrences at boiling-water reactor nuclear power plants is ORNL/NUREG/NSIC-137, *Annotated Bibliography of Safety-Related Occurrences in Boiling-Water Nuclear Power Plants as Reported in 1976*.

The occurrence reports listed in this bibliography were submitted by power plant licensees to the NRC in accordance with federal regulations. The reporting requirements for nuclear facility licensees are included in *Title 10, Code of Federal Regulations, Parts 20, 40, 50, 70, and 73* and described in detail in *USNRC Regulatory Guide No. 1.16*.¹⁴ The requirements for reporting design or construction deficiencies of facilities that have construction permits are given in *Title 10, Code of Federal Regulations, Part 50, Section 55, Paragraph e*.¹⁵

The information for this report was obtained from the computer files of NSIC in the form of 100-word abstracts of reports from power reactor licensees. The abstracts, together with appropriate key words used for computer storage and retrieval, were prepared by technical specialists at NSIC. Input to the computer is a continuing process; therefore, persons desiring an updating of the information on operating experiences at nuclear power plants may obtain a literature search by contacting the NSIC.

The NSIC computer also provides a bimonthly printout of the current experiences at operating plants; these are published in each issue of the *Nuclear Safety* journal. Information on the current experiences at reactors undergoing startup testing or under construction can also be obtained by contacting the NSIC.

The 100-word abstracts in this report are arranged alphabetically according to the name of the reactor and then chronologically for each reactor. In addition, tables are presented that indicate the number of times a piece of equipment, an instrument, or a system was reported as having been involved in a malfunction. Included in the tables are causes, deficiencies, and time of occurrence (i.e., during operation, refueling, construction, or testing - both preoperational and surveillance). This is followed by a brief discussion of three occurrences that were considered to be the most interesting of those reported during the year.

In addition to the abstracts describing each event, key-word and permuted-title indexes are provided for quickly determining abstracts that discuss a particular item of interest. For example, persons interested in the problems with diesel generators can find the relevant abstracts listed under the key word "generator, diesel"; or, using the permuted-title index, they can find the abstracts listed with the word "diesel" or the word "generator."

Before reviewing the bibliography, it may also be helpful to review the "Parts and Method of Indexing Abstracts," which shows a typical abstract with its component parts identified (p. vii). Note the list of key words, which gives a quick indication of the contents of the abstract. The availability of the material is indicated for all abstracts except those that appear in sources such as technical journals, which are available in most technical libraries. In these cases, the name of the journal, issue, date, and page numbers are given above the abstract. Generally, the material related to licensed facilities may be found in the USNRC Public Document Room, 1717 H Street, Washington, D.C. 20545, and/or the material may be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151.

SUMMARY OF OCCURRENCE DATA

The 1264 abstracts in the bibliography were reviewed and tabulations made of significant items to indicate the total number of reports concerned with those items. These tabulations indicate items that should receive more attention by reactor operators, designers, or other interested parties.

Table 1 lists the number of reports concerned with the various systems. As in 1975, the same four systems were involved in more occurrences than any of the others; these four systems are reactor protection, main cooling, feedwater, and containment isolation. Combined, these systems accounted for 31% of the total number of 1976 reports. The condenser cooling system was also involved in a substantial number of reports -- 7% of the total number.

Table 1. Number of reports concerned
with the listed systems

System	Percent of total number of reports	Number of reports
Reactor protection	9	112
Main cooling	8	105
Feedwater	7	93
Containment isolation	7	92
Condenser cooling	7	91
Secondary cooling	6	71
Electric power	5	69
Safety injection	3	44
Emergency power	3	40
Chemical and volume control	3	34
Engineered safety feature	2	29
Waste disposal	2	28
Ventilation	2	26
Containment purge	2	24
Shutdown cooling	2	22
Containment air cooling	2	21
Pneumatic	2	20
Containment spray	1	16
Emergency cooling	1	16
Service water	1	16
Coolant purification	1	14
Cooling tower	1	14
Component cooling	1	13
Radiation monitoring	1	13
Reactor control	<1	10
Spent-fuel storage	<1	7
Waste storage	<1	6

Table 2 lists the number of reports concerned with various pieces of equipment. Whereas, in 1975, pipes, pumps, and valves were involved in about the same number of occurrences, this year valves accounted for nearly twice as many reports as for pipes and more than twice as many reports as for pumps. Valves accounted for 16% of the total number of reports, pipes accounted for 9%, and pumps accounted for 8%.

Table 3 lists the number of reports concerned with the listed instrumentation. Again this year as in every year since 1972, switches

Table 2. Number of reports concerned
with the listed equipment

Equipment	Percent of total number of reports	Number of reports
Valves	16	208
Pipes and pipe fittings	9	109
Pumps	8	103
Steam generators	6	71
Diesel generators	5	67
Storage container	5	62
Breakers	5	57
Cables and connectors	4	54
Seals	4	50
Support structures	4	45
Filter, screens	3	41
Tubing	3	36
Valve operators	3	31
Shock absorbers	2	25
Accumulators	2	21
Control rods	2	21
Heat exchangers	2	21
Bearings	2	20
Control-rod drives	2	20
Heaters	1	17
Blowers	1	16
Solenoids	1	14
Cranes	1	13
Fasteners	1	13
Pressure vessels	1	13
Batteries and chargers	1	12
Insulation	1	12
Turbines	1	12
Fuel	<1	11
Generators	<1	11
Check valves	<1	11
Motors	<1	10
Filters	<1	9
Computer, digital	<1	7
Condenser	<1	7
Nozzle	<1	7
Transformers	<1	7
Containment ice condenser	<1	6
Flanges	<1	4
Containment vacuum breakers	<1	3
Air driers	<1	2

Table 3. Number of reports concerned
with the listed instrumentation

Instrumentation	Percent of total number of reports	Number of reports
Switch	13	166
Relays	4	54
Pressure sensor	4	50
Electronic function units	4	49
Level sensor	3	36
Power range instrument	3	35
Flow sensor	2	27
Temperature sensor	2	26
Position instrument	1	12
Solid-state device	1	12
Annunciators	<1	7
Containment leak monitor	<1	7
Indicators	<1	4
Intermediate range instrument	<1	4
Startup range instrument	<1	4
Area monitor	<1	3
Stack monitor	<1	3

accounted for more occurrence reports than any other instrument item. In 1976, switches were reported 166 times, accounting for 13% of the total number of reports. Lagging far behind were relays, pressure sensors, and electronic function units, with each accounting for about 50 reports or 4% of the total.

Table 4 lists the number of reports for which a cause of failure was identified. Inherent failures were involved in 26% of the reports; these are failures for which there was no obvious reason. Examples of these types of occurrences include (1) an excessive number of fish impinged on the intake screens, (2) instrument set-point drift, and (3) spurious trips of instruments or equipment. The causes listed account for 85% of the reports; the remaining 15% of the reports did not state a reason for failure and most indicated that further investigation was required.

Table 5 lists the time of occurrence of the various events and the number of reports associated with the time periods. It should be noted

Table 4. Number of reports concerned with the listed cause

Cause	Percent of total number of reports	Number of reports
Inherent failure	26	324
Design error	16	199
Maintenance error	10	129
Administrative error	10	121
Operator error	9	117
Installation error	7	87
Fabrication error	5	68
Weather	2	26

Table 5. Number of reports for the listed time of occurrence of an off-normal event

Time of occurrence	Percent of total number of reports	Number of reports
Operation	51	641
Testing	30	378
Construction	12	156
Refueling	7	89

that those items discovered during testing could be remedied with little or no effect on reactor operation.

Table 6 lists additional items, considered to be of interest, with the indicated number of reports associated with each item. The most frequent item is "leak" which includes any type of leak, such as water or steam from pipes, valves, or fittings. "Communication" is a new item which has been added and it represents primarily those events involving a misunderstanding between personnel.

Table 6. Number of reports concerned
with the listed deficiency

Deficiency	Percent of total number of reports	Number of reports
Leak	11	140
Set-point drift	7	92
Instrument calibration	7	88
Procedures	6	74
Welds	5	63
Crud	3	41
Fish or crab mortality	3	37
Quality assurance	2	29
Corrosion	2	28
Vibration	2	28
Wear	2	25
Communication	2	23
Lubrication	2	23
Airborne release	2	21
Fatigue	2	21
Response time	1	17
Records	1	14
Liquid activity release	1	13
Personnel exposure	<1	9
Fire	<1	5
Stress corrosion	<1	5
Erosion	<1	4

Table 7 is an alphabetical listing of the nuclear reactor units and the associated number of reports. Those reactors which were in commercial operation all year are listed first, followed by those which were in the power ascension phase part of the year and then by those which were under construction all year. Counting Indian Point 1, which was shut down all year, there is a total of 64 nuclear units represented in this bibliography, which contains 1264 abstracts of reports. For the 30 nuclear units which were operational all year, there are 1036 reports — an average of 34 reports per unit. For the 6 units in the power ascension stage, there were 167 reports — an average of 28 reports per unit. For the 27 units which were under construction, there are 157 reports — an average of 6 reports per unit. It should be pointed out that this table indicates that there are 1363 reports, whereas the bibliography contains

Table 7. Number of reports involving the alphabetically listed units^a

Name	Percent of total number of reports	Number of reports	Age (years)	Design electrical rating [net MW(e)]
Commercial all year				
Arkansas Nuclear 1	3	40	2.4	850
Calvert Cliffs 1	4	50	2.0	845
Connecticut Yankee	2	21	9.4	575
Cook 1	5	64	1.9	1054
Fort Calhoun	3	46	3.4	457
Ginna	2	27	7.1	490
Indian Point 2	2	28	3.5	873
Kewaunee	2	32	2.7	535
Maine Yankee	1	17	4.1	790
Millstone 2	6	81	1.1	828
Oconee 1	2	34	3.7	887
Oconee 2	2	30	3.1	887
Oconee 3	2	33	2.3	887
Palisades	3	36	5.0	668
Point Beach 1	1	9	6.2	497
Point Beach 2	1	16	4.4	497
Prairie Island 1	3	47	3.1	530
Prairie Island 2	3	41	2.0	530
Rancho Seco	1	19	2.2	913
Robinson 2	2	26	6.3	712
San Onofre 1	2	27	9.5	430
Surry 1	3	36	4.5	822
Surry 2	3	35	3.8	822
Three Mile Island 1	3	43	2.5	819
Trojan	4	59	1.0	1130
Turkey Point 3	1	10	4.2	693
Turkey Point 4	1	7	3.5	693
Yankee Rowe	1	14	16.1	175
Zion 1	5	66	3.5	1040
Zion 2	3	42	3.0	1040

Table 7. (continued)

Name	Percent of total number of reports	Number of reports
In power ascension part of year		
Beaver Valley 1	1	15
Calvert Cliffs 2	1	13
Crystal River 3	1	9
Indian Point 3	4	48
St. Lucie 1	4	54
Salem 1	2	28
Under construction all year		
Arkansas Nuclear 2	<1	4
Beaver Valley 2	<1	2
Bellefonte 1	<1	6
Callaway 2	<1	1
Catawba 2	<1	1
Comanche 1	<1	2
Comanche 2	<1	1
Davis Besse 1	1	16
Diablo Canyon 1	<1	1
Farley 1	1	7
Farley 2	<1	1
McGuire 1	1	9
McGuire 2	1	7
Midland 1	<1	2
Midland 2	<1	2
Millstone 3	<1	2
North Anna 1	2	23
North Anna 2	2	22
Salem 2	<1	1
San Onofre 2	<1	6
San Onofre 3	<1	6
Summer 1	<1	4
Surry 3	<1	2
Surry 4	<1	2
Waterford 3	<1	3
Watts Bar 1	1	12
Watts Bar 2	1	12

^aThree reports involved Indian Point 1 which was shut down all year with no decision on its future.

abstracts of 1264 reports. The reason for this discrepancy is that a few of the reports involved more than one unit of a multiple-unit plant, and this is particularly true of those units which were under construction.

Tables 8a and 8b tabulate the number of reports for the listed units which were commercially operable all year. In Table 8a the tabulation is by age, and in Table 8b the tabulation is by power - design electrical rating (DER) in megawatts (electrical) [MW(e)]. These tables were prepared to see if age or power level was a factor in the number of occurrences reported by a nuclear unit. Both appear to be factors, although it may not be readily apparent from just looking at the table.

The total number of reports for the 15 oldest reactors was 343. The number of reports for the 15 most recently built reactors was 693 - more than twice as many reports as for the older reactors. This tends to indicate that there will be fewer failures or malfunctions of safety-related equipment as the unit ages and experience is gained in operation.

The same type of count was made based on power level. The number of reports for the 15 smallest units was 376. The number of reports for the 15 largest units was 660 - almost double the number for the smaller units. This seems to indicate that fewer problems can be expected with smaller units.

While it should be recognized that the data presented is not absolute, especially when you consider that the reporting habits throughout the industry may not be uniform, the tables and data do seem to indicate that a low-powered, older reactor will probably have fewer problems than a high-powered, newly built reactor. Yankee Rowe and Trojan seem to bear this out. However, one factor to be considered with this conclusion is that the newly built reactors are the larger units and, to date, the feedback of operating information, from operators to designers of these larger units, has been limited.

The final bit of information gleaned from reviewing the bibliography is that, of the 1264 reports, 41 of them indicated that a reactor shutdown occurred or was required because of equipment failure or malfunction.

Table 8a. Number of reports for the listed unit which was commercially operable all year

Name	Age (years)	Percent of total number of reports	Number of reports
By age since 1st electrical generation ^a			
Yankee Rowe	16.1	1	14
San Onofre 1	9.5	2	27
Connecticut Yankee	9.4	2	21
Ginna	7.1	2	27
Robinson 2	6.3	2	26
Foimt Beach 1	6.2	1	9
Palisades	5.0	3	36
Surry 1	4.5	3	36
Point Beach 2	4.4	1	16
Turkey Point 3	4.2	1	10
Maine Yankee	4.1	1	17
Surry 2	3.8	3	35
Oconee 1	3.7	3	34
Indian Point 2	3.5	2	28
Turkey Point 4	3.5	1	7
Zion 1	3.5	5	66
Fort Calhoun	3.4	3	46
Oconee 2	3.1	2	30
Prairie Island 1	3.1	3	47
Zion 2	3.0	3	42
Kewaunee	2.7	2	32
Three Mile Island 1	2.5	3	43
Arkansas Nuclear 1	2.4	3	40
Oconee 3	2.3	2	33
Rancho Seco	2.2	1	19
Calvert Cliffs 1	2.0	4	50
Prairie Island 2	2.0	3	41
Cook 1	1.9	5	64
Millstone 2	1.1	6	81
Trojan	1.0	4	59

^a Average age - 4.3; median age - 3.5.

Table 8b. Number of reports for the listed unit which was commercially operable all year

Name	Power	Percent of total number of reports	Number of reports
By design electrical rating - net MW(e) ^a			
Trojan	1130	4	59
Cook 1	1054	5	64
Zion 1	1040	5	66
Zion 2	1040	3	42
Rancho Seco	913	1	19
Oconee 1	887	2	34
Oconee 2	887	2	30
Oconee 3	887	2	33
Indian Point 2	873	2	28
Arkansas Nuclear 1	850	3	40
Calvert Cliffs 1	845	4	50
Millstone 2	828	6	81
Surry 1	822	3	36
Surry 2	822	3	35
Three Mile Island 1	819	3	43
Maine Yankee	790	1	17
Robinson 2	712	2	26
Turkey Point 3	693	1	10
Turkey Point 4	693	1	7
Palisades	668	3	36
Connecticut Yankee	575	2	21
Kewaunee	535	2	32
Prairie Island 1	530	3	47
Prairie Island 2	530	3	41
Point Beach 1	497	1	9
Point Beach 2	497	1	16
Genoa	490	2	27
Fort Calhoun	457	3	46
San Onofre 1	430	2	27
Yankee Rowe	175	1	14

^a Average DER - 732; median DER - ~805.

REVIEW OF SELECTED OCCURRENCES

A review of the reported occurrences indicated that most were of a routine and inconsequential nature; however, a few were significant or unique. Three occurrences that were considered to be the most interesting are presented here to illustrate the types of experiences that occurred in 1976.

Nuclear Core Power Distribution Anomaly

In July 1976, Unit No. 1 of the St. Lucie Nuclear Power Plant was in power ascension testing at 80% power. At that time, the reactor core exhibited an azimuthal power tilt (a measure of deviation from uniform core power distribution) of about 3%; the expected tilt would be no more than 2%. A review of the test data showed that three core characteristics (axial power shape, radiation power distribution, and gross core reactivity) had begun to show anomalous behavior in June, and the magnitude of the anomalies had increased in a slow and uniform manner.

On July 9, 1976, the following measurements of core parameters led to a decision to shut the plant down for testing and inspection: (1) azimuthal power tilt had increased to about 4%, (2) the average axial peak, which had been expected to grow to 1.35, had grown to 1.53 and was centered at the core midplane, and (3) the core was about 0.4% more reactive than expected.

Visual inspection of the vessel internals showed a small amount of debris in the lower plenum, but the debris that was removed appeared to have no relationship to the observed anomalous behavior of the core characteristics. However, borescopic examination of the fuel bundles revealed extensive blistering and breaches in the lumped burnable poison (LBP) rods. These rods consist of a stack of alumina pellets (with boron carbide particles uniformly dispersed in the alumina) within Zircaloy tubes; they are used to absorb the excess neutrons produced in the fissioning process and to help shape the power distribution in the core. Burnable poison rods are incorporated in nearly half of the fuel assemblies of the St. Lucie core.

A break of the LBP cladding would allow reactor coolant to diffuse throughout the rod, and the boron carbide would then be oxidized and leached out. Since the process is expected to be dependent on both neutron flux and temperature, the rate of removal would be the greatest near the midplane of the core and would account for the increase in core reactivity and axial peaking. Since the poison rod failures and subsequent leaching process may not be azimuthally uniform, the observed flux tilt could also result from this same cause.

Because of these defects, it was decided to unload the entire reactor core and replace all the LBP rods.

A number of LBP rods were removed from the fuel assemblies for examination. Some of them were subjected to detailed metallographic examination. The defects were found to be caused by hydriding of the Zircaloy cladding from internal moisture. The remaining rods were subjected to accurate reactivity measurements in the Advanced Reactivity Measurement Facility at the National Reactor Test Station in Idaho. The distribution of the boron content in the perforated rods was found to be altered. Some of the boron was gone from the rods and some had been redeposited toward the ends of the rods. The observed boron depletion and redistribution in this sample, which was taken from the large number of LBP rods known to have defects, fully explain the measured reactivity increase and axial peaking.

All the LBP rods have been removed from the St. Lucie reactor and replaced with new rods having a reduced moisture content. The modification and reinstallation was completed late in 1976.

A preliminary visual examination of eleven fuel assemblies at the Calvert Cliffs Nuclear Power Plant, Unit No. 1, revealed blisters on some of the poison rods. The blisters appear to have been caused by hydriding, and some poison rods appeared to be perforated. Calvert Cliffs 1 began its first refueling outage on December 31, 1976, and visual inspection of these and additional fuel assemblies is continuing.

All other Combustion Engineering plants were requested by the NRC to increase in-core surveillance to ensure that a similar problem does not exist. In all plants except two, the burnup of the LBP rods had proceeded far enough so that the burnable poison no longer had a

significant effect on the reactivity and power distribution. The exceptions were Millstone 2 and Calvert Cliffs 2. At Millstone 2, over half of the reactivity effect of the LBP rods has been burned out. A review of the plant's power distribution revealed no anomalous behavior similar to that which occurred at St. Lucie. At Calvert Cliffs 2, which had not yet gone to power, the poison rods were removed, dried to lower moisture specifications, and returned to the core.^{16,17}

Emergency Diesel Generator Problems

A routine start of the emergency diesel generators from the control room of Unit 1 of the Surry Power Station damaged the No. 1 diesel generator. The EDM-GM Turbo Vee 20, 3810-bhp engine had a crack in No. 17 cylinder head extending between two exhaust valve seats and into the water jacket. The cylinder wall was ruptured, the piston broken, and the connecting rod bent. The cylinder head is an area of high heat stress, and this was the most probable cause of the crack. The crack permitted water from the water jacket to drip into the cylinder. The engine had not been operated for 12 days, and this time frame allowed sufficient water to accumulate in the cylinder to form a hydraulic lock. As the piston started the compression stroke during starting, the non-compressibility of the water caused the bend in the piston connecting rod and ruptured the cylinder wall. The broken piston resulted from the bent connecting rod allowing the piston to bottom out and strike the cylinder wall on the return stroke. The other cylinders were inspected, and no damage or indications of water were found.

The engine was repaired by replacing all damaged parts. The starting procedure was modified to ensure that the diesel would be started with the cylinder test cocks open to check for flooded cylinders prior to manual start.

About 3 weeks later, while preparations were being made to start the No. 1 emergency diesel generator, water was observed dripping from the air box drain. Investigation revealed that water had entered the air box from No. 1 cylinder via the cylinder inlet ports.

The crack in the No. 1 cylinder head extended from an exhaust valve seat approximately three-fourths of the distance to the injector well and through to the water jacket. The crack permitted water from the water jacket to drip into the cylinder. The piston was near the bottom of the stroke, which uncovered the air inlet ports and allowed water to enter the air box and exit the engine via the air box drains.

The cylinder head was replaced. Because the inspection after the last incident failed to detect the cracked head, a more stringent inspection was conducted to ensure that no other cylinder heads of this engine were defective.

About 6 weeks later, during preparations to test the starting of No. 1 emergency diesel generator, water was detected in No. 7 cylinder. The crack extended between the two exhaust valve seats and through the water jacket. Inspection of the engine prior to starting permitted the detection of water in the cylinder and prevented further damage to the engine.

This was the sixth cylinder head on this engine to be found with a crack in a 3-month time period. The location of No. 7 head on the engine tends to eliminate the presumed causes of either cylinder heat imbalance or heat stress resulting from overheating of the engine. It now appears that all failures were the result of a previous engine overheating that may have heat stressed the cylinder heads to a point where premature metal fatigue from vibration is causing the cracks to appear between the exhaust valve seats. This is an area of high heat and vibrational stress.

To ensure reliability, weekly testing of the engine will continue. New cylinder heads have been ordered, and total replacement should preclude additional failures.

In each instance discussed above, the backup emergency diesel generator was demonstrated to be operable. In addition, the manufacturer's representative indicated that the No. 1 diesel engine would have operated and performed its intended function had it been necessary, so no hazard to the safety or health of the general public existed.¹⁸⁻²¹

Hurricane Isolates Plant from Grid

During Hurricane Belle on Aug. 10, 1976, several failures of equipment occurred in the switchyard of Millstone 2. This plant is located on Long Island Sound at Waterford, Conn., and is owned by the Northeast Nuclear Energy Company. As numerous protective relays started functioning, the operators started both diesel generators and had them running when the loss of two off-site power lines tripped the reactor from 100% power. Severe salt contamination caused by salt spray blown from Long Island Sound caused the rash of failures in the switchyard. One line was restored within 24 hr by simply washing down insulators and other switchyard equipment. Because the other line suffered damaged circuit breakers that had to be repaired, 72 hr elapsed before it was back in service.^{22,23}

CONCLUSION

We can all profit by the experiences of others as long as there is free communication among the interested parties. This compilation was prepared with this objective in mind, and the intent is to provide some guidance as to where additional effort can be expended to minimize the occurrence and the recurrence of incidents. In this way, the safety, reliability, and availability of nuclear facilities should be improved.

REFERENCES

1. E. N. Cramer and W. R. Casto, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1967 and 1968*, ORNL/NSIC-69 (July 1970).
2. R. L. Scott and W. R. Casto, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1969*, ORNL/NSIC-87 (August 1971).
3. R. L. Scott, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1970*, ORNL/NSIC-91 (December 1971).
4. R. L. Scott and R. B. Gallaher, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1971*, ORNL/NSIC-106 (September 1972).
5. R. L. Scott and R. B. Gallaher, *Safety-Related Occurrences in Nuclear Facilities as Reported in 1972*, ORNL/NSIC-109 (December 1973).
6. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Nuclear Power Plants as Reported in 1973*, ORNL/NSIC-114 (November 1974).
7. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Nuclear Power Plants as Reported in 1974*, ORNL/NSIC-122 (May 1975).
8. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Boiling-Water Nuclear Power Plants as Reported in 1975*, ORNL/NUREG/NSIC-126 (July 1976).
9. R. L. Scott and R. B. Gallaher, *Annotated Bibliography of Safety-Related Occurrences in Pressurized-Water Nuclear Power Plants as Reported in 1975*, ORNL/NUREG/NSIC-127 (July 1976).
10. *Abnormal Reactor Operating Experiences*, ORNL/NSIC-17 (August 1966).
11. *Abnormal Reactor Operating Experiences: 1966-1968*, ORNL/NSIC-64 (October 1969).
12. *Abnormal Reactor Operating Experiences 1969-1971*, ORNL/NSIC-103 (May 1972).
13. *Reactor Operating Experiences 1972-1974*, ORNL/NSIC-121 (December 1975).
14. "Reporting of Operating Information" - Appendix A Technical Specifications USNRC Regulatory Guide No. 1.16, USNRC Office of Standards Development, August, 1975.
15. 10 CFR 50.55(e), "Conditions of Construction Permits." *Federal Register* 37(62), 6460 (Thursday, Mar. 30, 1972).

16. Letter from Florida Power and Light Co. to U.S. Nuclear Regulatory Commission, Region 2, Docket 50-335, July 23, 1976, enclosing Licensee Event Report 76-35, available at NRC Public Document Room.
17. *Current Events - Power Reactors*, 1 October-31 December 1976, U.S. Nuclear Regulatory Commission.
18. Letter from Virginia Electric and Power Co. to U.S. Nuclear Regulatory Commission, Region 2, Docket 50-280, May 12, 1976, enclosing Licensee Event Report 76-04, available at NRC Public Document Room.
19. Letter from Virginia Electric and Power Co. to U.S. Nuclear Regulatory Commission, Region 2, Docket 50-280, May 27, 1976, enclosing Licensee Event Report 76-06, available at NRC Public Document Room.
20. Letter from Virginia Electric and Power Co. to U.S. Nuclear Regulatory Commission, Region 2, Docket 50-280, Aug. 4, 1976, enclosing Licensee Event Report 76-10, available at NRC Public Document Room.
21. *Current Events - Power Reactors*, May-June 1976, U.S. Nuclear Regulatory Commission.
22. Letter from Northeast Nuclear Energy Co. to U.S. Nuclear Regulatory Commission, Region 1, Docket 50-336, Sept. 3, 1976, enclosing Licensee Event Report 76-49, available at NRC Public Document Room.
23. "Hurricane Isolates Plant From Grid," *Nucl. Safety* 18(2), 238 (March-April 1977).

BIBLIOGRAPHY

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PRESSURIZED WATER REACTORS

100001

CHLORINE CONCENTRATION IN EFFLUENT EXCEEDED LIMITS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 O P&S, LTR W/NO 50-313/75-02 TO NRC OFFICE OF I & E, REGION IV, JAN. 2, 1970. DUCART 50-313, TYPE--PWR, WFO--BEO, AE--DECONTROL

CAUSE - WASTE DISPOSAL. SAMPLES TAKEN FROM THE DISCHARGE CANAL AND POINT TO INDICATE THAT THE CHEMICAL CONCENTRATION OF CHLORIDES INCREASED ACROSS THE PLANT IN EXCESS OF ITS LIMITS. THE NEUTRALIZING TANK WAS UNLOADING INTO THE DISCHARGE PLUMB AT THE TIME OF SAMPLING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * WASTE DISPOSAL * CHLORIDE * ARKANSAS NUCLEAR 1 (PWR) * RECONCENTRATION * CONDENSER COOLING SYSTEM * FAILURE, INCIDENT

100002

REACTION INCLUDING ISOLATION VALVE FAILS TO CLOSE AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, ARKANSAS
 O P&S, LTR W/NO 50-313/75-11 TO NRC DIVISION OF REACTOR LICENSING, JAN. 13, 1970. DUCART 50-313, TYPE--PWR, WFO--BEO, AE--DECONTROL

CAUSE - IMPROPER VALVE LIFTUP. UPON THE COLD SHUTDOWN TEST, AN INTERMEDIATE COOLING WATER SYSTEM REACTOR INCLUDING ISOLATION VALVE SHOULD NOT CLOSE MANUALLY. THE AIR SUPPLY TO THE VALVE OPERATION WAS ISOLATED AND THE VALVE HELD OPEN BY MANUALLY. THE OPERATION APPARENTLY FAILED TO MAKE PROPER VALVE LIFTUP FOLLOWING THE COLD SHUTDOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATION ERROR * CONTAINMENT ISOLATION * PROCEDURES AND MANUALS * TEST, SYSTEM OPERABILITY * ARKANSAS NUCLEAR 1 (PWR) * COMPONENT COOLING SYSTEM * VALVES

100007

SERVICE WATER SYSTEM VALVE FAILS TO OPEN AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 O P&S, LTR W/NO 50-313/75-14 TO NRC DIVISION OF REACTOR LICENSING, JAN. 13, 1970. DUCART 50-313, TYPE--PWR, WFO--BEO, AE--DECONTROL

CAUSE - BINDING IN THE VALVE PACKING. THE SERVICE WATER VALVE TO THE DELAY HEAT EXCHANGER FAILED TO OPEN AUTOMATICALLY WHEN DELAY HEAT PUMP WAS STARTED. THE VALVE WAS MANUALLY OPENED. THE CAUSE WAS PROBABLY INCREASED BINDING IN THE VALVE PACKING ON SEATING THE VALVE WARD AGAINST THE SEAT MANUALLY. A SLIGHT ADJUSTMENT WAS MADE TO THE TORQUE SOFTEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * AUXILIARY COOLING * ARKANSAS NUCLEAR 1 (PWR) * PIPES

110201

INTERFER CONTROL ROD GROUP OVERLAP OCCURS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 O P&S, LTR W/NO 50-313/75-1 TO NRC DIVISION OF REACTOR LICENSING, JAN. 19, 1970. DUCART 50-313, TYPE--PWR, WFO--BEO, AE--DECONTROL

CAUSE - APPARENT PUMP SUPPLY FAILURE. WHILE OPERATING AT 60% POWER, CONTROL ROD GROUP 0 TRIPPED VIOLATING THE 25 0 GR - 50 OVERLAP REQUIREMENT BETWEEN ADJACENTIAL ROD GROUPS. THE REACTOR TRIPPED ON LOW RCS PRESSURE. THE APPARENT CAUSE IS FAILURE OF GROUP 0 PUMP SUPPLY. THE INVESTIGATION IS CONTINUING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL ROD INTERACTION * CONTROL ROD WITH * FAILURE, EQUIPMENT * SCRAM, 24% * ELECTRIC POWER * FACILITY, CONTROL ROD GROUP 0 * ARKANSAS NUCLEAR 1 (PWR) * REACTOR SHUTDOWN * CONTROL -363 * CONTROL ROD GROUPS

110202

RADIOACTIVE LIQUID RELEASED WITH CIRCULATING WATER PUMPS ON AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 O P&S, LTR W/NO 50-313/75-1 TO NRC OFFICE OF I & E, REGION IV, JAN. 27, 1970. DUCART 50-313, TYPE--PWR, WFO--BEO, AE--DECONTROL

CAUSE - OPERATOR ERROR. THE LAUNDRY DRAIN TANK WAS RELEASED WITHOUT THE 2 REQUIRED CIRCULATING WATER PUMPS RUNNING. THE REACTOR WAS IN COLD SHUTDOWN AT THE TIME. THE OPERATOR FAILED TO ENSURE THAT AT LEAST 2 PUMPS WERE OPERATING UNTIL THE RELEASE WAS IN PROGRESS. PROCEDURES WILL BE REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

11002 *CONTINUED*
CHARGE \$2.00

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * WASTE DISPOSAL * HALTE DISPOSAL, LIQUID * RADIOACTIVITY
RELEASE * FLOW, MIXING * ARKANSAS NUCLEAR 1 (PWR)

11010
FIVE EMPLOYEES EXPOSED TO AIRBORNE RADIOACTIVITY AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
3 PGS. LTR W/NO 50-313/70-1 TO NRC, REGION IV, JAN. 30, 1970. DOCKET 50-313, TYPE--PWR, NRC--BEO, AE--BECHTEL

CAUSE - DECONTAMINATION OF EQUIPMENT. ON THE NIGHT OF DEC. 25, 1973, 5 MAINTENANCE PERSONNEL
WORKING IN THE REACTOR BUILDING ON AND NEAR THE CONTROL ROD DRIVE SERVICE STRUCTURE ON THE
REACTOR HEAD RECEIVED EXPOSURES TO AIRBORNE RADIOACTIVITY IN EXCESS OF THE LIMIT. ALL WERE
WORKING IN THE AREA WHERE A CONTROL ROD DRIVE LEAD SCREEN WAS BEING DECONTAMINATED. SUBSEQUENT
LEAD SCREEN CLEANING OPERATIONS WERE DONE INSIDE A TENT TO PREVENT SPREAD OF CONTAMINATION.
WORKERS WITHIN THE TENT WORE AIR LINE RESPIRATORS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

AIRBORNE RELEASE * DECONTAMINATION * MAINTENANCE AND REPAIR * SUPPORT MATERIAL * COMPLIANCE * PERSONNEL
EXPOSURE, RADIATION * FAILURE, ADMINISTRATIVE CONTROL * ARKANSAS NUCLEAR 1 (PWR)

11012
STRONG MOTION ACCELEROGRAPH ALARM FOUND IMPROPER AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
5 PGS. LTR W/NO 50-313/70-1 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, FEB. 19, 1970, DOCKET 50-313, TYPE--
PWR, NRC--BEO, AE--BECHTEL

CAUSE - POWER SWITCH TURNED OFF, DURING TESTING OF THE SEISMIC INSTRUMENTATION WHILE OPERATING AT
500 FULL POWER, THE 0.01 G AND 0.1 G ALARMS WERE DETERMINED TO BE IMPROPER. THE POWER HAD BEEN
TURNED OFF AT THE ANNUNCIATOR PANEL. THE REASON IS UNKNOWN. THE SWITCH WILL BE JUMPED OUT TO
PREVENT RECCURENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, OPERATOR ERROR * ELECTRIC POWER * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * INSTRUMENT,
EARTHQUAKE * ARKANSAS NUCLEAR 1 (PWR) * ANNUNCIATORS

11090
VOLTAGE READING FOR STATION BATTERIES NOT TAKEN AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
0 PGS. LTR W/NO 50-313/70-2 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, MARCH 9, 1970, DOCKET 50-313, TYPE--
PWR, NRC--BEO, AE--BECHTEL

CAUSE - VOLTMETER REMOVED FOR CALIBRATION, WHILE THE REACTOR WAS OPERATING AT 658 POWER, IT WAS
DISCOVERED THAT THE PILOT CELL VOLTAGE READINGS FOR THE STATION BATTERIES WERE NOT TAKEN DAILY
FOR 3 DAYS. THE VOLTMETERS HAD BEEN REMOVED FOR CALIBRATION. IT WAS NOT RECOGNIZED THAT THESE
READINGS WERE REQUIRED. VOLTMETERS WILL BE TAGGED REQUIRING OPERATIONS SUPERVISOR APPROVAL PRIOR
TO REMOVAL FROM SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * INSTRUMENT CALIBRATION * FAILURE, MAINTENANCE ERROR * ARKANSAS NUCLEAR 1 (PWR) *
DATA COLLECTION * RECORDS * INDICATORS * BATTERIES & CHARGERS

11277
REACTOR SURVEILLANCE SPECIMEN HOLDER TUBE FAILS AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
3 PGS. LTR W/NO 50-313/70-3 TO U.S. NRC, REGION IV, APRIL 8, 1970, DOCKET 50-313, TYPE--PWR, NRC--BEO, AE--
BECHTEL

CAUSE - DESIGN DEFICIENCY. WHILE MAKING PREPARATIONS FOR REMOVING SURVEILLANCE SPECIMENS FOR
INSPECTION OF HOLDER TUBES DUE TO WEAR AT OTHER OLD PLANTS, IT WAS FOUND THAT THE SPRING
CARTRIDGE WAS MISSING FROM 2 TUBES AND 1 OF THE 2 TUBES WAS PARTIALLY MISSING ALONG WITH THE PUSH
ROD AND JOURNAL BEARING. THE SHUTDOWN WILL BE EXTENDED ABOUT 2 MONTHS TO DEFUEL, REMOVE
INTERNALS, RETRIEVE LOOSE PARTS, AND MAKE NECESSARY MODIFICATIONS TO PREVENT RECCURENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

SAMPLING * FAILURE, DESIGN ERROR * VIBRATION * CORE COMPONENTS * FAILURE, TUBING * SURVEILLANCE PROGRAM *
TUBING * FLOW * ARKANSAS NUCLEAR 1 (PWR) * WEAR * FAILURE, COMMON MODE

113109
 SET POINT DRIFF IN PRESSURE SWITCH AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR D/RO 50-313/70-4 TO U.S. NRC, REGION IV, APRIL 22, 1970. DCKET 50-313, TYPE--PUR, NPL--BLW, AL--
 DECHTEL

CAUSE - INSTRUMENT DRIFF. DURING ROUTINE CALIBRATION WITH THE REACTOR SHUTDOWN, A REACTOR
 BUILDING PRESSURE SWITCH FAILED TO TRIP ON INCREASING PRESSURE ABOVE 10.5 PSIA. THE CAUSE WAS
 INSTRUMENT DRIFF. THE BARON MODEL 200A-12006 SWITCH WAS RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTAINMENT * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH *
 TEST, SYSTEM OPERABILITY * ARKANSAS NUCLEAR 1 (PWR) * SET POINT * DRIFF * SENSORS, PRESSURE

113230
 HYDRAULIC SHOCK SUPPRESSOR RESERVOIRS FOUND EMPTY AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR D/RO 50-313/70-5 TO U.S. NRC, REGION IV, APRIL 22, 1970. DCKET 50-313, TYPE--PUR, NPL--BLW, AL--
 DECHTEL

CAUSE - GASKET LEAKS. DURING THE REFUELING OUTAGE, 12 HYDRAULIC SHOCK SUPPRESSOR FLUID RESERVOIRS
 WERE FOUND EMPTY. NONE WERE CONSIDERED IMPERABLE. LEAKAGE OCCURRED AT GASKETS. THE IIT
 ORIGNAL FIG. NO. 200 GASKETS AND O-RINGS WILL BE REPLACED WITH ETHYLENE PROPYLENE MATERIAL. THE
 ORIGINAL GASKET MATERIAL WAS POLYURETHANE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT * MODIFICATION * REFUELING * SHOCK ABSORBER * FAILURE, DESIGN ERROR * SEAL * SUPPORT
 STRUCTURE * SURVEILLANCE PROGRAM * LEAK * ARKANSAS NUCLEAR 1 (PWR) * PIPES AND PIPE FITTINGS

113702
 VENTILATION SYSTEM NOT OPERATING DURING FUEL HANDLING AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR D. RO 50-313/70-6 TO NRC OFFICE OF I & E, REGION IV, MAY 13, 1970. DCKET 50-313, TYPE--PUR, NPL--
 BLW, AL--DECHTEL

CAUSE - MISINTERPRETATION OF PROCEDURE. FUEL HANDLING AREA VENTILATION SYSTEM WAS NOT IN
 OPERATION DURING HANDLING OF IRRADIATED FUEL AS REQUIRED FOR ABOUT 3 HOURS DUE TO A
 MISINTERPRETATION OF PROCEDURES. PROCEDURE DURING FAS CHANGED FROM OPERATIONAL TO IN OPERATION
 TO ALLEVIATE FURTHER MISINTERPRETATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FUEL HANDLING * OPERATION * PROCEDURES AND MANUALS * VENTILATION SYSTEM * FAILURE, ADMINISTRATIVE CONTROL *
 ARKANSAS NUCLEAR 1 (PWR) * COMMUNICATION

110775
 CERTAIN EQUIPMENT FAILS TO RESPOND TO SIMULATED EB SIGNAL AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 6 PGS. LTR D/RO 50-313/70-9 TO U.S. NRC, REGION IV, JUNE 9, 1970. DCKET 50-313, TYPE--PUR, NPL--BLW, AL--
 DECHTEL

CAUSE - PACKING AGING AND DIRTY CONTACTS. WHILE THE UNIT WAS DEFUELED, EB TESTS FOUND 4 VALVES
 AND A REACTOR BUILDING COOLING FAN IMPERABLE. TWO VALVES TONNED OUT DUE TO INCREASED FRICTION
 BETWEEN THE VALVE STEM AND PACKING DUE TO AGING. TORQUE SWITCHES WERE ADJUSTED. THE CONTACTS
 WERE CLEANED. A LOOSE CONNECTION AT THE TERMINAL PLUG OF A VALVE CAUSED FAILURE. IT WAS
 TIGHTENED. THE HAND SWITCH ON THE FAN FAILED. IT WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * ENGINEERED
 SAFETY FEATURE * ARKANSAS NUCLEAR 1 (PWR) * CABLES AND CONNECTIONS * VALVES * BLOWERS * RELAYS

115139
 LEAK FOUND IN A SOCKET WELD IN DECAY HEAT SYSTEM AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR D/RO 50-313/70-10 TO NRC OFFICE OF I & E, REGION IV, JUNE 16, 1970. DCKET 50-313, TYPE--PUR, NPL--
 BLW, AL--DECHTEL

CAUSE - VIBRATION IMPROPER FITUP. DURING THE REFUELING OUTAGE, A LEAK WAS FOUND IN A 1/2 INCH
 PIPE TO VALVE SOCKET WELD IN THE DECAY HEAT FLOW ELEMENT INSTRUMENT TRAP. THE CAUSE WAS IMPROPER
 FIT-UP OR EXCESSIVE VIBRATION. THE DEFECTIVE WELD WAS REMOVED BY CUTTING OUT THE PIPE AND VALVE.
 A NEW PIPE AND VALVE WERE INSTALLED. THE VIBRATION WILL BE RESOLVED BY REPLACING THE PRESENT

115135 CONTINUED

PLUG CONTROL VALVE WHICH ARE CAVITATING WITH MORE SUITABLE VALVES OR BY ADDING JERFICLS
DOWNSTREAM OF THE PRESENT VALVES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

QUELUS • DEPLETING • VIBRATION • FAILURE, INSTALLATION ERROR • SHUTDOWN COOLING SYSTEM • LEAK • ARKANSAS
NUCLEAR 1 (PWR) • CRACK

115075

WATER FROM DUST INADVERTENTLY RELEASED AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR

3 PGS. LTR W/NO 50-313/76-11 TO NRC OFFICE OF I & E, REGION IV, JUNE 24, 1976. DOCKET 50-313. TYPE--PWR, NRC--
060. AE--DECHTEL

CAUSE - PROCEDURAL DEFICIENCY. DURING FILLING OF THE SODIUM THIOSULFATE TANK, ABOUT 9500 GAL OF
LIQUID CONTAINING 0.262 CURIES WERE SPILLED BY WAY OF THE BONATED WATER RECIRC PUMP. THE
PROCEDURE DID NOT REQUIRE SHUTTING DOWN THE BONATED WATER RECIRC PUMP AND CLOSING ITS VALVE PRIOR
TO ADDING CONDENSATE TO THE SODIUM THIOSULFATE TANK. PROCEDURES ARE BEING REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

PROCEDURES AND MANUALS • STORAGE CONTAINER • RADIOACTIVITY RELEASE • SHUTDOWN SYSTEM, SECONDARY • CHEMICAL
SPIN • FAILURE, ADMINISTRATIVE CONTROL • ARKANSAS NUCLEAR 1 (PWR)

115067

SOCKET WELD LEAK FOUND IN PRIMARY MAKEUP PUMP LINE AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR

3 PGS. LTR W/NO 50-313/76-12 TO U.S. NRC, REGION IV, JULY 16, 1976. DOCKET 50-313. TYPE--PWR, NRC--060. AE--
DECHTEL

CAUSE - UNKNOWN. DURING A COLD SHUTDOWN, A LEAK WAS DISCOVERED AT A SOCKET WELD IN THE PRIMARY
MAKEUP PUMP SUCTION RELIEF VALVE. THE WELD HAD CRACKED. THE CAUSE HAS NOT BEEN DETERMINED AT
THIS TIME. A NEW SECTION OF PIPE WAS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, PIPE • QUELUS • MAIN COOLING SYSTEM • LEAK • ARKANSAS NUCLEAR 1 (PWR) • CRACK • FEEDWATER • PIPES
AND PIPE FITTINGS

115068

LEAK FOUND IN EMERGENCY FEEDWATER LINE AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR

3 PGS. LTR W/NO 50-313/76-13 TO U.S. NRC, REGION IV, JULY 16, 1976. DOCKET 50-313. TYPE--PWR, NRC--060. AE--
DECHTEL

CAUSE - PROBABLY CORROSION. DURING A COLD SHUTDOWN, A LEAK WAS DISCOVERED IN THE EMERGENCY
FEEDWATER LINE TO STEAM GENERATOR A BETWEEN THE EFW PUMP AND THE VALVES. IT IS LOCATED IN A
VERTICAL RUN OF PIPE WHERE THE PIPE PENETRATES THE CONCRETE FLOOR. THE CAUSE IS UNKNOWN BUT
APPEARS TO BE CAUSED BY ELECTROLYSIS OR CORROSION BETWEEN THE PIPE AND REBAR. THE SUSPECTIVE
SECTION OF PIPE WAS REPLACED AND THE FLOOR PENETRATION ENLARGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, PIPE • CORROSION • LEAK • ARKANSAS NUCLEAR 1 (PWR) • COOLING SYSTEM, SECONDARY • FEEDWATER • PIPES
AND PIPE FITTINGS

115069

HW COOLING UNIT SERVICE WATER VALVE FAILS TO OPEN AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR

3 PGS. LTR W/NO 50-313/76-14 TO U.S. NRC, REGION IV, JULY 16, 1976. DOCKET 50-313. TYPE--PWR, NRC--060. AE--
DECHTEL

CAUSE - INTERNAL BINDING. DURING TESTING OF THE PROCESS RADIATION MONITORS, A REACTOR BUILDING
COOLING UNIT SERVICE WATER VALVE FAILED TO OPEN. FAILURE APPEARS TO BE FROM BINDING IN THE VALVE
BETWEEN THE STEM AND BUSHING. THE VALVE WAS PLACED IN ITS OPEN POSITION (OPEN). A NEW STEM AND
BUSHING WILL BE INSTALLED DURING THE REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • CONTAINMENT AIR COOLING • TEST, SYSTEM OPERABILITY • ARKANSAS NUCLEAR 1 (PWR) • SERVICE
WATER SYSTEM • VALVES

11991

REACTOR POWER LEVEL CUTOFF EXCEEDED WITHOUT PROPER REASON BIRTH AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR W/NO 50-313/70-17 TO NRC OFFICE OF I & E, REGION IV, JULY 26, 1970. DCKET 50-313. TYPE--PWR, RFG--
 060. AE--BECHTEL

CAUSE - OPERATOR ERROR. REACTOR POWER WAS REDUCED FROM 99% TO 57% FOR MAIN FLEED PUMP MAINTENANCE.
 FOLLOWING REPAIRS, POWER WAS INCREASED. TWO HOURS LATER, POWER WAS INCREASED ABOVE THE 82.5%
 CUTOFF LEVEL WITHOUT PROPER REASON REACTIVITY BIRTH. POWER LEVEL WAS INCREASED 50 MINUTES OF LV.
 THE OPERATOR MISINTERPRETED THE REASON BIRTH FROM THE COMPUTER CALCULATION OF REACTIVITY BIRTH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, OPERATOR ERROR * REACTIVITY EFFECT * PENALTY * REACTOR POWER * REACTIVITY, NEGATIVE * ARKANSAS
 NUCLEAR 1 (PWR) * COMMUNICATION

110220

WELD IN RESIN SERVICE LINE CRACKS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR W/NO 50-313/70-15 TO NRC OFFICE OF I & E, REGION IV, AUG. 3, 1970. DCKET 50-313. TYPE--PWR, RFG--
 060. AE--BECHTEL

CAUSE - IMPROPER WELDING. DURING OPERATION AT 90% POWER, A LEAK WAS DISCOVERED IN THE HEAT
 EXCHANGER ZONE OF A RESIN SERVICE WATER TO SPENT RESIN STORAGE TANK VALVE. THE CRACK WAS ABOUT 2
 INCHES LONG AROUND THE UPSTREAM WELD. CRACKING WAS DUE TO IMPROPER WELDING. THE DEFECTIVE WELD
 WAS REMOVED AND REPLACED WITH A 3 FOOT SECTION OF SCHEDULE 10 PIPING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, PIPE * WASTE HANDLING * PENALTY * FAILURE, INSTALLATION ERROR * LEAK * ARKANSAS NUCLEAR 1 (PWR) *
 CRACK * PIPES AND PIPE FITTINGS

110220

CONCENTRATION OF SODIUM THIOSULFATE TANK BELOW LIMIT AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR W/NO 50-313/70-16 TO NRC OFFICE OF I & E, REGION IV, AUG. 3, 1970. DCKET 50-313. TYPE--PWR, RFG--
 060. AE--BECHTEL

CAUSE - LEAK INTO RW SPRAY SYSTEM SUSPECTED. WHILE OPERATING AT 90% POWER, ANALYSIS OF A SAMPLE
 TAKEN FROM SODIUM THIOSULFATE TANK TO FOUND TO BE BELOW THE 37500 POUND LIMIT. A LEAK FROM RW
 INTO THE REACTOR BLEEDING SPRAY SYSTEM IS SUSPECTED. 950 POUNDS OF SODIUM THIOSULFATE WERE ADDED
 TO THE TANK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * SHUTDOWN SYSTEM, SECONDARY * LEAK * ARKANSAS NUCLEAR 1 (PWR) *
 CONCENTRATION * VALVES

110220

M & V SYSTEM BREAKER TRIPS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS. LTR W/NO 50-313/70-18 TO NRC OFFICE OF I & E, REGION IV, AUG. 3, 1970. DCKET 50-313. TYPE--PWR, RFG--
 060. AE--BECHTEL

CAUSE - THERMAL OVERLOAD SET TOO LOW. WITH THE REACTOR AT 90% POWER AND WHILE TESTING THE
 HYDROGEN PURGE LEAD SYSTEM, THE PURGE INLET FAN TRIPPED AND WOULD NOT RESTART. LATER, WHILE
 TESTING THE PENETRATION ROOM VENTILATION LEAD SYSTEM, THE PENETRATION ROOM VENTILATION SYSTEM FAN
 AND FILTER BLEED VALVE BREAKERS TRIPPED. IN ALL CASES THE THERMAL OVERLOADS WERE SET TOO LOW AND
 THE BREAKERS WERE IN ABNORMALLY HOT ENVIRONMENT. THE THERMAL OVERLOAD SETTING WAS INCREASED AND
 VENTILATION DAMPERS WERE ADJUSTED TO DECREASE ROOM TEMPERATURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * VENTILATION SYSTEM * TEST, SYSTEM OPERABILITY * PENALTY, SEVERE * ARKANSAS NUCLEAR 1
 (PWR) * SET POINT * TEMPERATURE * FAILURE, INHERENT * BREAKER * BLENDERS

110304

CONTROL ROOM VENTILATION SYSTEM NOT TESTED ON SCHEDULE AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 4 PGS. LTR W/NO 50-313/70-19 TO NRC OFFICE OF I & E, REGION IV, AUG. 11, 1970. DCKET 50-313. TYPE--PWR, RFG--
 060. AE--BECHTEL

CAUSE - IMPROPER ADMINISTRATIVE CONTROL. WHILE REVIEWING FLOW CHART, WITH THE UNIT AT 90% POWER,
 IT WAS NOTED THAT SURVEILLANCE ON THE CONTROL ROOM EMERGENCY AIR CONDITIONING WAS OVERDUE. THE

11704 - CONTINUED
TEST WAS PERFORMED THE NEXT DAY. IT WAS LATE. THE CAUSE WAS IMPROPER ADMINISTRATIVE CONTROLS.
ALL SHUT DOWN OPERATIONS WERE INSTRUCTED TO FOLLOW PROCEDURES.
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

RESTING • OPERATIONAL SYSTEM • FAILURE, ADMINISTRATIVE CONTROL • EMERGENCY CONTROL • TEST INTERRUPT • CONTROL
PANEL/CONTROL • ARKANSAS NUCLEAR 1 (PWR)
11703
INTELLIGIBLE SUPPRESSIONS HAVE EMPTY WEIGHINGS AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - LEAKS. DURING AN INSPECTION WHILE THE PLANT WAS IN COLD SHUTDOWN, 3 NEBRASKA SUPPRESSION
SUPPRESSIONS WERE FOUND EMPTY. LOSS OF FLUID DOES NOT MAKE THEM INOPERABLE BUT
WILL REDUCE EFFICIENCY. LEAKS WILL BE REPAIRED AND, IF NECESSARY, NEBRASKA 6A-215 AND 0-
DINGS WILL BE REPAIRED. THESE WERE ALL CORRECTED. NO. 2001 SUPPRESSIONS.
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • CHECK WEIGHING • FAILURE, DESIGN ERROR • LEAK • SUPPORT STRUCTURE • SUBSTANTIAL PROGRAM
• LEAK • ARKANSAS NUCLEAR 1 (PWR) • PIPES AND PIPE FITTINGS
11702
NEBRASKA SUPPRESSION FLUID WEIGHINGS FOUND EMPTY AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - UNKNOWN AT THIS TIME. WHILE OPERATING AT 30% POWER, REACTION COOLANT PUMP 3 SEAL FAILURE
CREATING A PCS LEAK OF 25 GPM. THE REACTION WAS IMMEDIATELY SHUT DOWN AND BLOWDOWN TO THE COLD
SHUTDOWN COMPLETED. THE CAUSE OF FAILURE IS UNKNOWN AT THIS TIME. THE DAMAGED SEAL CONTAINS
OIL BE PLAINED ON WEIGHING. 1455 IS A BROWN JACKSON, TYPE 0555, SIZE 333330, PUMP.
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • SEAL • MAIN COOLING SYSTEM • LEAK • ARKANSAS NUCLEAR 1 (PWR) • REACTION SHUTDOWN • PUMPS
11701
REACTION COOLANT PUMP SEAL FAILS AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - UNKNOWN. WHILE THE REACTION WAS IN COLD SHUTDOWN, A PINHOLE LEAK WAS DISCOVERED IN THE
FEED APPLICATOR LINE AT THE OUTLET OF A STEAMER AND INLET OF COOL. DOWNSTREAM OF
PINHOLE DISCOVERED IN THE REACTION WAS COMPLETED TO THE MAIN BUILDING. THE CAUSE IS
UNKNOWN AT THIS TIME. THE APPLICATOR PIPING HAS BEEN REPAIRED AND RECONNECTED WITH A NEW SECTION OF
SCHEDULE 40 PIPING.
CHARGE \$2.00

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • SEAL • MAIN COOLING SYSTEM • LEAK • ARKANSAS NUCLEAR 1 (PWR) • PIPES AND PIPE FITTINGS
11700
REACTION COOLANT PUMP SEAL FAILS AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - UNKNOWN AT THIS TIME. WHILE OPERATING AT 30% POWER, REACTION COOLANT PUMP 3 SEAL FAILURE
CREATING A PCS LEAK OF 25 GPM. THE REACTION WAS IMMEDIATELY SHUT DOWN AND BLOWDOWN TO THE COLD
SHUTDOWN COMPLETED. THE CAUSE OF FAILURE IS UNKNOWN AT THIS TIME. THE DAMAGED SEAL CONTAINS
OIL BE PLAINED ON WEIGHING. 1455 IS A BROWN JACKSON, TYPE 0555, SIZE 333330, PUMP.
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • SEAL • MAIN COOLING SYSTEM • LEAK • ARKANSAS NUCLEAR 1 (PWR) • REACTION SHUTDOWN • PUMPS
11699
REACTION COOLANT PUMP SEAL FAILS AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - UNKNOWN. WHILE THE REACTION WAS IN COLD SHUTDOWN, A PINHOLE LEAK WAS DISCOVERED IN THE
FEED APPLICATOR LINE AT THE OUTLET OF A STEAMER AND INLET OF COOL. DOWNSTREAM OF
PINHOLE DISCOVERED IN THE REACTION WAS COMPLETED TO THE MAIN BUILDING. THE CAUSE IS
UNKNOWN AT THIS TIME. THE APPLICATOR PIPING HAS BEEN REPAIRED AND RECONNECTED WITH A NEW SECTION OF
SCHEDULE 40 PIPING.
CHARGE \$2.00

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT • SEAL • MAIN COOLING SYSTEM • LEAK • ARKANSAS NUCLEAR 1 (PWR) • REACTION SHUTDOWN • PUMPS
11698
REACTION COOLANT PUMP SEAL FAILS AT ARKANSAS NUCLEAR 1
5 P53, 170 P/NO 50-313/70-20 TO NRC OFFICE ON 1 6 E. REGION 1A, APR. 27, 1970. DOCKET 50-313, 170P--PWR, NRC--
DC, NE--DECMTEL

CASE - UNKNOWN. WHILE THE REACTION WAS IN COLD SHUTDOWN, A PINHOLE LEAK WAS DISCOVERED IN THE
FEED APPLICATOR LINE AT THE OUTLET OF A STEAMER AND INLET OF COOL. DOWNSTREAM OF
PINHOLE DISCOVERED IN THE REACTION WAS COMPLETED TO THE MAIN BUILDING. THE CAUSE IS
UNKNOWN AT THIS TIME. THE APPLICATOR PIPING HAS BEEN REPAIRED AND RECONNECTED WITH A NEW SECTION OF
SCHEDULE 40 PIPING.
CHARGE \$2.00

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

117992

RELEASE OF LIQUID RADIOACTIVE WASTE (EXCEEDS LIMIT AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS. LTR D/WO 50-313/70-1 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, SEPT. 10, 1970. DOCKET 50-313. TYPE--
 PUB. NRC--DLO. AE--ORCNTEL

CAUSE - UNUSUAL AMOUNT OF LIQUID WASTE. ON 8/14/70, THE ACCUMULATIVE RELEASE OF RADIOACTIVE
 MATERIALS IN LIQUID EFFLUENTS (INCLUDING TRITIUM AND DISSOLVED GASES) EXCEEDED THE EFS LIMIT OF
 2.5 CURIES PER THE THIRD QUARTER. LIQUID RELEASES TO THE ENVIRONMENT WERE TERMINATED ON 8/16/70
 WHEN THE CUMULATIVE ACTIVITY IN LIQUID EFFLUENTS REACHED 5.2 CURIES. DURING THE REACH OUTAGE TO
 REMOVE THE SURVEILLANCE SPECIMEN HOLDER TUBES, A CONSIDERABLE AMOUNT OF RADIOACTIVE WASTE WATER
 WAS GENERATED. ALSO THE SODIUM BIPHOSPHATE TANK WAS JOINED TO THE LIQUID RADIOACTIVE WASTE
 SYSTEM. THIS RESULTED IN VERY POOR DEMINERALIZED PERFORMANCE AND RAPID DEPLETION OF RESINS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

EFFLUENT • MAINTENANCE AND REPAIR • RELEASE RATE • WASTE DISPOSAL • WASTE TREATMENT • WASTE DISPOSAL, LIQUID •
 RADIOACTIVITY RELEASE • ARKANSAS NUCLEAR 1 (PUB)

117993

SURVEILLANCE TESTS NOT PERFORMED ON SCHEDULE AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS. LTR D/WO 50-313/70-23 TO NRC OFFICE OF I & E, REGION IV, SEPT. 17, 1970. DOCKET 50-313. TYPE--PUB. NRC--
 DLO. AE--ORCNTEL

CAUSE - PERSONNEL ERROR. FAILURES TO COMPLY WITH SURVEILLANCE TEST SCHEDULES WERE FOUND DURING A
 REVIEW OF SURVEILLANCE TESTS. THESE INCLUDE OFFSITE POWER PROTECTIVE RELAYS AND INTERLOCKS
 DUELY TESTS, DIESEL GENERATOR PROTECTIVE RELAYS AND INTERLOCKS DUELY TESTS, AND STATION
 BATTERIES AND SWITCHBOARD BATTERIES QUARTERLY TESTS. THE INDIVIDUAL RESPONSIBLE FOR THESE TESTS
 FAILED TO RECOGNIZE THE TECH SPEC REQUIREMENTS. HE WAS INFORMED OF HIS RESPONSIBILITY FOR TEST
 IMPLEMENTATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

INSTRUMENT, PROTECTIVE • TESTING • ELECTRIC POWER • INSTRUMENT, SWITCH • FAILURE, ADMINISTRATIVE CONTROL •
 EQUIPMENT • TEST INTERVAL • ARKANSAS NUCLEAR 1 (PUB) • OFF SITE • COMMUNICATION • GENERATOR, DIESEL •
 RELAYS • BATTERIES & CHARGERS

118243

LEAKS FOUND IN DECAY HEAT COOLER SOCKET WELDS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS. LTR D/WO 50-313/70-24 TO NRC OFFICE OF I & E, REGION IV, SEPT. 27, 1970. DOCKET 50-313. TYPE--PUB. NRC--
 DLO. AE--ORCNTEL

CAUSE - VIBRATION OR IMPROPER FIT-UP. DURING COLD SHUTDOWN, MINOR LEAKS WERE DISCOVERED IN WELDS
 IN THE DISCHARGE OF DECAY HEAT COOLER EJ303. A FLOW INSTRUMENT ROOT VALVE LEAKED THROUGH A
 CRACKED WELD AT THE 1/2-INCH PIPE TO VALVE WELD. A LEAK IN THE VENT LINE HAS A CRACKED WELD ON
 THE BOSS TO THE VENT LINE. THE CAUSE WAS DUE TO EXCESSIVE VIBRATION OR IMPROPER FIT-UP. LEAKS
 WERE CONFINED TO THE REACTOR AUXILIARY BUILDING. THE DEFECTIVE WELDS WERE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, PIPE • WELDS • VIBRATION • FAILURE, INSTALLATION ERROR • SHUTDOWN COOLING SYSTEM • LEAK • ARKANSAS
 NUCLEAR 1 (PUB) • CRACK • PIPES AND PIPE FITTINGS • HEAT EXCHANGERS

118244

LEAK FOUND IN DECAY HEAT COOLER DISCHARGE LINE AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS. LTR D/WO 50-313/70-25 TO NRC OFFICE OF I & E, REGION IV, SEPT. 27, 1970. DOCKET 50-313. TYPE--PUB. NRC--
 DLO. AE--ORCNTEL

CAUSE - EXCESSIVE VIBRATION. WHILE THE REACTOR WAS IN COLD SHUTDOWN, A 2 WPH LEAK WAS DISCOVERED
 IN THE HEAT AFFECTED ZONE OF THE BOSS TO LINE WELD FOR THE 10 INCH DISCHARGE LINE OF DECAY HEAT
 COOLER EJ303. THE PROBABLE CAUSE OF THE CRACK WAS EXCESSIVE VIBRATION. THE LEAK WAS CONFINED TO
 THE REACTOR AUXILIARY BUILDING. REPAIR WAS MADE BY REMOVING A 2 FOOT SECTION OF THE 5/8" 10
 PIPING AND REPLACING WITH A NEW SECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, PIPE • WELDS • VIBRATION • FAILURE, INSTALLATION ERROR • SHUTDOWN COOLING SYSTEM • LEAK • ARKANSAS
 NUCLEAR 1 (PUB) • CRACK • PIPES AND PIPE FITTINGS • HEAT EXCHANGERS

118245

REACTOR POWER LEVEL CUTOFF EXCEEDED WITHOUT PROPER REASON WORKING AT ARKANSAS NUCLEAR 1

118295 (CONTINUED)
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 2 PGS, LTR #/PJ 50-313/76-27 TO NRC OFFICE OF I & E, REGION IV, SEPT. 29, 1976, DOCKET 50-313, TYPE--PWR, RFG--
 860, AE--BECHTEL

CAUSE - SWITCHING TO AUTOMATIC CONTROL. DURING STEADY-STATE POWER (80%), THE POWER LEVEL CUTOFF WAS EXCEEDED FOR 3 MINUTES WITHOUT PROPER REACTOR REACTIVITY CONTROL. DUE TO A SYSTEM OSCILLATION IN FEEDWATER CONTROL, REACTOR POWER LEVEL INCREASED WHEN SWITCHED FROM REACTOR DEMAND IN MANUAL TO INTEGRATED MODE OF OPERATION. POWER WAS REDUCED TO LESS THAN 82.5% IN ABOUT 3 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATION ERROR + REACTIVITY EFFECT + DESIGN + REACTOR POWER + ARKANSAS NUCLEAR 1 (PWR) + EQUILIBRIUM + TRANSIENT + FEEDWATER

118742
 PINNACLE LEAK FOUND IN PRIMARY MAKEUP PUMP SUCTION RELIEF LINE AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS, LTR #/PJ 50-313/76-26 TO NRC OFFICE OF I & E, REGION IV, OCT. 1, 1976, DOCKET 50-313, TYPE--PWR, RFG--
 860, AE--BECHTEL

CAUSE - WELDING DEFECT. WHILE AT COLD SHUTDOWN, A PINNACLE LEAK WAS DISCOVERED IN A SOCKET WELD AT THE SUCTION RELIEF VALVE IN THE PRIMARY MAKEUP PUMP SUCTION RELIEF LINE. THE LEAK APPEARS TO HAVE BEEN CAUSED BY THE WELDER PULLING HIS STINGER AWAY FROM THE WELD, THEREBY CAUSING A CRATER PIT. THE DEFECTIVE WELD WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WELDS + COOLANT PURIFICATION SYSTEM + FAILURE, INSTALLATION ERROR + LEAK + ARKANSAS NUCLEAR 1 (PWR) + PIPES AND PIPE FITTINGS

119519
 LEAKS FOUND IN SPENT FUEL POOL COOLING SYSTEM AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS, LTR #/PJ 50-313/76-28 TO NRC OFFICE OF I & E, REGION IV, OCT. 20, 1976, DOCKET 50-313, TYPE--PWR, RFG--
 860, AE--BECHTEL

CAUSE - UNKNOWN. WHILE OPERATING AT 92% POWER, LEAKS WERE DISCOVERED AT A WELD ON SPENT FUEL POOL COOLER E270 OUTLET NOZZLE AND IN THE PIPING UPSTREAM OF VALVE SF-1. LEAKS WERE CAUSED BY 3 CRACKS IN THE NOZZLE AND 2 CRACKS IN THE WELD NEAR AFFECTED ZONE ABOVE THE VALVE. THE CAUSE IS UNKNOWN. THE NOZZLE AND A 6-INCH SECTION OF THE 10-INCH SCHEDULED 10 PIPING WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE + WELDS + NOZZLE + PEAT TREATMENT + LEAK + ARKANSAS NUCLEAR 1 (PWR) + CRACK + SPENT FUEL POOL + PIPES AND PIPE FITTINGS + HEAT EXCHANGERS

119520
 PRIMARY MAKEUP PUMP SUCTION RELIEF LINE LEAK AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 2 PGS, LTR #/PJ 50-313/76-29 TO NRC OFFICE OF I & E, REGION IV, NOV. 1, 1976, DOCKET 50-313, TYPE--PWR, RFG--
 860, AE--BECHTEL

CAUSE - VIBRATION. WHILE OPERATING AT 99% POWER, A LEAK WAS DISCOVERED AT A SOCKET WELD, PIPE TO 90 DEGREE ELBOW WELD IN PRIMARY MAKEUP PUMP P306 SUCTION RELIEF LINE. FAILURE RESULTED FROM THE 3/4-INCH RELIEF LINE BEING RIGIDLY SUPPORTED WHILE THE 6-INCH SUCTION LINE WAS SUBJECTED TO VIBRATION. THE DEFECTIVE WELD WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE + WELDS + PRESSURE RELIEF + FAILURE, FATIGUE + VIBRATION + FAILURE, INSTALLATION ERROR + MAIN COOLING SYSTEM + LEAK + ARKANSAS NUCLEAR 1 (PWR) + FEEDWATER + PIPES AND PIPE FITTINGS

119521
 PRIMARY MAKEUP PUMP FAILS AT ARKANSAS NUCLEAR 1
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 5 PGS, LTR #/PJ 50-313/76-30 TO NRC OFFICE OF I & E, REGION IV, NOV. 1, 1976, DOCKET 50-313, TYPE--PWR, RFG--
 860, AE--BECHTEL

CAUSE - COMPONENT FAILURE. WHILE OPERATING AT 92% POWER, PRIMARY MAKEUP PUMP #306 WAS STOPPED DUE TO AN OVERCURRENT ALARM FOLLOWED BY AN IMMEDIATE LOSS OF DISCHARGE PRESSURE. THE SHAFT, IMPELLOR, BEAR RINGS, AND BEARINGS WERE DETERMINED NOT TO BE RECOVERABLE. PARTS ARE ON ORDER. THIS IS A BYRON JACKSON, HORIZONTAL DOUBLE BEARING PUMP, TYPE DVMR, SERIAL NUMBER 09190003.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM

119521 (CONTINUED)
CHARGE \$2.00

FAILURE, EQUIPMENT + COMPONENTS + MAIN COOLING SYSTEM + ARKANSAS NUCLEAR 1 (PWR) + DEARING + FREQUATER + PUMPS

119774

TESTING ON OFF-SITE POWER PROTECTIVE CIRCUITRY NOT PERFORMED AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
6 PGS, LTR D/RD 50-313/70-31 TO NRC OFFICE OF I & E, REGION IV, NOV. 17, 1970, DOCKET 50-313, TYPE--PWR, NRC--
860, AE--BECHTEL

CAUSE - RESIGNATION OF SUPERVISOR. WHILE OPERATING AT 90% POWER, IT WAS DISCOVERED THAT THE OFF
SITE POWER PROTECTIVE RELAY INTERLOCKS AND CIRCUITRY WEEKLY TEST SCHEDULED FOR 10/15/70 WAS NOT
PERFORMED. RESIGNATION OF THE COULIZANT SUPERVISOR CAUSED IMPROPER SCHEDULING. SCHEDULING HAS
BEEN REVIEWED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ARKANSAS NUCLEAR 1 (PWR) + TEST INTERVAL + TESTING + INSTRUMENTS, PROTECTIVE + RELAYS + ELECTRIC POWER +
OFF SITE + FAILURE, ADMINISTRATIVE CONTROL

119772

REACTOR BUILDING CHILLED WATER VALVE MALFUNCTIONS AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
5 PGS, LTR D/RD 50-313/70-32 TO NRC OFFICE OF I & E, REGION IV, NOV. 17, 1970, DOCKET 50-313, TYPE--PWR, NRC--
860, AE--BECHTEL

CAUSE - DIRT IN SOLENOID VALVE. WHILE CYCLING THE REACTOR BUILDING CHILLED WATER INLET ISOLATION
VALVE (CV-0202) WITH THE REACTOR AT 90% POWER, THE NORMALLY OPEN VALVE WOULD CLOSE BUT WOULD THEN
REOPEN AFTER ABOUT 35 SECONDS. THE SOLENOID VALVE ACTUATOR CONTAINED FOREIGN MATERIAL WHICH
PREVENTED POSITIVE ACTUATION. THE SOLENOID AND AIR SUPPLY LINE WERE CLEANED. THE VALVE OPERATED
PROPERLY ON RETEST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ARKANSAS NUCLEAR 1 (PWR) + VALVES + CONTAINMENT AIR COOLING + CONTAINMENT ISOLATION + TEST, SYSTEM
OPERABILITY + FAILURE, EQUIPMENT + CRUD + SOLENOID + PNEUMATIC SYSTEM + FAILURE, MAINTENANCE ERROR

120545

DIESEL GENERATOR INOPERABLE AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
6 PGS, LTR D/RD 50-313/70-33 TO NRC OFFICE OF I & E, REGION IV, DEC. 10, 1970, TYPE--PWR, NRC--860, AE--BECHTEL

CAUSE - INADVERTANT TRIP OF FIRE SYSTEM DELUGE. DURING 100% POWER OPERATION, AN INADVERTANT TRIP
OF THE FIRE SYSTEM DELUGE WHILE BEING RETURNED TO SERVICE RENDERED DIESEL GENERATOR 1 INOPERABLE
DUE TO MET CONTROL CIRCUITRY. THE CAUSE WAS AN APPARENT LEAK OFF OF SEALING PRESSURE TO THE
DELUGE VALVE WHEN THE SYSTEM WAS TAKEN OUT OF SERVICE FOR MODIFICATIONS. THE ENGINE CONTROL
CABINET AND EXCITER CONTROL CABINET WERE DRIED AND THE GENERATOR AND CABLES WERE REWEGGED FOR
PROPER READINGS. THE DG WAS TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ARKANSAS NUCLEAR 1 (PWR) + GENERATOR, DIESEL + ENGINES, INTERNAL COMBUSTION + CONTROL SYSTEM + FIRE
PROTECTION + CONTROL PANEL/ROOM + CABLES AND CONNECTORS + WATER + FAILURE, EQUIPMENT + FAILURE, MAINTENANCE
ERROR

120697

WATER LEAKS FROM VALVE IN SPENT FUEL COOLING SYSTEM AT ARKANSAS NUCLEAR 1
ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
3 PGS, LTR D/RD 50-313/70-36 TO NRC OFFICE OF I & E, REGION IV, DEC. 30, 1970, DOCKET 50-313, TYPE--PWR, NRC--
860, AE--BECHTEL

CAUSE - CRACK IN HEAT AFFECTED ZONE. WHILE OPERATING AT 90% POWER, LEAKAGE WAS DISCOVERED IN A
WELD DOWNSTREAM OF SPENT FUEL COOLING SYSTEM VALVE SF-10 BETWEEN THE VALVE AND A T-SECTION.
TESTS SHOWED NO CRACK. THEN DYE-PENETRANT TESTS REVEALED A CRACK IN THE HEAT AFFECTED ZONE OF
VALVE SF-11. THE CAUSE IS UNKNOWN. THE VALVE WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ARKANSAS NUCLEAR 1 (PWR) + VALVES + COOLING + CRACK + LEAK + WELD + FAILURE, EQUIPMENT + SPENT FUEL PLUM

111872

INTERIM REPORT ON MAIN STEAM PIPE RESTRAINT DEFICIENCY AT ARKANSAS NUCLEAR 1

111072 (CONTINUED)
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 3 PGS. LTR D/RPT TO NRC OFFICE OF I & E, REGION IV, MARCH 11, 1976. DCKET 50-300. TYPE--PDR, NRC--CORR., AE--
 BCRTEL

CAUSE - LAMELLAR TRAPPING. DURING THE ERECTION OF THE NORTH AND SOUTH MAIN STEAM PIPE RESTRAINTS, 11 CRACKS DEVELOPED, 11 ASSOCIATED WITH FIELD WELDING AND 2 WITH SHOP WELDS. AN IN-DEPTH METALLURGICAL ANALYSIS INDICATED 2 MEATS OF MATERIAL THAT WERE SUSCEPTIBLE TO LAMELLAR TRAPPING. A PROCEDURE WAS DEVELOPED FOR GRINDING OUT THE BASE MATERIAL OF THE FLANGE BELOW THE LEVEL OF THE INCLUSION LAYER, BUTTERING THE FLANGE, AND COMPLETING THE DOWN TO FLANGE WELD.

AVAILABILITY - NRC PUBLIC DOCUMENT NUDP, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

WELDS * FLAN * FAILURE, FABRICATION ERROR * SUPPORT STRUCTURE * CONSTRUCTION * ARKANSAS NUCLEAR 2 (PDR) * COOLING SYSTEM, SECONDARY * METALLURGY * CRACK * PIPES AND PIPE FITTINGS

115022
 SPENT FUEL POOL WALL DEFICIENCY REPORT AT ARKANSAS NUCLEAR 2
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 12 PGS. LTR D/RPT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, JULY 1, 1976. DCKET 50-300. TYPE--PDR, NRC--
 CORR., AE--BCRTEL

CAUSE - DESIGN DEFICIENCY. THIS REPORT CONTAINS THE RES-UNSES TO 7 ORAL QUESTIONS WHICH WERE RAISED BY THE NRC STAFF CONCERNING REPAIRS OF THE SPENT FUEL POOL WALLS. SUBJECTS INCLUDE SEISMIC LOADS, TRANSIENT THERMAL LOADS, STITCH WELDS, DIAGONAL TIE BARS, CORNER CRACKING DUE TO BENDING, CONCRETE INSPECTION, AND TEMPERATURE GRADIENT.

AVAILABILITY - NRC PUBLIC DOCUMENT AGOP, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * MAINTENANCE AND REPAIR * FUEL STORAGE * STRESS * STORAGE CONTAINER * SEISMIC DESIGN * CONSTRUCTION * THERMAL TRANSIENT * ARKANSAS NUCLEAR 2 (PDR) * INSERVICE INSPECTION

119007
 MAIN STEAM PIPE SPOOLS FOUND TO BE DEFICIENT AT ARKANSAS NUCLEAR 2
 ARKANSAS POWER & LIGHT CO., LITTLE ROCK, AR
 1 PG. LTR D/RPT TO NRC OFFICE OF I & E, REGION IV, NOV. 1, 1976. DCKET 50-300. TYPE--PDR, NRC--CORR., AE--
 BCRTEL

CAUSE - FAILURE TO MEET IMPACT TEST. INITIAL EXAMINATION OF ALL AE SUPPLIED PIPING AND VALVES WITHIN THE BRITTLE FRACTURE CONTROL BOUNDARIES HAS BEEN COMPLETED. THIS REVEALED 3 MAIN STEAM PIPING SPOOLS AND 6 MAIN FEEDWATER PIPING SPOOLS WHICH REQUIRE REPLACEMENT OR REPAIR. INVESTIGATION OF IMPACT PROPERTIES FOR ITEMS SUCH AS VALVE BODIES, BONNETS, DISCS, AND SEATS CONTINUES.

AVAILABILITY - NRC PUBLIC DOCUMENT AGOP, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ARKANSAS NUCLEAR 2 (PDR) * CONSTRUCTION * IMPACT PROPERTY * PIPES AND PIPE FITTINGS * MAIN COOLING SYSTEM * COOLING SYSTEM, SECONDARY * EXAMINATION * FAILURE, FABRICATION ERROR

120720
 INVERTERS FAIL TO MEET DESIGN SPECIFICATIONS AT ARKANSAS NUCLEAR 2
 ARKANSAS POWER & LIGHT CO., AR
 3 PGS. LTR D/RPT TO NRC OFFICE OF I & E, REGION IV, NOV. 20, 1976. DCKET 50-300. TYPE--PDR, NRC--CORR., AE--
 BCRTEL

CAUSE - DESIGN DEFICIENCIES. DURING STARTUP AND INITIAL ENERGIZATION OF THE 4 STATION INVERTERS, THE INVERTERS FAILED TO OPERATE ACCORDING TO DESIGN SPECIFICATIONS. DEFICIENCIES INCLUDE THE FOLLOWING: INVERTER COMPLETELY TRIPS FOLLOWING REMOVAL AND REAPPLICATION OF BYPASS POWER SOURCE. MALFUNCTION IN ANNUNCIATOR INTERNAL POWER SUPPLY WHICH IS AN UNUSED CIRCUIT DUE TO EXCESSIVE IN-RUSH CURRENT. OUTPUT VOLTAGE REGULATION IS UNSTABLE. THE MANUFACTURER WILL ANALYZE THE INVERTERS AND TAKE CORRECTIVE ACTION.

AVAILABILITY - NRC PUBLIC DOCUMENT NUDP, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ARKANSAS NUCLEAR 2 (PDR) * CONSTRUCTION * PARAMETERS * ELECTRIC POWER, VITAL * TEST, SYSTEM OPERABILITY * TEST, PREOPERATIONAL * SYSTEM CAPABILITY * FAILURE, EQUIPMENT * FAILURE, DESIGN ERROR

110250
 REACTOR CONTAINMENT DOME PROTECTIVE COATING FAILS AT BEAVER VALLEY 1
 JOHNSONE LIGHT CO., PITTSBURGH, PA
 6 PGS. LTR D/RPT TO NRC OFFICE OF I & E, JAN. 9, 1976. DCKET 50-330. TYPE--PDR, NRC--BEST., AE--STONE &
 WEBSTER

CAUSE - IMPROPER APPLICATION OF UNDERCOAT. AFTER COMPLETION OF THE STRUCTURAL INTEGRITY TEST AND INTEGRATED LEAK RATE TESTS, BLEISTERING WAS IDENTIFIED ON THE REACTOR DOME PROTECTIVE COATING.

110250 *CONTINUED*

THIS WAS THE ONLY PART THAT WAS FIELD FABRICATED AND FIELD COATED. THE FIRST PRIMER COAT WAS TOO THIN SO THAT A SECOND COAT WAS APPLIED. APPARENTLY, IT WAS IMPROPERLY APPLIED. DURING PRESSURIZATION OF THE CONTAINMENT, AIR DIFFUSED THROUGH THE EARLY TOP COAT. DURING DEPRESSURIZATION, THE ENTRAPPED AIR CAUSED DISTURBING. THE DEFECTIVE COATING WAS REMOVED. THE ENTIRE AFFECTED DUNE LINED PLATE WAS RECOATED WITH EPOXY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FLAW * CONTAINMENT PAINT * SURFACE, PAINTED * FAILURE, INSTALLATION ERROR * CONTAINMENT LINER * PRESSURE TRANSIENT * BEAVER VALLEY 1 (PWR) * CONSTRUCTION

111000

GENERIC DESIGN DEFICIENCY FOUND IN PROTECTION SYSTEM AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., SHIPPINGPORT, PA

2 PGS. LTR D/LER 70-4/17 TO U.S. NRC, REGION 1, FEB. 26, 1976. DCKET 50-336. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - DESIGN ERROR. A GENERIC DESIGN DEFICIENCY WAS FOUND IN THE SOLID STATE NUCLEAR PROTECTION SYSTEM. THE ABILITY TO TEST DURING NORMAL OPERATION WAS OMITTED. DESIGNHOUSE HAS PROVIDED TEST PROCEDURES WHICH WILL BE USED DURING MONTHLY SURVEILLANCE TESTS. A DESIGN MODIFICATION IS BEING PREPARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SOLID STATE DEVICE * TESTING * MODIFICATION * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * BEAVER VALLEY 1 (PWR) * FAILURE, COMMON MODE

111031

ALL RCS LOOP ISOLATION VALVES CLOSED AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., PITTSBURGH, PA

3 PGS. LTR D/LER 70-10/17 TO U.S. NRC, REGION 1, MARCH 3, 1976. DCKET 50-336. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - MISINTERPRETATION OF TECH SPECS. WITH THE REACTOR IN COLD SHUTDOWN AT FUELING BURNUP CONCENTRATION, ALL REACTOR COOLANT SYSTEM ISOLATION VALVES WERE CLOSED AND THE VESSEL DEPRESSURIZED TO REPAIR A CONDENSER LEAK. COOLING WAS AVAILABLE THROUGH HMI. THIS OCCURRED PRIOR TO INITIAL CRITICALITY. TECH SPECS HAD BEEN IMPROPERLY INTERPRETED. THE LOOPS WERE RETURNED TO SERVICE USING NORMAL OPERATING PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR * CONTAINMENT ISOLATION * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * MAIN COOLING SYSTEM * BEAVER VALLEY 1 (PWR) * VALVES

113704

DAILY GAS GRAB SAMPLES NOT TAKEN WHEN REQUIRED AT BEAVER VALLEY 1

DUQUESNE LIGHT CO., PITTSBURGH, PA

2 PGS. LTR D/LER 70-10/00P TO NRC DIRECTOR OF REGULATION, REGION 1, MARCH 17, 1976. DCKET 5336. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - INADEQUATE ADMINISTRATIVE CONTROL. DURING AN OUTAGE OF 2 VENTILATION VENT MONITORS, DAILY GRAB SAMPLES WERE NOT TAKEN AND ANALYZED AS PLANNED. NO MANUALLY OPERATED WAS PERFORMED IN THE UNMONITORED AREAS DURING THIS PERIOD. THE CAUSE WAS INADEQUATE ADMINISTRATIVE CONTROLS. ADEQUATE CONTROLS WILL BE IMPLEMENTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAMPLING * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * MONITORING SYSTEM, MANUATION * CONTAINMENT ATMOSPHERE * TEST INTERVAL * BEAVER VALLEY 1 (PWR)

112304

PRESSURE TRANSIENT IN MAIN COOLING SYSTEM AT BEAVER VALLEY 1

DUQUESNE LIGHT CO., SHIPPINGPORT, PA

2 PGS. LTR D/LER 70-11/36 TO U.S. NRC, REGION 1, MARCH 19, 1975. DCKET 50-336. TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - OPERATOR ERROR. LOSS AND RESTORATION OF VITAL BUS 1 DURING SWITCHING ACTIVITIES CAUSED AN INSTANTANEOUS SPIKE WHICH ISOLATED LETDOWN FROM HMI. THE CHARGING PUMP PRESSURIZED RCS TO 1000 PSIG BEFORE IT WAS STOPPED. PRESSURE WAS REDUCED WITH EXCESS LETDOWN. THE OPERATOR WAS NOT AWARE THAT VITAL BUS 1 ON AUXILIARY SUPPLY WOULD NOT TRANSFER TO DC WHEN HE DEENERGIZED BUS 1A6 PWR RETURN TO NORMAL SUPPLY FROM CG. VESSEL LIFE WAS NOT AFFECTED. THE REACTOR WAS NOT OPERATING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

112304 CONTINUED
FAILURE, OPERATION ERROR + ELECTRIC POWER + REACTOR STARTUP EXPERIENCE + MAIN COOLING SYSTEM + OPRESSURE TRANSIENT + BEAVER VALLEY I (PWR)

112305
NO ANNUNCIATION ON LOSS OF VITAL BUS INVERTER AT BEAVER VALLEY I
JAMESHE LIGHT CO., SHIPPINGPORT, PA
2 PGS. LTR D/LEN 76-1273L TO U.S. NRC, REGION I, MARCH 19, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--
BECHTEL

CAUSE - WIRING ERROR. VITAL BUS NO. 1 INVERTER WAS LOST DUE TO A BLOWN BRIDGE OUTPUT FUSE. THERE WAS NO ANNUNCIATION. THE FUSE AND OUTPUT FILTER WERE REPLACED. THE ALARM CIRCUIT WAS FOUND TO BE WIRED TO THE WRONG SIDE OF THE FUSE. THE ERROR WAS CORRECTED. THE REACTOR WAS SHUT DOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE + REACTOR STARTUP EXPERIENCE + FAILURE, (INSTALLATION ERROR + BEAVER VALLEY I (PWR) + CABLES AND CONNECTIONS + ANNUNCIATORS + PENETRATIONS)

112306
BOTH CHANNELS OF SOURCE RANGE INSTRUMENTS LOST AT BEAVER VALLEY I
JAMESHE LIGHT CO., SHIPPINGPORT, PA
2 PGS. LTR D/LEN 76-1473L TO U.S. NRC, REGION I, MARCH 19, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--
BECHTEL

CAUSE - P. PROCEDURAL ERROR. BOTH CHANNELS OF SOURCE RANGE WERE OUT OF SERVICE FOR 1 MINUTE DUE TO AN INSTRUMENT TECHNICIAN PLACING BOTH PROTECTION TRAINS IN TEST. AN ERROR IN PROCEDURE RESULTED IN BOTH TRAINS BEING PLACED IN TEST AT THE SAME TIME. THE SYSTEM WAS RETURNED TO NORMAL. PROCEDURES HAVE BEEN REVISED. THE REACTOR WAS SHUT DOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, NUCLEAR + PROCEDURES AND MANUALS + INSTRUMENT, REQUIREMENT + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FAILURE, ADMINISTRATIVE CONTROL + INSTRUMENT, STARTUP RANGE + BEAVER VALLEY I (PWR)

113494
DIESEL GENERATOR FIELD LOST AT BEAVER VALLEY I
JAMESHE LIGHT CO., SHIPPINGPORT, PA
4 PGS. LTR D/LEN 76-15702L TO NRC DIRECTOR OF REGULATION, REGION I, APRIL 29, 1976, DOCKET 50-330, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - HIGH RESISTANCE CONNECTION. DIESEL GENERATOR DC FIELD WAS LOST DURING TESTING RESULTING IN LOSS OF BUS IAE EMERGENCY EQUIPMENT. A HIGH RESISTANCE WIRING CONNECTION IN THE DC EXCITER BREAKER CAUSED OVERHEATING AND MELTING OF THE WIRING. HEAT CAUSED THE BREAKER TO TRIP. THE BREAKER WAS REPLACED AND A NEW CONNECTION MADE UP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + BEAVER VALLEY I (PWR) + CABLES AND CONNECTIONS + FAILURE, INHERENT + BREAKER + ENGINE, INTERNAL COMBUSTION + GENERATOR, DIESEL

113495
SAFETY INJECTION ACCUMULATORS NOT SAMPLED AT BEAVER VALLEY I
JAMESHE LIGHT CO., SHIPPINGPORT, PA
1 PGS. LTR D/LEN 76-20702L TO NRC DIRECTOR OF REGULATION, REGION I, APRIL 29, 1976, DOCKET 50-330, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - OPERATOR AND PROCEDURAL ERRORS. SAFETY INJECTION ACCUMULATOR 1A LEVEL WAS INCREASED ON OPERATIONS FAILED TO REQUEST A RESULTS OF SAMPLE. ACCUMULATOR 1C LEVEL WAS INCREASED 1.5% WITHOUT SAMPLING. PROCEDURE REQUESTED A SAMPLE FOR 25 LEVEL CHANGE WHILE TECH SPECS REQUIRE SAMPLE FOR 15 CHANGE. PROCEDURE WAS REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR + PROCEDURES AND MANUALS + SAFETY INJECTION + SAMPLING + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + BEAVER VALLEY I (PWR) + ACCUMULATORS

114750
INVERTER FAILURE CAUSE LOSS OF VITAL BUS AT BEAVER VALLEY I
JAMESHE LIGHT CO., PITTSBURGH, PA
1 PGS. LTR 50-334-76-33703L TO U.S. NRC, JUNE 9, 1976, DOCKET 50-330, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - OUTPUT FILTER CAPACITOR FAILS. WITH THE REACTOR SHUT DOWN, AN OUTPUT FILTER CAPACITOR

114700 (CONTINUED)

FAILED ON INVERTER 2 RESULTING IN THE LOSS OF VITAL BUS 2. THIS CAUSED LOSS OF AUTOMATICALLY PRESSURIZED SPRAYS, PRESSURIZED HEATERS, AND RCS NORMAL LETDOWN. VITAL BUS 2 WAS TRANSFERRED TO ITS AUXILIARY TRANSFORMER. THE FAILED CAPACITORS GE CAT. NO. 20P11174 WAS REPLACED WITH GE CAT. NO. 20P11190C.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT + SOLID STATE DEVICE + ELECTRIC POWER + ELECTRIC POWER, VITAL + MODIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + BEAVER VALLEY 1 (PWR) + OPERATIONS

115447

PRESSURE TRANSMITTER SENSING LINE FAILS AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., PITTSBURGH, PA
6 PGS. LTR D/LER 70-01/011 TO NRC DIRECTOR OF REGULATION, REGION I, JULY 1, 1976. DOCKET 50-334. TYPE--PWR.
NRC--BEST., AE--STONE & WEBSTER

CAUSE - UNAUTHORIZED DESIGN CHANGE. WHILE OPERATING AT 20% POWER, A SENSING LINE FOR A REACTOR COOLANT SYSTEM PRESSURE TRANSMITTER FAILED RESULTING IN PRIMARY COOLANT LEAKAGE INTO CONTAINMENT. AN UNAUTHORIZED DESIGN CHANGE RESULTED IN INSTALLATION OF A FLEXIBLE HOSE NOT DESIGNED FOR HIGH PRESSURE APPLICATION. THE REACTOR WAS SHUTDOWN. THE SWAGELOCK FLEXIBLE METAL HOSE WAS REPLACED WITH A RIGID STAINLESS STEEL INSTRUMENT LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ADMINISTRATIVE CONTROL + FAILURE, PIPE + MODIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, INSTALLATION ERROR + MAIN COOLING SYSTEM + BEAVER VALLEY 1 (PWR) + REACTOR SHUTDOWN + MEASUREMENTS, PRESSURE + PIPES AND PIPE FITTINGS

115920

CONTAINMENT PRESSURE FOLLOWING A LOCA AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., PITTSBURGH, PA
2 PGS. LTR D/LER 70-03/011 TO NRC DIRECTOR OF NUCLEAR REGULATION, JULY 17, 1976. DOCKET 50-334. TYPE--PWR.
NRC--BEST., AE--STONE & WEBSTER

CAUSE - DESIGN DEFICIENCY. THE UTILITY WAS NOTIFIED THAT PROPER CONSIDERATION HAD NOT BEEN GIVEN TO THE NITROGEN IN THE SAFETY INJECTION ACCUMULATORS WHEN EVALUATING THE CONTAINMENT PRESSURE FOLLOWING A DESIGN BASIS ACCIDENT USING THE AE'S LOGIC COMPUTER PROGRAM. A REANALYSIS WAS PERFORMED UTILIZING THE SAME CALCULATED TECHNIQUE WITH EACH INPUT PARAMETERS VERIFIED AND/OR CORRECTED TO REFLECT THE AS-BUILT CONDITIONS AT THE SITE. THE VALIDITY OF THE ORIGINAL ACCIDENT ANALYSIS HAS BEEN CONFIRMED. THE MOST SIGNIFICANT EFFECT IN THE RESULTS WAS THE HEAT TRANSFER COEFFICIENT OF THE INSTALLED HEAT EXCHANGERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS + CONTAINMENT + ACCIDENT, LOSS OF COOLANT + CONTAINMENT INTEGRITY + NITROGEN + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + PRESSURE TRANSIENT + BEAVER VALLEY 1 (PWR) + ACCUMULATORS

117000

GENERIC DEFICIENCIES FOUND IN SAFETY ANALYSIS AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., PITTSBURGH, PA
3 PGS. LTR D/LER 70-07/011 TO U.S. NRC, REGION I, AUG. 19, 1976. DOCKET 50-334. TYPE--PWR. NRC--BEST., AE--STONE & WEBSTER

CAUSE - ANALYTICAL MODEL DEFICIENCIES. TWO GENERIC DEFICIENCIES WERE FOUND IN THE SAFETY ANALYSIS. (1) INCREASE IN PEAK CLAD TEMPERATURE FOLLOWING LOCA DUE TO HIGH-TEMPERATURE HEAT EXCHANGER WATER TEMPERATURE. (2) UNDERESTIMATE OF THE EFFECTS OF NUD BOWING ON THE DEPARTURE FROM NUCLEATE BOILING RATIO. BASED ON AN ANALYSIS TO DETERMINE THE MAXIMUM ALLOWABLE HEAT FLUX FOR A CHANNEL FACTOR THAT WOULD PREVENT THE PEAK CLAD TEMPERATURE FROM EXCEEDING 2200 F. NO CHANGE TO TECH SPECS IS REQUIRED. THE ASSUMPTION DISCOVERED THAT CERTAIN PARAMETERS USED IN ANALYTICAL MODELS FOR ACCIDENT ANALYSIS MAY NOT HAVE REPRESENTED THE MOST CONSERVATIVE ESTIMATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS + CLADDING + ACCIDENT, LOSS OF COOLANT + ANALYTICAL MODEL + HEAT CHANNEL ANALYSIS + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + HEAT CHANNEL + BEAVER VALLEY 1 (PWR) + TEMPERATURE + FUEL ELEMENTS

118992

TWO CHILLED WATER CHILLER UNITS TRIP AT BEAVER VALLEY 1
DUQUESNE LIGHT CO., PITTSBURGH, PA
3 PGS. LTR D/LER 70-50/031 TO NRC DIRECTOR OF REGULATION, REGION I, OCT. 7, 1976. DOCKET 50-334. TYPE--PWR.
NRC--BEST., AE--STONE & WEBSTER

CAUSE - TEMPORARY STRAINERS BLOCK FLOW. WHILE OPERATING AT 33% POWER, 2 CHILLED WATER CHILLER UNITS TRIPPED. THIS LOSS ALLOWED CONTAINMENT AIR TEMPERATURES TO INCREASE TO 103.3 F. EXCEEDING

110952 (CONTINUED)

THE 105 F LIMIT. TEMPORARY CONSTRUCTION STRAINERS ON THE CHILLER CONDENSER WATER BOOSTER PUMPS PLACED, CAUSING THE UNITS TO TRIP. THE STRAINERS WERE REMOVED. THE CHILLERS WERE RETURNED TO SERVICE MAINTAINING CONTAINMENT AIR TEMPERATURE TO 103 F IN 15 MINUTES.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • CONTAINMENT AIR COOLING • CAUSE • REACTOR STARTUP EXPERIENCE • FLOW BLOCKAGE • CONTAINMENT ATMOSPHERE • COOLING • BEAVER VALLEY 1 (BHV) • TEMPERATURE • FAILURE, INCIDENT • PUMPS • FILTERS

110951

CONTAINMENT AIR TEMPERATURE EXCEEDS LIMIT AT BEAVER VALLEY 1

QUAKESHA LIGHT CO., PITTSBURGH, PA

3 PGS, LTR DATED 70-01/03L TO NRC DIRECTOR OF REGULATION, REGION I, OCT. 7, 1970, DOCKET 50-336, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - AIR COMPRESSOR CAPACITY LOW. WHILE OPERATING AT JOB NUMBER, CONTAINMENT TEMPERATURE WAS FOUND TO BE 105.3 F, EXCEEDING THE 105 F LIMIT. THE COOLING WATER CONTAINMENT ISOLATION VALVE WAS SHUT. DURING AN AIR FLUFF OF THE MIXED BED DEMINERALIZER IN WATER TREATING, AIR PRESSURE DROPPED TO 70 PSI ALLOWING THE VALVE TO CLOSE. THE STATION AIR COMPRESSOR CAPACITY APPEARS TO BE LOW. THE VALVE WAS REOPENED AND TEMPERATURE RETURNED TO LESS THAN 105 F.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • CONTAINMENT AIR COOLING • FAILURE, DESIGN ERROR • CONTAINMENT ATMOSPHERE • SYSTEM CAPACITY • PNEUMATIC SYSTEM • BEAVER VALLEY 1 (BHV) • TEMPERATURE • VALVES • BLOWNS

114407

REACTOR CONTAINMENT STRUCTURE FOUNDATION MATERIAL DEFICIENCY AT BEAVER VALLEY 2

QUAKESHA LIGHT CO., PITTSBURGH, PA

3 PGS, LTR DATED TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MAY 10, 1970, DOCKET 50-012, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - SILTY CLAY LENS FOUND. EXCAVATION FOR THE REACTOR CONTAINMENT STRUCTURE REVEALED THE PRESENCE OF A LENS OF VERY STIFF DESICATED SILTY CLAY ALONG THE NORTHERN PERIMETER OF THE EXCAVATION. IT IS ABOUT 100 FEET LONG AND 30 FEET WIDE. THE EXCAVATION WAS DEEPENED BY 3 FEET OVER THE AREA WHERE THE SILTY CLAY WAS EXPOSED. THE CLAY CONTINUED BELOW THIS LEVEL. NO FURTHER EXCAVATION WILL BE MADE BECAUSE (1) THE SILTY CLAY IS AN ADEQUATE FOUNDATION MATERIAL AND (2) THE GROUND WATER TABLE IS 7 FEET BELOW THIS SECOND EXCAVATION.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SITING, REACTOR • CONTAINMENT CONSTRUCTION • PLAN • SOIL PROPERTY • FOUNDATION ENGINEERING • CONSTRUCTION • BEAVER VALLEY 2 (BHV) • FAILURE, INCIDENT

114408

REACTOR CONTAINMENT FOUNDATION SOILS AT BEAVER VALLEY 2

QUAKESHA LIGHT CO., PITTSBURGH, PA

15 PGS, LTR DATED TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MAY 27, 1970, DOCKET 50-012, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - SILTY CLAY LENS FOUND. EXCAVATION FOR THE REACTOR CONTAINMENT STRUCTURE REVEALED THE PRESENCE OF A LENS OF VERY STIFF, DESICATED SILTY CLAY. AN ADDITIONAL 5 FEET OF EXCAVATION IN THIS AREA FAILED TO REMOVE THE CLAY. BORINGS WERE MADE TO DETERMINE THE THICKNESS OF THE CLAY LENS THAT REMAINS BENEATH A LEAN CONCRETE BACKFILL THAT WAS PLACED IN THE SECOND EXCAVATION. PRELIMINARY RESULTS OF SETTLEMENT ANALYSIS INDICATED THAT THE CLAY LENS AND LEAN CONCRETE BACKFILL WILL HAVE A MINIMAL EFFECT ON THE ANTICIPATED SETTLEMENT OF THE STRUCTURE.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SITING, REACTOR • TESTING • CONTAINMENT CONSTRUCTION • PLAN • SOIL PROPERTY • FOUNDATION ENGINEERING • CONSTRUCTION • BEAVER VALLEY 2 (BHV) • FAILURE, INCIDENT

111845

WALL SECTION IN REACTOR COOLANT PUMP CASING BELOW MINIMUM AT BELLEFONTE 1

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

5 PGS, LTR DATED TO NRC OFFICE OF I & E, FEB. 20, 1970, DOCKET 50-030, TYPE--PWR, NRC--BHV, AE--TVA

CAUSE - FABRICATION ERROR. DURING MANUFACTURE OF REACTOR COOLANT PUMP CASINGS FOR UNIT 1, A DEFICIENCY OCCURRED WHEN A SUBCONTRACTOR REMOVED MATERIAL TO ENABLE PROPER POSITIONING OF ELECTROSLAG WELDING EQUIPMENT FOR WELDING THE RESTRAINT LUG TO THE RESTRAINT OSS. AN AREA 3.5 INCHES WIDE BY 16 INCHES LONG WAS GROUND OUT LEAVING A MINIMUM BALL THICKNESS OF 0.5 INCHES. THE MINIMUM WELDING REQUIREMENT IS 3.5 INCHES. THE CASING WAS REPAIRED BY WELD BUILDUP BLENDED WITH THE ORIGINAL CONTOUR OF THE CASING.

111004 (CONTINUED)

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, FABRICATION ERROR • THICKNESS • MAIN COOLING SYSTEM • CONSTRUCTION • BELLEFONTE 1 (PWR) • PUMPS

110822

REACTOR BUILDING COOLING SYSTEM DESIGN DEFICIENCY AT BELLEFONTE 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 1, 1976. DUCKETS 50-430/439. TYPE--PWR, NRC--B6W, AE--TVA

CASE - ALL OPERATION FACTORS NOT CONSIDERED. THE PRESENT REACTOR BUILDING COOLERS/ESSENTIAL MAG COOLING WATER SYSTEM DESIGN MAY NOT UNDER ALL CONDITIONS SATISFY MINIMAL DESIGN CRITERIA JO. ALL POSSIBLE OPERATING CONDITIONS HAS NOT BEEN CONSIDERED. INSUFFICIENT ECCS PUMP DESIGN HEAD REQUIREMENTS WERE SPECIFIED. THE LOWER PRESSURE HIGH FLOW SUPPRESS BOILING INSIDE THE TUBES ASSUMING A DESIGN BASIS LOCA WHERE THE INSIDE NRC TUBE SURFACES ARE RELATIVELY CLEAN. BOOSTER PUMPS WILL BE ADDED IN EACH ECCS SYSTEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BELLEFONTE 1 (PWR) • BELLEFONTE 2 (PWR) • CONSTRUCTION • DECONTAINMENT AIR COOLING • SYSTEM CAPABILITY • FAILURE, DESIGN ERROR • ACCIDENT, LOSS OF COOLANT • PUMPS • NRC DESIGN CRITERIA

120001

MATERIAL FOUND WITH HEAT NUMBER DISCREPANCY AT BELLEFONTE 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 22, 1976. DUCKETS 50-430/439. TYPE--PWR, NRC--B6W, AE--TVA

CASE - DEVIATION FROM QA REQUIREMENTS. DURING REVIEW OF DOCUMENTATION FOR RELEASE TO SWI, CERTAIN BWRK 3-11M2 PENETRATIONS, TVA INSPECTORS DISCOVERED DEVIATIONS FROM CONTRACT QA REQUIREMENTS. DOCUMENTATION INDICATED AN UNKNOWN NUMBER OF INSTANCES OCCURRED WHERE THE HEAT NUMBERS STAMPED ON STEEL PLATE MATERIAL RECEIVED BY BRISTOL STEEL DID NOT AWFEE WITH THOSE NUMBERS LISTED ON STEEL MILL DOCUMENTATION. BRISTOL STEEL THEN RECEIVED PERMISSION FROM THE STEEL SUPPLIER TO RESTAMP THE HEAT NUMBERS TO BRING IT INTO AGREEMENT WITH THOSE ON THE DOCUMENTATION. ALL OF THIS MATERIAL WILL BE CHECKED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BELLEFONTE 1 (PWR) • BELLEFONTE 2 (PWR) • CONSTRUCTION • MATERIAL • IDENTIFICATION • STEEL • FAILURE, ADMINISTRATIVE CONTROL • QUALITY ASSURANCE • CONTAINMENT PENETRATION

117709

REACTOR COOLANT PUMPS SEAL COOLING DESIGN DEFICIENCY AT BELLEFONTE 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

4 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, JULY 21, 1976. DUCKETS 50-430/439. TYPE--PWR, NRC--B6W, AE--TVA

CASE - DESIGN ERROR. THE ORIGINAL REACTOR COOLANT PUMP SEAL COOLING DESIGN DID NOT SATISFY THE INTENT OF NRC GENERAL DESIGN CRITERION 15 AND REDUCED THE ECCS FLEXIBILITY. LOSS OF TRAIN A ELECTRIC POWER COULD HAVE RESULTED IN LOSS OF ALL SEAL COOLING TO THE PUMPS WITH CONSEQUENTIAL DAMAGE TO THE MECHANICAL SEALS. PRIMARY COOLANT COULD THEN LEAK THROUGH THE DAMAGED SEALS INTO THE REACTOR BUILDING. A PIPING CROSSING MANAGEMENT AND APPROPRIATE INSTRUMENTATION AND CONTROLS HAVE BEEN ADDED TO ENSURE AUTOMATIC BACKUP SEAL COOLING POWERED BY TRAIN B.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MODIFICATION • FAILURE, DESIGN ERROR • SEAL • REDUNDANCE • MAIN COOLING SYSTEM • COOLING • CONSTRUCTION • BELLEFONTE 1 (PWR) • BELLEFONTE 2 (PWR) • PUMPS

115425

FINAL REPORT ON ALTERATION OF RECORDS BY BS10 AT BELLEFONTE 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

APPROX. 385 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, MAY 17, 1976. DUCKETS 50-430/439. TYPE--PWR, NRC--B6W, AE--TVA

CASE - PERSONNEL ERROR. TVA INSPECTORS OBSERVED BRISTOL STEEL AND TVA WORK PERSONNEL ALTERING CERTAIN BS10 QA DOCUMENTATION. THE ALTERED RECORDS INVOLVED CUTTING AND PREPARATION UP MATERIAL AND FABRICATION OF EMBEDDGE MATERIAL FOR UNIT 2. ONCE EMBEDDED IN CONCRETE, THE MATERIAL BECOMES BACKING BARS FOR THE BOTTOM LINER PLATE AND UPPER PORTIONS UP THE STEAM GENERATOR ANCHORAGE. BS10 PREPARED AN INDEPENDENT APPROACH TO PROVE THE INTEGRITY OF THE MATERIAL. THE MATERIAL WAS FOUND TO BE ADEQUATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

115425 CONTINUED
 FABRICATION • CONTAINMENT STRUCTURE • MATERIAL • FAILURE, FABRICATION ERROR • SUPPORT STRUCTURE • QUALITY ASSURANCE • CONSTRUCTION • RECORDS • BELLEFONTE 1 (PWR) • BELLEFONTE 2 (PWR)

111870
 FOURTH INTERIM REPORT ON ALTERATION OF RECORDS BY 6510 AT BELLEFONTE 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 8 PGS. LTR W/REP TO NRC OFFICE OF I & E, MARCH 5, 1976. DUCKETS 50-030/039. TYPE--PUR, NRC--060, AE--TVA

CAUSE - IMPROPER RECORDS. THIS REPORT IS FOR EMBEDDED MATERIALS ONLY. A FINAL REPORT WAS RECEIVED FROM BRISTOL STEEL AND IRON WORKS RELATIVE TO DIVISION 2 ADVANCE FABRICATED MATERIAL FOR UNIT 2 AND ITS ASSOCIATED ALTERED RECORDS. THE INDEPENDENT APPROACH TAKEN IN THE REPORT TO DEMONSTRATE THE INTEGRITY OF THE EMBEDDED MATERIAL IS ACCEPTABLE TO TVA. TVA ESTABLISHED CRITERIA FOR USE IN THE VERIFICATION INSPECTION. INCLUDES A LISTING OF ACCEPTABLE MATERIAL AND OF MATERIAL WHICH DOES NOT MEET THE CRITERIA.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FABRICATION FACILITY • STEEL • FAILURE, FABRICATION ERROR • QUALITY ASSURANCE • CONSTRUCTION • RECORDS • BELLEFONTE 1 (PWR) • BELLEFONTE 2 (PWR)

110002
 INDICATIONS IDENTIFIED IN THE REACTOR VESSEL AT CALLABAY 2
 STANDARDIZED NUCLEAR UNIT POWER PLANT SYSTEM (SNUPPS), ROCKVILLE, MD
 2 PGS. LTR W/REP TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1976. DCKET STN 50-060. TYPE--PUR, NRC--WEST, AE--BECHTEL

CAUSE - MANGANESE SULFIDE INCLUSIONS. DURING SHEAR WAVE ULTRASONIC EXAMINATION OF THE UPPER SHELL COLLAR SECTION OF THE REACTOR VESSEL, 1000 INDICATIONS HAVE BEEN IDENTIFIED, 22 OF WHICH ARE REJECTABLE. SEVENTEEN OF THE 22 REJECTABLE INDICATIONS CAN BE REMOVED BY SELECTION OF NOISEL W/CPGL LOCATIONS. THE OTHER 5 ARE BEING REMOVED AND WELD REPAIRED. ANALYSIS CONFIRM THE PRESENCE OF MANGANESE SULFIDE INCLUSION IN THE CENTER THICKNESS. THE VESSEL PLATE WITH THE INCLUSIONS MEETS ASME SECTION 3 REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALLABAY 2 (PWR) • CONSTRUCTION • OPLAB • OPRESSURE VESSELS • MAIN COOLING SYSTEM • TEST, SYSTEM OPERABILITY • TEST, NONSTRUCTURE • ULTRASONICS • MATERIAL • FAILURE, FABRICATION ERROR • CONTAINMENT INTEGRITY • STRUCTURAL INTEGRITY

110332
 HOURLY AVERAGE CONDENSED TEMPERATURE DIFFERENCE EXCEEDS LIMIT AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR W/REP TO NRC OFFICE OF I & E, REGION 1, JAN. 16, 1976. DCKET 50-317. TYPE--PUR, NRC--COMB, AE--BECHTEL

CAUSE - LOWER THAN NORMAL LOW TIDE. WHILE SLOWLY RAMPING POWER UP TO FULL LOAD, THE FLUX WEIGHTED HOURLY AVERAGE CONDENSED TEMPERATURE DIFFERENTIAL REACHED 10.1 F. THIS EXCEEDS THE ETS LIMIT BY 0.1 F. THE APPARENT CAUSE WAS AN UNEXPECTED REDUCTION IN CIRCULATING WATER FLOW DUE TO LOWER THAN NORMAL LOW TIDE LEVEL. AS THE DELTA T INCREASED, THE OPERATOR MADE CHANGES IN THE CONDENSED VACUUM PUMP OPERATION WHICH UNEXPECTEDLY INCREASED THE DELTA T, EXCEEDING THE LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT • FAILURE, OPERATOR ERROR • TEMPERATURE GRADIENT • CALVERT CLIFFS 1 (PWR) • CONDENSER COOLING SYSTEM

110574
 JIL LEARS FROM MSIV OPERATOR AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS. LTR W/REP TO NRC OFFICE OF I & E, REGION 1, JAN. 20, 1976. DCKET 50-317. TYPE--PUR, NRC--COMB, AE--BECHTEL

CAUSE - FAILED O-RING. DURING A ROUTINE ROUND WHILE THE UNIT WAS IN HOT SHUTDOWN WITH BOTH MSIV'S SHUT. GROSS OIL LEAKAGE WAS DISCOVERED FROM THE CLOSING SIDE OF MSIV 11 OPERATOR. LEAKAGE WAS FROM A FAILED O-RING ON THE HIGH PRESSURE SIDE OF THE VALVE OPERATOR. THE O-RING WAS REPLACED AND THE VALVE RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • CONTAINMENT ISOLATION • TEST, SYSTEM OPERABILITY • OSEAL • OLEAK • CALVERT CLIFFS 1 (PWR) • FAILURE, INHERENT • COOLING SYSTEM, SECONDARY • OVALVE OPERATORS • VALVES

111392

111002 *CONTINUED*
 CONTAINMENT SUMP VALVE STICKS IN INTERMEDIATE POSITION AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LETR 70-5/3L TO NRC OFFICE OF I & E, REGION 1, JAN. 27, 1970, DOCKET 50-317, TYPE--PWR, NRC--
 COMB., AE--BECHTEL

CAUSE - STEM DECOUPLED FROM MOTOR. WHILE OPERATING THE CONTAINMENT SUMP WITH THE REACTOR AT 100%
 POWER, MOV-5463 STUCK IN THE INTERMEDIATE POSITION. IT WAS SHUT UP HAND. A LOCKING DEVICE AND
 BRASS BUSHING WHICH COUPLES THE VALVE STEM HAD LOOSEMED, BACKED OFF, AND DECOUPLED THE VALVE STEM
 FROM THE MOTOR DRIVE. THE FREEWHEELING MOTOR DAMAGED THE TRIPPER LEVEL ASSEMBLY. TEMPORARY
 REPAIRS WERE MADE UNTIL REPLACEMENT PARTS CAN BE OBTAINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT * DAMAGE * CONTAINMENT SUMP * CALVERT CLIFFS 1 (PWR) * FAILURE, INHERENT * VALVE OPERATORS
 * VALVE

111004
 LEAK FOUND IN STEAM GENERATOR BLOWDOWN LINE AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LETR 70-5/3L TO NRC OFFICE OF I & E, REGION 1, JAN. 29, 1970, DOCKET 50-317, TYPE--PWR, NRC--
 COMB., AE--BECHTEL

CAUSE - EROSION FROM TWO PHASE FLOW. DURING AN INSPECTION FOR LEAKS WHILE OPERATING AT 100%
 POWER, STEAM GENERATOR 11 BOTTOM BLOWDOWN WAS FOUND LEAKING AT AN ELBOW IMMEDIATELY DOWNSTREAM OF
 THE ORIFICE INSIDE CONTAINMENT. TWO PHASE FLOW DOWNSTREAM OF THE ORIFICE CAUSED EROSION OF THE
 ELBOW. THE ELBOW WAS WASHED OUT ABOUT 1/2 INCH IN DIAMETER ON THE INSIDE WITH A 1/8 INCH
 DIAMETER PENETRATOR. THE ELBOW WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, PIPE * FAILURE, DESIGN ERROR * EROSION * FLOW, TWO PHASE * BLOWDOWN * ORIFICE * STEAM GENERATOR *
 CALVERT CLIFFS 1 (PWR) * PIPES AND PIPE FITTINGS

111012
 RESTRAINING INSULATOR ON TRANSMISSION LINE FAILS AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LETR 70-5/3L TO NRC OFFICE OF I & E, REGION 1, FEB. 17, 1970, DOCKET 50-317, TYPE--PWR, NRC--
 COMB., AE--BECHTEL

CAUSE - JOINT UNCOUPLED IN HIGH WIND. WHILE THE REACTOR WAS OPERATING AT 54% POWER, THE PLANT WAS
 NOTIFIED BY THE LOAD DISPATCHER THAT A RESTRAINING INSULATOR ON PHASE A OF 500 KV TRANSMISSION
 LINE 3052 HAD PARTED. ONE OF THE BALL AND SOCKET JOINTS IN THE CENTER OF THE 37 PIECE INSULATOR
 UNCOUPLED WHEN THE INSULATOR FLEW IN HIGH WINDS. THE COTTER KEY WHICH NORMALLY LOCKS THE JOINT
 WAS APPARENTLY NOT FULLY INSERTED. LINE 3052 WAS REMOVED FROM SERVICE FOR 7.5 HOURS FOR REPAIR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

SUPPORT STRUCTURE * FAILURE, INSTALLATION UNION * WEATHER, SEVERE * CALVERT CLIFFS 1 (PWR) * INSULATION *
 CABLES AND CONNECTORS * POWER TRANSMISSION

111020
 LOGIC SEQUENCER FAILS TO OPERATE PROPERLY AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LETR 70-5/3L TO NRC OFFICE OF I & E, REGION 1, FEB. 20, 1970, DOCKET 50-317, TYPE--PWR, NRC--
 COMB., AE--BECHTEL

CAUSE - NOT STATED. DURING ENGINEERING SAFETY FEATURE TESTING WITH THE REACTOR AT 100% POWER,
 CHANNEL B LOGIC SEQUENCER DID NOT BEGIN THE UNLOCKING SEQUENCE UNTIL 22 SECONDS AFTER PRESSING
 THE SEQUENCER TEST PUSHBUTTON. IT THEN SEQUENCED THROUGH 5 STEPS IN 20 SECONDS. THE SEQUENCER
 MODULE WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * ENGINEERED SAFETY FEATURE * CALVERT CLIFFS 1 (PWR) * RELAYS

112220
 SET POINT DRIFT IN FLOW SWITCH AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LETR 70-5/3L TO NRC OFFICE OF I & E, REGION 1, MARCH 8, 1970, DOCKET 50-317, TYPE--PWR, NRC--
 COMB., AE--BECHTEL

CAUSE - DEFECTIVE POWER SUPPLY. WITH THE REACTOR AT 100% POWER, A NON-CONSERVATIVE LOW FLOW TRIP
 SETTING WAS FOUND ON RPS CHANNEL B DURING TESTING. THE POWER-RATE MUEL DWA 19-750/13-75011
 POWER SUPPLY HAD DEFECTIVE REGULATION CAUSING A DECREASE IN OUTPUT VOLTAGE AS CURRENT LOAD

112720 *CONTINUED*

INCREASED WITH EMERGENCY LIGHTS AND ALARMS. IT WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * ELECTRIC POWER * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * CALVERT CLIFFS 1 (PWR) * RESET POINT * MODIFY * ELECTRONIC FUNCTION UNITS * SENSORS, FLOW

112715

NP51 LOOP ISOLATION VALVE FOUND TO BE INOPERABLE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD.
2 PGS., LTR D/LEP 76-10/31 TO NRC OFFICE OF I & E, REGION 1, APRIL 5, 1976. DOCKET 50-317. TYPE--PWR, NRC--
CORR., AE--RECENTEL

CAUSE - BLOWN CONTROL CIRCUIT FUSE. DURING 100% POWER OPERATION, BOTH POSITION INDICATION LIGHTS FOR A NP51 LOOP ISOLATION VALVE WERE NOTED TO BE OUT. AN ATTEMPT TO OPERATE THE VALVE REMOTELY WAS UNSUCCESSFUL. THE CONTROL CIRCUIT FUSE HAD BLOWN. THE FUSE WAS REPLACED AND THE VALVE OPERATED MANUALLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * CONTAINMENT ISOLATION * FAILURE, INSTRUMENT * CALVERT CLIFFS 1 (PWR) * NP51 * FAILURE, INHERENT * VALVES

112727

OFFSET FOUND IN STEAM GENERATOR PRESSURE TRIP AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD.
2 PGS., LTR D/LEP 76-10/31 TO NRC OFFICE OF I & E, REGION 1, APRIL 5, 1976. DOCKET 50-317. TYPE--PWR, NRC--
CORR., AE--RECENTEL

CAUSE - POOR ELECTRICAL CONTACTS. DURING TESTING WITH THE REACTOR AT 100% POWER, AN OFFSET WAS FOUND IN THE SENSED INPUT TO CHANNEL 20 STEAM GENERATOR LOW PRESSURE TRIP WHICH WOULD CAUSE A TRIP AT A PRESSURE BELOW THE LIMIT. THE APPARENT CAUSE WAS POOR ELECTRICAL CONTACTS AT THE LOOP INPUT RESISTOR. THE LOOP WAS OPERATED AND THE CONTACTS CLEANED. THE OFFSET WAS NO LONGER PRESENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * CIRCUIT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * STEAM GENERATOR * CALVERT CLIFFS 1 (PWR) * RESET POINT * SHIFT * SENSORS, PRESSURE

113231

CRACKED WELD FOUND IN RCP UPPER SEAL VENT LINE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD.
2 PGS., LTR D/LEP 76-12/17 TO NRC OFFICE OF I & E, REGION 1, APRIL 16, 1976. DOCKET 50-317. TYPE--PWR, NRC--
CORR., AE--RECENTEL

CAUSE - UNKNOWN. INSPECTION OF CONTAINMENT AFTER A REACTOR TRIP REVEALED 0-1 TO 0.35 GPM COOLANT LEAKAGE FROM A CRACKED WELD OF THE RCP UPPER SEAL VENT LINE. THE UPPER SEAL IS EXPOSED TO 700 PSIA AND 1.0 GPM FLOW. A TEMPORARY REFLECTOR WAS INSTALLED TO ELIMINATE SPRAY. REPAIRS WILL BE MADE DURING THE PLANNED OUTAGE STARTING 6/9/76.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WELDS * SEAL * LEAK * CALVERT CLIFFS 1 (PWR) * CRACK * PUMPS * PIPES AND PIPE FITTINGS

113212

STEAM GENERATOR BLOWDOWN ORIFICE BYPASS VALVE OPEN AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD.
2 PGS., LTR D/LEP 76-13/17 TO NRC OFFICE OF I & E, REGION 1, APRIL 19, 1976. DOCKET 50-317. TYPE--PWR, NRC--
CORR., AE--RECENTEL

CAUSE - OPERATOR ERROR. DURING FULL POWER OPERATION, STEAM GENERATOR 12 BOTTOM BLOWDOWN ORIFICE BYPASS VALVE WAS FOUND OPEN. IT WAS SHUT AFTER HAVING BEEN OPEN FOR 35 MINUTES. AN OPERATOR MAY HAVE BEEN DIRECTED TO SHUT THE BYPASS VALVE BUT HAD MISTAKENLY SHUT THE ORIFICE ISOLATION VALVE INSTEAD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * BLOWDOWN * STEAM GENERATOR * CALVERT CLIFFS 1 (PWR) * BYPASS * VALVES

114772

114772 *CONTINUED*

LEAK RATES OF STEAM GENERATOR MANWAYS AND ISOLATION VALVES SACRED LINE# AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., MD
1 PG. LTR D/L# 50-317/70-14/1P TO W.S. NRC, APRIL 19, 1970. DUCRET 50-317, TYPE--PWR, RW--COMB., AE--BECHTEL

CAUSE - NORMAL WEAR/INSUFFICIENT TORQUE. DURING LOCAL LEAK RATE TESTING OF 2 STEAM GENERATOR MANWAYS AND CONTAINMENT NORMAL SHIP DRAIN LINE ISOLATION VALVES, LEAKAGE WAS FOUND TO BE IN EXCESS OF 7000 SCCM. THE PROBABLE CAUSE OF VALVE SEAT DAMAGE WAS FOREIGN PARTICLES CAUSING ABRASION DURING THE FREQUENT VALVE OPERATION. VALVE SEATS WERE REAPPLIED. THE 56 MANWAY LEAKS PROBABLY RESULTED FROM THEIR NOT BEING RETORQUED UNTIL THE 5-3'S WERE NOT. ALL RETESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT ISOLATION * TEST, LEAK RATE * TEST, SYSTEM OPERABILITY * STEAM GENERATION * LEAK RATE * CONTAINMENT SHIP * CALVERT CLIFFS 1 (PWR) * FAILURE, IMMINENT * DEAN * VALVES

113518

OUTLET OF SERVICE WATER HEAT EXCHANGER LEAKS AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS. LTR D/L# 70-11/3L TO NRC OFFICE OF I & E, REGION 1, APRIL 30, 1970. DUCRET 50-317, TYPE--PWR, RW--COMB., AE--BECHTEL

CAUSE - EROSION. DURING 100% POWER OPERATION, A LEAK WAS DISCOVERED IN THE SALT WATER OUTLET PIPING FROM SERVICE WATER HEAT EXCHANGER 11 IMMEDIATELY DOWNSTREAM OF THE THROTTLING VALVE. THE LEAK WAS CAUSED BY EROSION DUE TO THE THROTTLING ACTION OF THE VALVE. THE LEAK WAS REPAIRED. AN ORIFICE GATE VALVE IS BEING PROCURED TO REPLACE THE BUTTERFLY VALVE. DOWNSTREAM PIPING WILL BE LINED WITH FIBERGLASS FOR SEVERAL PIPE DIAMETERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * MODIFICATION * FAILURE, DESIGN ERROR * EROSION * LEAK * CALVERT CLIFFS 1 (PWR) * SERVICE WATER SYSTEM * PIPES AND PIPE FITTINGS * HEAT EXCHANGERS

114014

POSITIVE SET POINT METER FOR ARIAL SHAPE INDEX PEGS HIGH AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/L# 70-17/3L TO NRC OFFICE OF I & E, REGION 1, MAY 21, 1970. DUCRET 50-317, TYPE--PWR, RW--COMB., AE--BECHTEL

CAUSE - UNKNOWN. FOLLOWING A CALIBRATION OF LINEAR RANGE NUCLEAR INSTRUMENTATION, THE POSITIVE SET POINT METER FOR CHANNEL 8 ARIAL SHAPE INDEX PEGS HIGH. THE UNIT WAS OPERATING AT 70% POWER. THE APPLICABLE TRIP BISTABLE IN THE MDS WAS BYPASSED. WITHIN 10 MINUTES THE METER SET POINT RETURNED TO THE CORRECT VALUE WITHOUT ANY MAINTENANCE ACTION BEING TAKEN. NO CAUSE COULD BE FOUND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTION PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * INSTRUMENT, ABNORMAL INDICATION * INSTRUMENT, PERIOD * CALVERT CLIFFS 1 (PWR) * SET POINT * INDICATORS

114786

CHANGING PUMP TRIPS AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/L# 70-20/3L TO NRC OFFICE OF I & E, REGION 1, JUNE 3, 1970. DUCRET 50-317, TYPE--PWR, RW--COMB., AE--BECHTEL

CAUSE - LOOSE CONTROL FUSE. DURING 100% POWER OPERATION, CHANGING PUMP 11 TRIPPED AND THE CONTROL CIRCUIT DEENERGIZED. THE BREAKER OPENED FOR REASONS UNKNOWN. THE BREAKER SWITCH MOVED A LOOSE CONTROL FUSE AND OPENED THE CONTROL CIRCUIT. THE FUSE WAS TIGHTENED AND THE PUMP RETURNED TO SERVICE IN 8 MINUTES. PRIOR TO THE TRIP, CHANGING PUMP 11 WAS DOWN FOR REPAIR. ONLY ONE PUMP WAS OPERATIONAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * INSTRUMENT, PROTECTIVE * FAILURE, MAINTENANCE ERROR * MAIN COOLING SYSTEM * CALVERT CLIFFS 1 (PWR) * BREAKER * OPERATED * PUMPS

114771

AUXILIARY FEEDWATER PUMPS OUT OF SERVICE FOR OIL CHANGE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/L# 70-15/3L TO NRC OFFICE OF I & E, REGION 1, JUNE 3, 1970. DUCRET 50-317, TYPE--PWR, RW--COMB., AE--BECHTEL

CAUSE - SLIGHT WATER CONTAMINATION. DURING FULL POWER OPERATION, AUXILIARY FEEDWATER PUMP 11 WAS

114771 CONTINUED

PLANT OUT OF SERVICE FOR AN OIL CHANGE. IT WAS RETURNED TO SERVICE AND PUMP 12 REMOVED FROM SERVICE FOR AN OIL CHANGE ALSO. BOTH WERE OPERABLE WITHIN 5.25 HOURS. PERIODIC OIL SAMPLES UTILIZED TO MONITOR WATER CONTAMINATION.

AVAILABILITY - APC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

WATER • SAMPLING • LUBRICATION • CALVERT CLIFFS 1 (PWR) • FAILURE, IMMINENT • AUXILIARY • COOLING SYSTEM, SECONDARY • REFEEDWATER • PUMPS

114770

AUXILIARY FEEDWATER PUMP OUT OF SERVICE FOR MAINTENANCE AT CALVERT CLIFFS 1

JALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR DATED 70-10/31 TO APC OFFICE OF I & E, REGION I, JUNE 4, 1970. DUCRET 50-317. TYPE--PWR. MFG--COMB.. AE--RECELTEL

CAUSE - TAPPET NOT INCORRECTLY SIZED. DURING 100% POWER OPERATION, AUXILIARY FEEDWATER PUMP 12 WAS PLACED OUT OF SERVICE FOR MECHANICAL MAINTENANCE FOR 2-3 HOURS. DIFFICULTY IN RESETTING THE TAPPET TRIP LATCH MECHANISM RESULTED IN THE TAPPET NOT OF THIS MECHANISM. THE TAPPET WAS DETERMINED TO BE INCORRECTLY SIZED PER PLAN DRAWINGS.

AVAILABILITY - APC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR • FAILURE, FABRICATION ERROR • CALVERT CLIFFS 1 (PWR) • AUXILIARY • COOLING SYSTEM, SECONDARY • REFEEDWATER • PUMPS

115120

NPS VOLT RESETS AUTOMATICALLY DURING POWER INCREASE AT CALVERT CLIFFS 1

JALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR DATED 70-21/31 TO APC OFFICE OF I & E, REGION I, JUNE 10, 1970. DUCRET 50-317. TYPE--PWR. MFG--COMB.. AE--RECELTEL

CAUSE - NOISE PULSE FROM ANNUNCIATOR. WHILE INCREASING POWER FROM 50% TO 100% DURING NORMAL OPERATION, THE OPERATOR NOTED THAT 1 OF THE 4 NPS VOLT CHANNELS WAS RESETTING AUTOMATICALLY. A RESET-LIKE NOISE PULSE WAS INDUCED INTO THE CHANNEL CIRCUIT EACH TIME THE CONTROL ROOM ANNUNCIATOR WAS ACKNOWLEDGED. THE APPARENT CAUSE WAS THE CLOSE PROXIMITY OF THE ANNUNCIATOR HORN AND CABLES TO THE CHANNEL CABLES. LIMITING DIODES WERE INSTALLED ACROSS THE HORN TO REDUCE THE MAGNITUDE OF THE VOLT INDUCED SIGNAL SIGNIFICANTLY BELOW THE THRESHOLD OF RESET.

AVAILABILITY - APC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NOISE • REACTOR PROTECTION SYSTEM • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • MODIFICATION • FAILURE, DESIGN ERROR • CALVERT CLIFFS 1 (PWR) • ANNUNCIATORS

115122

LEAKS FOUND IN SERVICE WATER HEAT EXCHANGER PIPING AT CALVERT CLIFFS 1

JALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR DATED 70-22/31 TO APC OFFICE OF I & E, REGION I, JUNE 11, 1970. DUCRET 50-317. TYPE--PWR. MFG--COMB.. AE--RECELTEL

CAUSE - SALT WATER CORROSION. DURING FULL POWER OPERATION, 2 SERVICE WATER HEAT EXCHANGERS WERE TAKEN OUT OF SERVICE AT DIFFERENT TIMES FOR MAINTENANCE. DURING WORK ON ONE HEAT EXCHANGER, SERVICE WATER WAS CROSS CONNECTED WITH THE OTHER ONE SUPPLYING BOTH SUBSYSTEMS. IN EACH INSTANCE, LEAKS WERE CAUSED BY CORROSION AT THE UNION BETWEEN THE CARBON STEEL NIPPLE AND THE BRASS PIPE REDUCER. THE SALT SILE NIPPLES WERE WELD REPAIRED. IN ADDITION, SACRIFICIAL ANODE PROTECTION WAS ADDED TO THESE HEAT EXCHANGERS.

AVAILABILITY - APC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE • CORROSION • PLEAK • CALVERT CLIFFS 1 (PWR) • FAILURE, IMMINENT • SERVICE WATER SYSTEM • PIPES AND PIPE FITTINGS • HEAT EXCHANGERS

115125

FLUID LOST FROM RAIN VENT FLOW MANDRETER AT CALVERT CLIFFS 1

JALTIMORE GAS & LIGHT CO., BALTIMORE, MD

2 PGS. LTR DATED 70-10/31 TO APC OFFICE OF I & E, REGION I, JUNE 11, 1970. DUCRET 50-317. TYPE--PWR. MFG--COMB.. AE--RECELTEL

CAUSE - NOT GIVEN. WHILE TAKING READINGS WITH THE REACTOR AT 100% POWER, THE OPERATOR DISCOVERED THE FLUID HAD BEEN LOST FROM THE RAIN VENT FLOW MANDRETER. THE MANDRETER WAS RETURNED TO SERVICE WITHIN 15 HOURS. NO WASTE GAS REACT FANNS WERE RELEASED DURING THE PERIOD OF MANDRETER IMPERMEABILITY.

AVAILABILITY - APC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

115135 (CONTINUED)

FAILURE, EQUIPMENT • STACK • WASTE DISPOSAL • GAS • CALVERT CLIFFS 1 (PWR) • PSEUDO • PLOG

115471

ERROR FOUND IN COMPUTER CODE IN ANALYZING LOCA AT CALVERT CLIFFS 1

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

JPGS, LTD D/LER 70-20/3L TO AEC OFFICE OF I & E, REGION I, JUNE 23, 1970. JACKET 50-317, TYPE--PWR, RWG--
COMB., AE--DECTEL

CAUSE - ERROR IN CODE. COMPTON ENGINEERING INFORMED THE LICENSEE THAT ERRORS WERE DETECTED IN THE COMPUTER CODE UTILIZED IN ANALYZING THE LOCA. CORRECTED CALCULATIONS JUSTIFIED OPERATION UP TO A PEAK LINEAR HEAT RATE OF ONLY 10.9 MW/FT. INCOME DETECTION ALARM SET POINTS WERE IMMEDIATELY LOWERED FROM 15.2 TO 10.9 MW/FT. LATER, AEC REQUESTED A 1 MW/FT UNCERTAINTY PENALTY. REACTOR OPERATION IS PRESENTLY LIMITED TO A PEAK OF 13.9 MW/FT.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS • COMPUTER PROGRAM • ACCIDENT, LOSS OF COOLANT • ANALYTICAL MODEL • ONE CHANNEL ANALYSIS • FAILURE, ADMINISTRATIVE CONTROL • CALVERT CLIFFS 1 (PWR) • SET POINT

115472

SERVICE WATER HEAT EXCHANGERS REMOVE FROM SERVICE AT CALVERT CLIFFS 1

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

JPGS, LTD D/LER 70-20/3L TO AEC OFFICE OF I & E, REGION I, JUNE 23, 1970. JACKET 50-317, TYPE--PWR, RWG--
COMB., AE--DECTEL

CAUSE - MAINTENANCE. DURING FULL POWER OPERATION, SERVICE WATER HEAT EXCHANGERS 11 AND 12 WERE TAKEN OUT OF SERVICE AT DIFFERENT TIMES FOR MAINTENANCE. DURING THE REPAIR WORK IN ONE, SERVICE WATER WAS CROSS CONNECTED TO THE OTHER SUPPLYING MAIN SUBSYSTEMS. IN EACH INSTANCE, SPECIALIZED ARRESTERS WERE INSTALLED ON THE SALT WATER SIDE FOR CORROSION PROTECTION.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • MAINTENANCE AND REPAIR • CORROSION • CALVERT CLIFFS 1 (PWR) • SERVICE WATER SYSTEM • HEAT EXCHANGERS

115473

VOLUME CONTROL TANK VALVE FAILS TO OPEN AT CALVERT CLIFFS 1

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

JPGS, LTD D/LER 70-20/3L TO AEC OFFICE OF I & E, REGION I, JUNE 26, 1970. JACKET 50-317, TYPE--PWR, RWG--
COMB., AE--DECTEL

CAUSE - RUPTURED DIAPHRAGM. DURING OPERATION AT 100% POWER WHILE ATTEMPTING TO DEFLUTE THE REACTOR COOLANT SYSTEM, THE VOLUME CONTROL TANK MAKE-UP STOP FAILED TO OPEN. THE VALVE'S CONTROL DIAPHRAGM WAS RUPTURED. THE REACTOR WATER TANK WAS ISOLATED FROM THE CHARGING PUMP SUCTION AND MAKE-UP ALIGNED DIRECTLY TO THE CHARGING PUMP SUCTION. THE VALVE WAS REPAIRED AND C/W'S RETURNED TO A NORMAL LINEUP.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • COOLANT PURIFICATION SYSTEM • MAIN COOLING SYSTEM • CALVERT CLIFFS 1 (PWR) • FAILURE, INHERENT • OPERATOR • VALVE OPERATORS • VALVES

115494

OFFSET FOUND IN PRESSURIZER LOW PRESSURE BLOCK DISTABLE INPUT AT CALVERT CLIFFS 1

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

JPGS, LTD D/LER 70-20/3L TO AEC OFFICE OF I & E, REGION I, JULY 2, 1970. JACKET 50-317, TYPE--PWR, RWG--
COMB., AE--DECTEL

CAUSE - DEFECTIVE MODULE. DURING TESTING WITH THE REACTOR AT 100% POWER, IT WAS FOUND THAT AN OFFSET EXISTED IN THE SENSOR INPUT TO CHANNEL IN PRESSURIZER LOW PRESSURE BLOCK DISTABLE. THIS WAS IN A DIRECTION AS TO ALLOW A BLOCKING SIGNAL AT A PRESSURE ABOVE THE LIMIT. A TRANSDUCER MODEL 2301T VOLTAGE TO VOLTAGE SIGNAL ISOLATION HAD FAILED. THE OFFSET CLEARED WHEN THE DEFECTIVE MODULE WAS REPLACED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM • FAILURE, INSTRUMENT • PRESSURIZER • TEST, SYSTEM OPERABILITY • CALVERT CLIFFS 1 (PWR) • SENSORS, PRESSURE • ELECTRICAL FUNCTION UNITS

115495

BURN HEAT TRAC CIRCUITS FOR BOMIC ACID PUMP FOUND OFF AT CALVERT CLIFFS 1

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

115065 *CONTINUED*
 1 PGS. LTR #/LEA 70-30/11 TO NRC OFFICE OF I & E, REGION I, JULY 7, 1970. DOCKET 50-317. TYPE--PWR. NFG--
 COMB.. AE--BECHTEL

CAUSE - CIRCUIT FAILURES. WHILE REVIEWING LOGS FOR THE UP-COMING DAY SHIFT WITH THE REACTOR AT 100% POWER, THE SUPERVISOR DISCOVERED THAT BOTH THE PRIMARY AND SECONDARY HEAT TRACING FOR BORIC ACID PUMP 11 HAD BEEN DE-ENERGIZED FOR MAINTENANCE AND NEVER RETURNED TO SERVICE. ABOUT 6 FEET OF PIPE WERE AFFECTED. THE HEAT TRACE CIRCUIT HAD FAILED AND SUPERVISORS FAILED TO EXPEDITE REMEDIAL ACTION. BOTH HEAT TRACE CIRCUITS WERE RETURNED TO SERVICE 6 DAYS LATER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR * CHEMICAL SHIM * FAILURE, ADMINISTRATIVE CONTROL * CALVERT CLIFFS 1 (PWR) * PIPES AND PIPE FITTINGS * WEAVERS

115018
 CONTAINMENT SPRAY PUMP REMOVED FROM SERVICE AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS. LTR #/LEA 70-32/34 TO NRC OFFICE OF I & E, REGION I, JULY 21, 1970. DOCKET 50-317. TYPE--PWR. NFG--
 COMB.. AE--BECHTEL

CAUSE - REPAIR A LEAKING PIPE. DURING 100% POWER OPERATION, CONTAINMENT SPRAY PUMP 12 WAS TAKEN OUT OF SERVICE FOR 15 MINUTES TO RETAPE AND TIGHTEN A LEAKING NIPPLE ON ITS SEAL WATER LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT SPRAY * MAINTENANCE AND REPAIR * LEAK * CALVERT CLIFFS 1 (PWR) * FAILURE, INHERENT * PUMPS * PIPES AND PIPE FITTINGS

115227
 PIN-HOLE LEAK OCCURS IN BORIC ACID PUMP RELIEF VALVE AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR #/LEA 70-32/34 TO NRC OFFICE OF I & E, REGION I, JULY 27, 1970. DOCKET 50-317. TYPE--PWR. NFG--
 COMB.. AE--BECHTEL

CAUSE - CARBON STEEL CORROSION BY BORIC ACID. DURING 100% POWER OPERATION, A PIN-HOLE LEAK WAS DISCOVERED IN THE BONNET OF BORIC ACID PUMP 11 SUCTION RELIEF VALVE. BORIC ACID STORAGE TANK 11 WAS ISOLATED AND DRAINED. THE RELIEF VALVE'S CARBON STEEL BONNET AND SPRING WERE REPLACED WITH STAINLESS STEEL TO PREVENT RECURRENCE. CARBON STEEL COMPONENTS ARE NOT COMPATIBLE WITH HOT BORIC ACID SOLUTION. A SIMILAR REPLACEMENT WAS THEN PERFORMED ON THE SUCTION RELIEF VALVE FOR BORIC ACID PUMP 12.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * POISON, SOLUBLE * CORROSION * MATERIAL * MODIFICATION * PRESSURE RELIEF * FAILURE, DESIGN ERROR * CHEMICAL SHIM * LEAK * CALVERT CLIFFS 1 (PWR) * VALVES

117071
 FISH IMPINGED ON INTAKE SCREENS AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR #/ENV RPT TO NRC OFFICE OF I & E, REGION I, AUG. 2, 1970. DOCKET 50-317. TYPE--PWR. NFG--COMB.. AE--
 BECHTEL

CAUSE - LOW DISSOLVED OXYGEN IN BAY. DURING ROUTINE IMPINGEMENT SAMPLING, UNUSUALLY LARGE NUMBERS OF FISH WERE COLLECTED FROM THE TRAVELLING SCREENS. MOST OF THE FISH WERE BETWEEN 9 TO 17 CM. IN LENGTH. DURING SUMMER MONTHS, WATER IN CHESAPEAKE BAY TYPICALLY BECOMES STRATIFIED. THIS RESULTS IN BOTTOM WATERS BECOMING DEVOID OF DISSOLVED OXYGEN. ALSO, OXYGEN CONCENTRATION DECREASES DURING THE NIGHT. FISH WERE IMPINGED DUE TO THE EXTREMELY LOW DISSOLVED OXYGEN CONCENTRATION. THE TRAVELLING SCREENS RETURNED MANY ALIVE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OXYGEN * FILTER * SCREEN * WEATHER, SEVERE * CALVERT CLIFFS 1 (PWR) * ANIMAL, FISH * MORTALITY * CHESAPEAKE BAY * CONDENSED COOLING SYSTEM * BAY

117072
 ALLOWABLE PH OF DISCHARGED WASTE WATER EXCEEDED AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR #/ENV RPT 70-34/40 TO NRC OFFICE OF I & E, REGION I, AUG. 3, 1970. DOCKET 50-317. TYPE--PWR. NFG--
 COMB.. AE--BECHTEL

CAUSE - UNKNOWN. SAMPLE DATA INDICATED A PH OF 7.3 FOR WASTE WATER IN THE NEUTRALIZING TANK. WHILE DISCHARGING 19282 GALLONS FROM THE TANK INTO THE CIRCULATING WATER CONDUIT, A LOCAL RECORDER INDICATED A PH OF 10.1 ON THE CONDUIT. THE DISCHARGE WAS TERMINATED. REANALYSIS OF THE TANK INDICATED A TANK PH OF 10.9. NO PLAUSIBLE REASON FOR THE DISCREPANCY WAS FOUND.

117072 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WASTE DISPOSAL * SAMPLING * CHEMICAL ANALYSIS * WASTE DISPOSAL, LIQUID * WATER QUALITY * CALVERT CLIFFS 1 (PWR) * CONDENSER COOLING SYSTEM

117074
 TEMPERATURE RISE ACROSS CONDENSER EXCEEDS LIMIT AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 4 PGS. LTR W/LET 76-37 TO NRC OFFICE OF I & E, REGION 1, AUG. 6, 1976. DOCKET 50-317. TYPE--PWR, RFG--COMB., AE--DECTEL

CAUSE - FLOW RESTRICTED BY BUILOUP. WHILE OPERATING AT 100% POWER, JERIFICATION OF THE COMPUTER LOG INDICATED THAT THE FLOW WEIGHTED HOURLY AVERAGE DISCHARGE TEMPERATURE EXCEEDED THE AVERAGE INLET TEMPERATURE BY 10.1 F. POWER WAS REDUCED AND THE DIFFERENCE TEMPERATURE DECREASED TO LESS THAN 10 F WITHIN 1 HOUR. THE APPARENT CAUSE WAS A BUILOUP OF MARINE LIFE IN THE INLET WATER PIPES CAUSING FLOW RESTRICTIONS. THE PIPES WERE CLEANED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*TEMPERATURE GRADIENT * FLOW BLOCKAGE * CALVERT CLIFFS 1 (PWR) * INTAKE * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

117073
 CIRCULATING WATER DISCHARGE TEMPERATURE EXCEEDS LIMIT AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR W/LET 76-38 TO NRC OFFICE OF I & E, REGION 1, AUG. 9, 1976. DOCKET 50-317. TYPE--PWR, RFG--COMB., AE--DECTEL

CAUSE - SOLAR HEATING OF BAY WATER. AT 5 PM WHILE OPERATING AT 100% POWER, A HIGH CIRCULATING WATER DISCHARGE TEMPERATURE ALARM WAS RECEIVED. THE INLET AND OUTLET CONDENSER TEMPERATURES WERE INCREASING. POWER WAS IMMEDIATELY REDUCED TO 90%. IN 2 HOURS, THE DISCHARGE TEMPERATURE WAS REDUCED TO 89.1 F. THE INCREASE IN TEMPERATURES WAS DUE TO SOLAR HEATING OF THE BAY WATER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * WEATHER, SEVERE * CALVERT CLIFFS 1 (PWR) * OPERATOR ACTION * TEMPERATURE * CHESAPEAKE BAY * CONDENSER COOLING SYSTEM * DISCHARGE * BAY * FAILURE, IMMINENT

117084
 DIESEL GENERATOR FAILS TO START AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS. LTR W/LET 76-36/1T TO NRC OFFICE OF I & E, REGION 1, AUG. 11, 1976. DOCKET 50-317. TYPE--PWR, RFG--COMB., AE--DECTEL

CAUSE - COOLING WATER SYSTEM AIRBOUND. DURING 100% POWER OPERATION, 500 KV RED BUS AND 4 KV BUS 14 WERE TEMPORARILY DE-ENERGIZED WHEN MAINTENANCE PERSONNEL WORKING ON A 500 KV BREAKER SHORTED A FAILURE CIRCUIT CONTACT. BUS 14 WAS IMMEDIATELY RE-ENERGIZED FROM ITS ALTERNATE SUPPLY BUT DIESEL GENERATOR 12 FAILED TO START. IT TRIPPED ON LOW JACKET COOLING WATER PRESSURE. DG 12 JACKET COOLING WATER SYSTEM WAS PARTIALLY DRAINED THE DAY BEFORE, ALTHOUGH IT HAD BEEN TEST RUN. THE COOLING WATER SYSTEM LATER BECAME AIRBOUND. IT WAS VENTED AND THE DG SATISFACTORILY TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * COOLING * CALVERT CLIFFS 1 (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

117174
 PRESSURIZER PRESSURE CHANNEL FAILS HIGH AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS. LTR W/LET 76-39/3L TO NRC OFFICE OF I & E, REGION 1, AUG. 16, 1976. DOCKET 50-317. TYPE--PWR, RFG--COMB., AE--DECTEL

CAUSE - POOR ELECTRICAL CONTACTS. PRIOR TO STARTING THE ESPAS MONTHLY SURVEILLANCE WITH THE REACTOR AT 100% POWER, IT WAS NOTICED THAT PRESSURIZER PRESSURE CHANNEL 12 HAD FAILED HIGH. THE APPARENT CAUSE WAS POOR ELECTRICAL CONTACTS AT THE PRESSURIZER PRESSURE LOOP INPUT RESISTOR. AFTER CLEANING THESE CONTACTS, THE FAILURE CLEARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * CALVERT CLIFFS 1 (PWR) * PRESSONS, PRESSURE

117103

SERVICE WATER HEAT EXCHANGER PLACED OUT OF SERVICE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR W/LEN 70-3373L TO NRC OFFICE OF I & E, REGION I, AUG. 20, 1970, DCKET 50-317, TYPE--PWR, MFG--
CONB., AE--BECHTEL

CAUSE - LEAK CAUSED BY EROSION. DURING 100% POWER OPERATION, SERVICE WATER HEAT EXCHANGER 11 WAS
PLACED OUT OF SERVICE TO REPAIR A LEAK. DURING THE REPAIR WORK, SERVICE WATER WAS CROSS
CONNECTED WITH SWH HEAT EXCHANGER 12 SUPPLYING BOTH SUBSYSTEMS. THE LEAK WAS CAUSED BY EROSION
OF DOWNSTREAM PIPING DUE TO THE THROTTLING ACTION OF A VALVE. THE LEAK WAS ON THE SALT WATER
OUTLET PIPING. A PATCH WAS WELDED OVER THE LEAKING AREA AND THE HEAT EXCHANGER RETURNED TO
SERVICE IN 0.5 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

HYDRAULIC EFFECT * FAILURE, PIPE * FAILURE, DESIGN ERROR * EROSION * LEAK * CALVERT CLIFFS 1 (PWR) * SERVICE
WATER * PIPES AND JOINT FITTINGS * HEAT EXCHANGERS

117002

DIESEL GENERATOR FAILS TO SENSE VOLTAGE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR W/LEN 70-3371T TO NRC OFFICE OF I & E, REGION I, AUG. 20, 1970, DCKET 50-317, TYPE--PWR, MFG--
CONB., AE--BECHTEL

CAUSE - COLD SOLDER JOINT ON RELAY LEAD. DURING TESTING WITH THE REACTOR AT 90% POWER, DIESEL
GENERATOR 11 FAILED TO SENSE AN "AT VOLTAGE" CONDITION SHORTLY AFTER STARTING EVEN THOUGH IT WAS
AT RATED VOLTAGE. THIS WOULD PREVENT THE OUTPUT BREAKER FROM CLOSING AUTOMATICALLY SHOULD IT BE
REQUIRED. A COLD SOLDER CONNECTION ON A LEAD TO THE ERA RELAY (AT VOLTAGE) CAUSED THE
MALFUNCTION. THE CONNECTION WAS RESOLDERED AS WERE SEVERAL OTHERS HAVING THE APPEARANCE OF A
COLD SOLDER CONNECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY *
CALVERT CLIFFS 1 (PWR) * CABLES AND CONNECTORS * GENERATION, DIESEL * RELAYS

118202

NEUTRALIZING TANK OVERFLOWS TO CIRCULATING WATER AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR W/LEN 70-40 TO NRC OFFICE OF I & E, REGION I, SEPT. 15, 1970, DCKET 50-317, TYPE--PWR, MFG--
CONB., AE--BECHTEL

CAUSE - OPERATOR INATTENTION. WHILE RINSING A MAKE-UP DEMINERALIZER WITH PURE WATER AFTER
REGENERATION, THE OPERATOR NOTICED THAT THE NEUTRALIZING TANK LEVEL INDICATION SHOWED THE LEVEL TO
BE ABOVE THE ALARM POINT. HE STOPPED THE RINSE. THE TANK HAD OVERFLOWED AN ESTIMATED 21000
GALLONS INTO THE CIRCULATING WATER. THE EVENT RESULTED FROM OPERATOR INATTENTION TO THE
INDICATED TANK LEVEL. CALCULATIONS INDICATE THAT THE PH CHANGE IN THE CIRCULATING WATER WAS
NEGLECTIBLE AND IMMEASURABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

EFFLUENT * FAILURE, OPERATOR ERROR * WASTE HANDLING * STORAGE CONTAINER * CALVERT CLIFFS 1 (PWR) * SYSTEM
CAPACITY * CONDENSED COOLING SYSTEM

118275

TEMPERATURE IN SWITCHGEAR ROOM HIGH AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR W/LEN 70-4173L TO NRC OFFICE OF I & E, REGION I, OCT. 5, 1970, DCKET 50-317, TYPE--PWR, MFG--
CONB., AE--BECHTEL

CAUSE - AIR CONDITIONING MOTOR FAILS. WHILE THE REACTOR WAS SHUT DOWN, A SWITCHGEAR ROOM HIGH
TEMPERATURE ALARM WAS RECEIVED. THE AIR CONDITIONING UNIT HAD TRIPPED DUE TO A WOUND
CONDENSER FAN MOTOR. THE MOTOR WAS REPLACED AND THE UNIT RETURNED TO SERVICE. THE HIGHEST
TEMPERATURE OBSERVED WAS 104.3 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT * AIR * INSTRUMENT, SWITCH * EQUIPMENT * COOLING * CALVERT CLIFFS 1 (PWR) * TEMPERATURE *
COMPARTMENT * FAILURE, INHERENT * MOTORS

119402

PRESSURIZER LEVEL CONTROL AND HEATERS LCST AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR W/LEN 70-4271T TO NRC OFFICE OF I & E, REGION I, OCT. 13, 1970, DCKET 50-317, TYPE--PWR, MFG--
CONB.,

11903 *CONTINUED*
AE--BECHTEL

CAUSE - COMPUTER CONTROL CARD FAILS. AFTER EXPERIENCING A LOSS-OF-AUTOMATIC PRESSURIZED LEVEL CONTROL AND A PRESSURIZED HEATER CUT-OFF, A PLANT TRIP FROM 100% OCCURRED DUE TO THERMAL MARGIN/LOW PRESSURE CONDITIONS. PRIOR TO THE LOSS-OF-LEVEL CONTROL AND HEATERS, A CHANNEL A HPS LOW-FLOW TRIP WAS RECEIVED. A COMPUTER SOLID STATE ANALOG SYSTEM CONTROL CARD WAS REMAINING IN A CONTINUOUS ON POSITION. THIS CAUSED THE MULTIPLEXER TO SELECT ADDITIONAL ANALOG INPUT POINTS AT A 300 MSEC INTERVAL WHILE RETAINING SELECTION OF PRIOR CONNECTED POINTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * SCRAM, REAL * SOLID STATE DEVICE * FAILURE, INSTRUMENT * PNEUMATIC * CALVERT CLIFFS 1 (PWR) * REACTOR SHUTDOWN * FAILURE, INHERENT * HEATERS * SENSORS, LEVEL

11932

LEAK FOUND IN INLET LINE TO CHARGING PUMP RELIEF VALVE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR D/LEA 70-03/3L TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1970. JACKET 50-317, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - FATIGUE FROM THERMAL CYCLING. DURING 100% POWER OPERATION, A PIN HULL LEAK WAS DETECTED ON THE 3/4-INCH INLET LINE TO CHARGING PUMP 11 RELIEF VALVE. A TEMPORARY WELD REPAIR WAS EFFECTED OVER THE LEAKING AREA. THE LINE WILL BE REPLACED PRIOR TO THE NEXT REFUELING OUTAGE. THE LEAK OCCURRED IN THE HEAT AFFECTED ZONE OF THE WELD WHICH JOINED THE 3/4-INCH LINE TO THE 2-INCH PUMP DISCHARGE LINE. FATIGUE FROM PUMP OPERATION DURING HEAT-UP AND COOL-DOWN APPEARS TO HAVE BEEN THE CAUSE OF THIS MINOR LEAK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * WELDS * FAILURE, FATIGUE * HEAT TREATMENT * MAIN COOLING SYSTEM * LEAK * CALVERT CLIFFS 1 (PWR) * FAILURE, INHERENT * FEEDWATER * PIPES AND PIPE FITTINGS

120457

CONTAINMENT SUMP VALVE FAILS TO CLOSE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR D/RO 70-05/3L TO NRC OFFICE OF I & E, REGION 1, NOVEMBER 17, 1970. JACKET 50-317, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - STEM BUSHING THREADS STRIPPED. WHILE DRAINING THE CONTAINMENT SUMP WITH THE REACTOR AT 100% POWER, MOV-5002 WOULD NOT SHUT. THE MOTOR HAD BUT THE STEM WOULD NOT MOVE. MOV-5002 WAS SHUT. THE STEM BUSHING INTERNAL THREADS WERE STRIPPED. A NEW BUSHING WAS INSTALLED. THE VALVE WAS TESTED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CALVERT CLIFFS 1 (PWR) * VALVES * CONTAINMENT SUMP * FAILURE, EQUIPMENT * FAILURE, INHERENT * CONTAINMENT ISOLATION

120412

VENTILATION FAN FOR DIESEL GENERATOR STOPS AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR D/LEA 70-07/3L TO NRC OFFICE OF I & E, REGION 1, NOV. 24, 1970. JACKET 50-317, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - BLOWN FUSE. WHILE RUNNING EMERGENCY DIESEL GENERATION 12 FOR A SURVEILLANCE TEST WITH THE REACTOR AT 100% POWER, THE VENTILATION FAN FOR THE DG STOPPED. THE DG WAS SHUT DOWN TO AVOID THE EVENTUAL OVERHEATING OF ITS CONTROL CABINETS. A BLOWN FUSE WAS FOUND IN THE FAN CONTROLLEN. THE REASON FOR THE BLOWN FUSE IS UNKNOWN. REPLACEMENT OF THE FUSE RETURNED THE FAN AND DG 12 TO OPERATIONAL STATUS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CALVERT CLIFFS 1 (PWR) * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * FLOWERS * VENTILATION SYSTEM * INSTRUMENT, PROTECTIVE * TEST, SYSTEM OPERABILITY * COOLING * FAILURE, INSTRUMENT * FAILURE, INHERENT * EMERGENCY POWER, ELECTRIC

120411

OFFSET FOUND IN STEAM GENERATOR LOW PRESSURE TRIP CHANNEL AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR D/LEA 70-06/3L TO NRC OFFICE OF I & E, REGION 1, NOV. 20, 1970. JACKET 50-317, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - POOR ELECTRICAL CONTACTS. WHILE MONITORING THE ESPAS SYSTEM CABINETS DURING A ROUTINE SHIFT CHECK WITH THE REACTOR AT 100% POWER, IT WAS NOTED THAT AN OFFSET EXISTED IN THE DEVS60

120012 (CONTINUED)

INPUT TO CHANNEL ZP STEAM GENERATOR LOW PRESSURE TRIP. THIS WOULD CAUSE A TRIP AT A PRESSURE BELOW THE TECH SPEC LIMIT. THE APPARENT CAUSE WAS POOR ELECTRICAL CONTACTS AT THE SW LOOP INPUT RESISTOR. UPON CLEANING, THE OFFSET ERROR DISAPPEARED. RECENTLY, A PM TO CLEAN THESE CONTACTS WAS IMPLEMENTED. FAILURE OCCURRED 2 HOURS AFTER THE PM WAS PERFORMED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 1 (PWR) * INSTRUMENT, SWTC, * CONTROL SYSTEM * ENGINEERED SAFETY FEATURE * CABLES AND CONNECTORS * FAILURE, INSTRUMENT * PROTECTION SYSTEM * SENSORS, PRESSURE * FAILURE, INHERENT

120011

SERVICE WATER OUTLET VALVES FOR DIESEL GENERATOR CLOSED AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR N/LEM 78-04/3L TO AEC OFFICE OF I & E, REGION I, DEC. 4, 1978, DCKET 50-317, TYPE--PWR, RFG--
COMB., AE--BECHTEL

CAUSE - OPERATOR ERROR. WHILE OPERATING AT 100% POWER, AN OPERATOR OBSERVED THAT THE RELIEF VALVE ON THE SERVICE WATER SUPPLY TO DIESEL 12 WAS LIFTING. A CHECK OF THE VALVE LINEUP REVEALED THAT BOTH SERVICE WATER OUTLET MANUAL STOP VALVES WERE SHUT. AN OPERATOR HAD BEEN REQUESTED TO CLEAN TAGS ON THE UNIT 1 SERVICE WATER SUPPLY AND RETURN VALVE FOR DIESEL 12 3-5 HOURS EARLIER. IT IS ASSUMED THAT AT THIS TIME THE UNIT 1 OUTLET VALVE WAS SHUT AND UNIT 2 OUTLET VALVE WAS NOT OPENED, THUS PREVENTING SERVICE WATER FLOW TO THE DIESEL. THE VALVE LINEUP WAS IMMEDIATELY CORRECTED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 1 (PWR) * VALVES * SERVICE WATER SYSTEM * GENERATOR, DIESEL * FLOW BLOCKAGE * FAILURE, OPERATOR ERROR * IDENTIFICATION

120157

CONTAINMENT IODINE FILTER REMOVED FROM SERVICE AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR N/LEM 78-05/3L TO AEC OFFICE OF I & E, REGION I, DEC. 6, 1978, DCKET 50-317, TYPE--PWR, RFG--
COMB., AE--BECHTEL

CAUSE - BREAKER ADJUSTMENT. DURING 90% POWER OPERATION, CONTAINMENT IODINE REMOVAL FILTER 11 WAS REMOVED FROM SERVICE FOR 40 MINUTES TO ADJUST BREAKER 52-1105. THE PRIMARY CONTACT OF THE DESTINGUISH POWER CIRCUIT BREAKER, TYPE JS200, 600 AMP, WAS FOUND TO BE PARTIALLY RETRACTED DURING A PREVENTIVE MAINTENANCE INSPECTION. A MECHANICAL ADJUSTMENT OF THE STATIONARY CONTACT WAS PERFORMED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 1 (PWR) * BREAKER * CONTAINMENT FILTERING SYSTEM * IODINE * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * TEST, SYSTEM OPERABILITY

120085

LEAK FLOW IN CYCS PIPE WELD AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS, LTR N/LEM 78-09/1T TO AEC OFFICE OF I & E, REGION I, DEC. 7, 1978, DCKET 50-317, TYPE--PWR, RFG--
COMB., AE--BECHTEL

CAUSE - FATIGUE FROM PUMP OPERATION. WHILE OPERATING AT 50% POWER, A LEAK WAS DISCOVERED AT THE BRANCH PIPE WELD THAT CONNECTS THE DISCHARGE OF CYCS CHANGING PUMP 12 TO RELIEF VALVE 1-MV-325. THE LEAK OCCURRED IN THE HEAT AFFECTED ZONE OF THE WELD. FATIGUE FROM PUMP OPERATION DURING HEAT-UP AND COOL-DOWN APPEARS TO HAVE BEEN THE CAUSE. THE LEAK WAS WELD REPAIRED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 1 (PWR) * LEAK * WELDS * PIPES AND PIPE FITTINGS * COOLANT PURIFICATION SYSTEM * FAILURE, PIPE * FAILURE, FATIGUE * HEAT TREATMENT * DAMAGE

120055

500 KV LINE BREAKER MISTAKENLY TRIPPED AT CALVERT CLIFFS 1
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS, LTR N/LEM 78-50/1T TO AEC OFFICE OF I & E, REGION I, DEC. 13, 1978, DCKET 50-317, TYPE--PWR, RFG--
COMB., AE--BECHTEL

CAUSE - PANEL ERROR. DURING 52% POWER OPERATION, 13KV TRANSFORMER P-13000-2 WAS PLACED OUT OF SERVICE TO INSTALL MODIFICATIONS FOR A FUTURE 500 KV TRANSMISSION LINE. THREE HOURS LATER, PERSONNEL TESTING THE BREAKER FAILURE SWITCH ON BREAKER 552-03 MISTAKENLY TRIPPED BREAKER 552-02 THEREBY REMOVING LINE 0052 FROM SERVICE. BREAKER 552-02 WAS IMMEDIATELY RECLOSED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

120453 *CONTINUED*
 CHANGE \$2.00)

CALVERT CLIFFS 1 (PWR) * BREAKER * ELECTRIC POWER * ON SITE * FAILURE, INSTALLATION ERROR * TESTING * MODIFICATION

120450

AUXILIARY HIGH PRESSURE LOOP VALVE FAILS TO OPEN AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 70-40/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 10, 1970. JACKET 50-317, TYPE--PWR, MFG--
 COMB., AE--BECHTEL

CAUSE - BURNED CONTACTS ON TONGUE SWITCH. DURING ESPAS TESTING WITH THE REACTOR AT 100% POWER, AUXILIARY HIGH PRESSURE LOOP ISOLATION VALVE SI-017 FAILED TO OPEN ON SIGNAL. IT WAS MANUALLY OPENED PENDING REPAIR. THE LIMITING OPERATOR (SERIES 123205) FAILED TO OPERATE THE VALVE BECAUSE ITS TONGUE SWITCH (MODEL 580-00-27) HAD BURNED CONTACTS. THE TONGUE SWITCH WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

CALVERT CLIFFS 1 (PWR) * VALVES * EMERGENCY COOLING SYSTEM * CONTAINMENT ISOLATION * FAILURE, EQUIPMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, INHERENT * VALVE OPERATIONS

120750

500 KV TRANSMISSION LINE PLACED OUT OF SERVICE AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 70-53/17 TO NRC OFFICE OF I & E, REGION 1, DEC. 27, 1970. JACKET 50-317, TYPE--PWR, MFG--
 COMB., AE--BECHTEL

CAUSE - RELOCATION OF LINE. WITH UNIT 1 AT 55% POWER AND UNIT 2 AT 50% POWER, 500 KV TRANSMISSION LINE 5052 WAS PLACED OUT OF SERVICE. THE LINE WAS BEING RELOCATED BETWEEN 2 NEW 500 KV BREAKERS ADDED TO THE SWITCHYARD TO ACCOMMODATE A FUTURE 500 KV TRANSMISSION LINE. UNIT 2 WAS TRIPPED BY A SPURIOUS AXIAL FLOW OFFSET REACTOR TRIP SIGNAL. IN ACCORDANCE WITH TECH SPECS, IT WAS MAINTAINED IN HOT STANDBY UNTIL LINE 5052 WAS RESTORED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

POWER TRANSMISSION * MODIFICATION * SCRAM, SPURIOUS * ELECTRIC POWER * OFF SITE * CALVERT CLIFFS 1 (PWR)

120702

STEAM GENERATOR BLOWDOWN ORIFICE BYPASS VALVE FAILS TO CLOSE AT CALVERT CLIFFS 1
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 70-54/17 TO NRC OFFICE OF I & E, REGION 1, DEC. 27, 1970. JACKET 50-317, TYPE--PWR, MFG--
 COMB., AE--BECHTEL

CAUSE - PROBABLY A DAMAGED BUSHING. DURING 55% POWER OPERATION, AN OPERATOR ATTEMPTED TO SHUT STEAM GENERATOR B2 BOTTOM BLOWDOWN ORIFICE BYPASS VALVE WHICH HAD BEEN OPENED TO CONTROL STEAM GENERATOR CHEMISTRY THE DAY BEFORE. FAILURE APPEARED TO BE DUE TO A DAMAGED BUSHING. MAINTENANCE PERSONNEL SHUT THE VALVE USING AN IMPROVISED JACKING DEVICE, BUT THE PRESSURE REDUCING ORIFICE HAD BEEN BYPASSED FOR 2 HR 36 MIN LONGER THAN TECH SPEC LIMITS. THE VALVE WILL BE REPAIRED DURING THE NEXT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

VALVES * STEAM GENERATOR * BLOWDOWN * ORIFICE * BYPASS * FAILURE, EQUIPMENT * FAILURE, INHERENT * COOLING SYSTEM, SECONDARY * COOLANT PURIFICATION SYSTEM * CALVERT CLIFFS 1 (PWR)

117934

MSIV BONNET BACKSEAT AREA FOUND TO BE DEFORMED AT CALVERT CLIFFS 2
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LEP 70-01/17 TO NRC OFFICE OF I & E, REGION 1, SEPT. 7, 1970. JACKET 50-310, TYPE--PWR, MFG--
 COMB., AE--BECHTEL

CAUSE - EXCESSIVE HYDRAULIC PRESSURE SUSPECTED. DURING REPAIR OF A GALLED STEM ON MSIV-23, IT WAS NOTED THAT THE BACKSEAT AREA OF THE BONNET WAS DEFORMED. CALCULATIONS INDICATED POSSIBLE EXCESSIVE STRESS ON THE BACKSEAT WHEN THE VALVE IS IN THE OPEN POSITION. THE SUSPECTED CAUSE IS EXCESSIVE OPERATOR HYDRAULIC PRESSURE WHEN THE MSIV IS BACKSEATED AND/OR INSUFFICIENT BACKSEAT SURFACE AREA. THE VENDOR IS EVALUATING THE PROBLEM AND WILL SUPPLY RECOMMENDATIONS FOR RECTIFICATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

CONTAINMENT ISOLATION * STEAM * STRESS * DEFORMATION * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * MAIN COOLING SYSTEM * CALVERT CLIFFS 2 (PWR) * VALVES

119249

DIESEL GENERATOR FAILS TO START AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/LEP 78-02/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 17, 1978. DOCKET 50-310. TYPE--PWR. NRC--
COMB.. AE--BECHTEL

CASE - SHORTED CONNECTOR IN SPEED SWITCH. AFTER A TEST RUN OF DIESEL GENERATOR 21, EXCITER
SHORTCIRCUIT ALARMS WERE RECEIVED AND THE DIESEL COULD NOT BE RESTARTED. THE SPEED SWITCH HAD A
SHORTED CONNECTOR. THE SWITCH WAS REPAIRED AND THE DIESEL RETURNED TO SERVICE. THIS WAS DURING
THE INITIAL FUEL LOADING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, COMPONENT + INSTANTANEOUS SWITCH + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + CALVERT
CLIFFS 2 (PWR) + CABLES AND CONNECTORS + FAILURE, INHERENT + ENGINES, INTERNAL COMBUSTION + GENERATOR,
DIESEL

119250

PLASTIC-LIKE SUBSTANCE FOUND IN THE REACTOR VESSEL CLOSURE HEAD AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
3 PGS. LTR D/MP/T TO NRC OFFICE OF I & E, REGION I, OCT. 21, 1978. DOCKET 50-310. TYPE--PWR. NRC--COMB.. AE--
BECHTEL

CASE - UNKNOWN. A PLASTIC-LIKE SUBSTANCE WAS FOUND ADHERING TO THE INTERNAL SURFACES OF THE
REACTOR VESSEL CLOSURE HEAD AND CONTROL ELEMENT DRIVE MECHANISMS. ALL OD MECHANISMS AND THE HEAD
WERE CLEANED IN PLACE. THEN, THE MECHANISMS WERE SHIPPED TO THE VENDOR FOR DISASSEMBLY,
CLEANING, AND REASSEMBLY. THEY WERE RETURNED AND REINSTALLED. ONE TUBE IN STEAM GENERATOR 22
WAS CLEANED TO REMOVE A PLASTIC-LIKE SUBSTANCE ON ITS INSIDE DIAMETER. ALL ACCESSIBLE SURFACES
IN THE RCS WERE HAND CLEANED. THE SOURCE OF THE MATERIAL HAS NOT BEEN DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CAUSE + SURFACE + SURFACE FILM DEPOSIT + FAILURE, INSTALLATION ERROR + MAIN COOLING SYSTEM + PLASTICS + CALVERT
CLIFFS 2 (PWR) + CONSTRUCTION + PRESSURE VESSELS + CONTACT ROD DRIVES

120590

HYDRAULIC SHIMMERS FAIL TO MEET DESIGN SPECS AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
1 PG. LTR 50-310-78-3/1P TO U.S. NRC, NOV. 5, 1978. DOCKET 50-310. TYPE--PWR. NRC--COMB.. AE--BECHTEL

CASE - LOCK UP AND BLEED VALVES OUT OF ADJUSTMENT. WHILE TESTING HYDRAULIC SHIMMERS WITH THE
REACTOR SHUT DOWN, 8 OF 10 SHIMMERS FAILED TO MEET DESIGN SPECS. SOME OF THE LOCK UP AND BLEED
VALVES WERE OUT OF ADJUSTMENT AND OTHERS HAD AIR MIXED IN WITH THE HYDRAULIC FLUID. THE FAULTY
UNITS WERE PURGED AND VELOCITIES RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + DESIGN CRITERIA + SHOCK ABSORBER + SUPPORT STRUCTURE +
PIPES AND PIPE FITTINGS + TEST, SYSTEM OPERABILITY + FAILURE, EQUIPMENT + FAILURE, FABRICATION ERROR

120150

HYDRAULIC SHIMMERS FAIL TO MEET DESIGN SPECIFICATIONS AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/LEP 78-3/1T TO NRC OFFICE OF I & E, REGION I, NOV. 18, 1978. DOCKET 50-310. TYPE--PWR. NRC--
COMB.. AE--BECHTEL

CASE - LOCK UP AND BLEED VALVE ADJUSTMENTS. WHILE TESTING HYDRAULIC SHIMMERS, 8 OF 10 SHIMMERS
FAILED TO MEET DESIGN SPECS. ALL SAFETY RELATED SHIMMERS ARE BEING RESET TO DESIGN VALUES.
VARIOUS ITT CHINWELL UNITS (FIG. 200 AND 201) FAILED TO MEET DESIGN LOCK UP AND BLEED VELOCITIES.
SOME OF THE LOCK UP AND BLEED VALVES WERE OUT OF ADJUSTMENT AND OTHERS HAD AIR MIXED IN WITH THE
HYDRAULIC FLUID.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + SHOCK ABSORBER + SUPPORT STRUCTURE + PIPES AND PIPE
FITTINGS + FAILURE, FABRICATION ERROR + VALVES + CONTROL + SET POINT + DESIGN CRITERIA + TEST, SYSTEM
OPERABILITY

120480

LEAK FOUND IN COCS PIPE BELD AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
2 PGS. LTR D/LEP 78-5/1T TO NRC OFFICE OF I & E, REGION I, DEC. 7, 1978. DOCKET 50-310. TYPE--PWR. NRC--COMB..
AE--BECHTEL

12000 CONTINUED

CAUSE - VIBRATION UP PUMP. WITH THE PLANT AT 101-3022 PWRM, AN OPERATOR DISCOVERED A CRACKED WELD IN THE LINE TO RELIEF VALVE RV-326 FOR CVCS CHARGING PUMP #1. THE WELD WAS REPAIRED AND THE PUMP RETURNED TO SERVICE. ADDITIONAL METHODS TO REDUCE PUMP VIBRATIONS ARE BEING PURSUED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + LEAK + PIPES AND PIPE FITTINGS + COOLANT PURIFICATION SYSTEM + FAILURE, PIPE + FAILURE, FATIGUE + VIBRATION + WELDS

12002

ESFAS ACTUATION MODULE INOPERABLE AT CALVERT CLIFFS 2
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR BYLER 70-0473L TO NRC OFFICE OF I & E, REGION 1, DEC. 10, 1976. DCKET 50-310. TYPE--PWR, NRC--
COMB., AE--DECHTEL

CAUSE - UNKNOWN. DURING ESFAS MONTHLY SURVEILLANCE, ESFAS-0 ACTUATION MODULE FOR PRESSURIZATION PRESSURE WAS FOUND INOPERATIVE. THE TRIP SIGNAL WAS MEASURED AT THE INPUT TO THE MODULE, BUT THERE WAS NO OUTPUT SIGNAL. THE CAUSE OF THE WIRING LABORATORIES, MODEL 1020-1059, QUALITIC ACTUATION MODULE FAILURE IS UNKNOWN. THE DEFECTIVE COMPONENT WAS REPLACED AND THE SURVEILLANCE COMPLETED SATISFACTORILY. THE PLANT WAS IN COLD SHUTDOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + CONTROL SYSTEM + SAFETY INJECTION + FAILURE, COMPONENT + TEST, SYSTEM OPERABILITY + ENGINEERED SAFETY FEATURE + ELECTRONIC FUNCTION UNITS

12003

CHLORIDE FOUND IN REACTOR COOLANT SYSTEM AT CALVERT CLIFFS 2

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR BYLER 70-0473L TO NRC OFFICE OF I & E, REGION 1, DEC. 13, 1976. DCKET 50-310. TYPE--PWR, NRC--
COMB., AE--DECHTEL

CAUSE - CONTAMINATED DURING AN ADDITION. DURING STARTUP TESTING WITH THE REACTOR AT 1280 PWRM, A ROUTINE REACTOR COOLANT SYSTEM GRAB SAMPLE SHOWED CHLORIDES TO BE 0.30 PPM. A CVCS ION EXCHANGER WAS SUBSEQUENTLY PLACED IN SERVICE AND THE CHLORIDE LEVEL WAS RETURNED TO WITHIN SPECS. A CERICAL ADDITION OF 2.5 MG OF LITHIUM HYDROXIDE WAS MADE PRIOR TO THIS DISCOVERY AND IT IS POSTULATED THAT THE CHLORIDE INGRESS RESULTED FROM THIS ADDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + CONCENTRATION + MAIN COOLING SYSTEM + TEST, SYSTEM OPERABILITY + SAMPLING + ADDITIVE + CONTAMINATION + CHLORIDE

12004

WELD DOWNSTREAM OF PRESSURE TRANSMITTER VALVE CRACKS AT CALVERT CLIFFS 2

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR BYLER 70-0473L TO NRC OFFICE OF I & E, REGION 1, DEC. 15, 1976. DCKET 50-310. TYPE--PWR, NRC--
COMB., AE--DECHTEL

CAUSE - LACK OF FUSION. WHILE CONDUCTING EPT WITH THE REACTOR AT 55, A CRACKED WELD WAS DISCOVERED DOWNSTREAM OF PCP22B MIDDLE SEAL PRESSURE TRANSMITTER ISOLATION VALVES. FAILURE WAS APPARENTLY CAUSED BY LACK OF FUSION OF THE BASE METAL. THE WELD WAS REPAIRED AND THE TRANSMITTER RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) + REACTOR STARTUP EXPERIENCE + WELDS + CRACK + LEAK + VALVES + CONTAINMENT ISOLATION + SENSORS, PRESSURE + SEAL + MAIN COOLING SYSTEM + FAILURE, INSTALLATION ERROR

12059

CONTAINMENT RADIATION MONITOR PUMP STOPPED RUNNING AT CALVERT CLIFFS 2

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

2 PGS. LTR BYLER 70-0473L TO NRC OFFICE OF I & E, REGION 1, DEC. 27, 1976. DCKET 50-310. TYPE--PWR, NRC--
COMB., AE--DECHTEL

CAUSE - POWER LEAD INSULATION CREAKS. WHILE THE PLANT WAS IN HOT STANDBY, THE CONTAINMENT RMS PUMP STOPPED RUNNING AS EVIDENCED BY A LOSS OF SAMPLE FLOW TO THE ASSOCIATED INSTRUMENTS. THE INSULATION ON A POWER SUPPLY LEAD TO THE PUMP MOTOR HAD RUBBED THROUGH ALLOWING THE LEAD TO CONTACT THE MOTOR CASING. THE LEAD WAS REPAIRED AND THE PUMP RETURNED TO SERVICE WITHIN THE 6 MCLR LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

120755 *CONTINUED*
 CALVERT CLIFFS 2 (PWR) * PUMPS * FAILURE, EQUIPMENT * INSULATION * CABLES AND CONNECTORS * FAILURE, EQUIPMENT
 * FAILURE, IMMINENT * ELECTRIC PIPES * CONTAINMENT ATMOSPHERE * REACTOR STARTUP EXPERIENCE * RADIATION
 HAZARD

120760
 STEAM GENERATOR LEVEL CHANNEL ERRATIC AT CALVERT CLIFFS 2
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 76-1273L TO NRC OFFICE OF I & E, REGION I, DEC. 27, 1976, DCKET 50-310, TYPE--PWR, NRG--
 COND., AE--BECHTEL

CAUSE - FOREIGN MATTER IN LINES. DURING AN INCREASE TO 10% POWER, STEAM GENERATOR LEVEL CHANNEL C
 WAS NOT TO BE ERATIC AND SLUGGISH. IT WAS BYPASSED FOR TROUBLESHOOTING. WHEN THE HIGH AND
 LOW TRANSMITTER LEGS WERE DOWN DOWN, FOREIGN MATERIAL OF AN UNDETERMINED NATURE WAS OBSERVED TO
 ISSUE FROM THE LEGS. THE INSTRUMENT WAS RETURNED TO SERVICE. EACH INSTRUMENT LEG ON BOTH STEAM
 GENERATORS WAS DOWN DOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) * REACTOR STARTUP EXPERIENCE * SENSORS, LEVEL * STEAM GENERATOR * INSTRUMENT, ABNORMAL
 INDICATION * CAUD * PIPES AND PIPE FITTINGS * FAILURE, MAINTENANCE ERROR * INSTRUMENT, SWITCH

120762
 REACTOR COOLANT SYSTEM TEMPERATURE DECREASES AT CALVERT CLIFFS 2
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 76-1073L TO NRC OFFICE OF I & E, REGION I, DEC. 27, 1976, DCKET 50-310, TYPE--PWR, NRG--
 COND., AE--BECHTEL

CAUSE - LACK OF OPERATOR EXPERIENCE. DURING ESCALATION TO POWER TESTING, THE MAIN TURBINE
 GENERATOR WAS PARALLELED. THIRTY-SEVEN MINUTES LATER LOAD WAS REDUCED IN RESPONSE TO DECREASING
 REACTOR COOLANT SYSTEM TEMPERATURE. RAPID FEEDING OF THE STEAM GENERATORS TO COMPENSATE FOR
 LEVEL SPRING CAUSED T AVG TO DECREASE TO 503 F. T AVG WAS RESTORED TO GREATER THAN 515 F WITHIN
 10 MINUTES. LACK OF OPERATOR EXPERIENCE WITH A SLIGHTLY POSITIVE TEMPERATURE COEFFICIENT AND THE
 SINGLE ELEMENT MODE OF STEAM GENERATOR CONTROL CONTRIBUTED TO THIS EVENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) * REACTOR STARTUP EXPERIENCE * OTHERMAL TRANSIENT * MAIN COOLING SYSTEM * FAILURE,
 OPERATOR ERROR * CONTROL * STEAM GENERATOR

120765
 REACTOR COOLANT SYSTEM DPCP BELCD LIMIT AT CALVERT CLIFFS 2
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 3 PGS, LTR D/LEP 76-1173L TO NRC OFFICE OF I & E, REGION I, DEC. 27, 1976, DCKET 50-310, TYPE--PWR, NRG--
 COND., AE--BECHTEL

CAUSE - PLANT CONTROL AT LOW POWER. WITH THE REACTOR AT 10% POWER, CORE POWER WAS DECREASING, DUE
 TO REACTOR HULLIN AND COMPENSATING BORON DILUTIONS WERE BEING MADE TO STABILIZE POWER. AT THIS
 TIME A POSITIVE MODERATOR TEMPERATURE COEFFICIENT EXISTED CAUSING CONTROL BY DILUTION TO BE
 DIFFICULT TO PREDICT. OVER A PERIOD OF TIME THE DILUTIONS WERE NOT SUFFICIENT AND T AVG AND
 STEAM GENERATOR LEVEL DECREASED. STEAM GENERATOR FEEDING WAS MADE TOO FAST DECREASING T AVG
 BELOW THE LIMIT. TURBINE LOAD WAS DECREASED AND T AVG RETURNED TO WITHIN LIMITS. A SECOND HEAVY
 FEEDING CAUSED T AVG TO DPCP AGAIN. THE OPERATOR SCRAMMED THE REACTOR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) * REACTOR STARTUP EXPERIENCE * OTHERMAL TRANSIENT * MAIN COOLING SYSTEM * CONTROL *
 STEAM GENERATOR * FAILURE, OPERATOR ERROR * REACTOR SHUTDOWN * SCRAM, NEAL * REACTOR CONTROL

120767
 SMALL LEAK OBSERVED IN CHARGING PUMP SUCTION LINE AT CALVERT CLIFFS 2
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD
 2 PGS, LTR D/LEP 76-1073L TO NRC OFFICE OF I & E, REGION I, DEC. 30, 1976, DCKET 50-310, TYPE--PWR, NRG--
 COND., AE--BECHTEL

CAUSE - DAMAGE DURING CONSTRUCTION. WITH THE REACTOR AT 10%-11% POWER AND LMPT IN PROGRESS, A
 SMALL LEAK WAS VISUALLY OBSERVED TO BE COMING FROM THE PUMPED BUBIC ACID DIRECT FLED LINE TO THE
 SUCTION OF THE CHARGING PUMPS. THE PIPE HAD RECEIVED A BLOW IN THIS AREA, MOST LIKELY DURING
 CONSTRUCTION. A FREEZE SEAL WAS APPLIED AND THE HOLE SEALED BY WELDING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CALVERT CLIFFS 2 (PWR) * REACTOR STARTUP EXPERIENCE * PIPES AND PIPE FITTINGS * FEEDWATER * MAIN COOLING
 SYSTEM * FAILURE, PIPE * LEAK * DAMAGE * FAILURE, INSTALLATION ERROR

120500

CONCRETE CONTAMINATION FOUND AT CATANBA 2

DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR D/RPT TO U.S. NRC, REGION II, DEC. 2, 1976. DOCKET 50-410, TYPE--PWR, RW--BEST., AL--JURE

CAUSE - CEMENT CONTAMINATED DURING SHIPMENT. WHEN ABOUT 500 CU. YD. OF THE 600 CU. YD. PUMED WAS BEING PLACED IN A REACTOR BUILDING BASE SLAB POUR, THE QUANTITY OF AMMONIA WAS DETECTED BY CONSTRUCTION QUALITY CONTROL PERSONNEL FROM THE FRESHLY PLACED CONCRETE. THE POUR WAS TEMPORARILY STOPPED AND THE FEED OF CEMENT TO THE MIXER WAS TRANSFERRED TO AN ALTERNATE SILEO. INVESTIGATION FOUND THAT 2 TANKER TRUCKS USED TO HAUL THE CEMENT TO THE SITE HAD BEEN USED FOR HAULING FERTILIZER. THE 7-DAY CYLINDER TESTS OF THIS CONCRETE SHOWED 7 OF THE 8 CYLINDERS TO EXCEED THE 28-DAY DESIGN STRENGTH OF 5000 PSI.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CATANBA 2 (PWR) + CONSTRUCTION + CONTAMINATION + CONCRETE + CONTAINMENT STRUCTURE + TRANSPORTATION AND HANDLING + FAILURE, ADMINISTRATIVE CONTROL + QUALITY ASSURANCE

115075

FINAL REPORT ON CONTAINMENT MAT DEFICIENCIES AT COMANCHE 1

TEXAS UTILITIES GENERATING CO., DALLAS, TX

50 PGS. LTR D/RPT TO NRC OFFICE OF I & E, REGION IV, JULY 12, 1976. DOCKETS 50-443/446, TYPE--PWR, RW--BEST., AE--GIBBS & HILL

CAUSE - DEFICIENCIES DURING CONCRETE PLACEMENT. AN EVALUATION WAS MADE OF THE POSSIBLE EFFECTS ON THE STRUCTURAL INTEGRITY OF THE MAT OF 7 DEFICIENCIES DESCRIBED IN QA SURVEILLANCE REPORTS CONCERNING THE CONCRETE CONTAINMENT BASE MAT POUR. DEFICIENCIES INCLUDE VOIDS, MORTAR CURING BEHIND PLATES, INADEQUATE VIBRATION OF CONCRETE LIFTS, EXCESSIVE MORTAR USED IN JOINT PREPARATION, FRESH CONCRETE PLACED IN AREAS OF STANDING WATER, EMBEDMENT OF A CHAINFALL, AND HARDENED CONCRETE ON REBARS. VOIDS WERE FILLED WITH MORTAR. NO CONNECTIVE MEASURES WERE REQUIRED FOR THE OTHER DEFICIENCIES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONCRETE + CONTAINMENT CONSTRUCTION + PLAN + STRUCTURAL INTEGRITY + FAILURE, INSTALLATION ERROR + INSTALLATION + CONSTRUCTION + CONCRETE, REINFORCED + VOID + COMANCHE 1 (PWR)

110004

SSI OAM FILTER MATERIAL DEFICIENT AT COMANCHE PEAK 1 AND 2

TEXAS UTILITIES GENERATING CO., DALLAS, TX

1 PG. LTR D/RPT TO NRC OFFICE OF I & E, REGION IV, OCT. 20, 1976. DOCKETS 50-443/446, TYPE--PWR, RW--BEST., AE--GIBBS & HILL

CAUSE - INCORRECT GRADATION. DURING THE QUALITY ASSURANCE TESTING PROGRAM, FILTER MATERIAL A DID NOT MEET THE SPECIFICATION REQUIREMENTS FOR INPLACE GRADATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONSTRUCTION + SOIL PROPERTY + PARTICLE SIZE DISTRIBUTION + TEST, SYSTEM OPERABILITY + OAM + FAILURE, INSTALLATION ERROR + COMANCHE 1 (PWR) + COMANCHE 2 (PWR)

110941

SET POINT DRIFT IN OVERPOWER CHANNEL AT CONNECTICUT YANKEE

CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT

2 PGS. LTR D/RPT LER-76-3/3-L TO NRC OFFICE OF I & E, REGION I, FEB. 2, 1976. DOCKET 50-213, TYPE--PWR, RW--BEST., AE--STONE & WEBSTER

CAUSE - INSTRUMENT DRIFT. DURING A TEST, CHANNEL 33 OVERPOWER TRIP SET POINT WAS FOUND TO BE 109.58. THIS IS 0.58 ABOVE THE LIMIT. THE APPARENT CAUSE WAS NUMERICAL DRIFT. THE SET POINT WAS SET AT 107.58 TO ALLOW FOR DRIFT WITHOUT EXCEEDING THE LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM + CONNECTICUT YANKEE (PWR) + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + INSTRUMENT, POWER RANGE + SET POINT + DRIFT

110932

RSV MALFUNCTIONS AT CONNECTICUT YANKEE

CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT

3 PGS. LTR D/RPT LER-76-2/1-T TO NRC OFFICE OF I & E, REGION I, FEB. 3, 1976. DOCKET 50-213, TYPE--PWR, RW--BEST., AE--STONE & WEBSTER

CAUSE - SEVERE WEATHER. DURING TESTING WHILE THE REACTOR WAS SHUT DOWN, RSV 2 FAILED TO CLOSE COMPLETELY IN THE REQUIRED 10 SECONDS AND A LIMIT SWITCH FAILED TO OPERATE. SEVERE DOWNGRADE

11

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110922 ALCATRAN

WEATHER CAUSED MOISTURE IN THE MSIV AIR OPERATION TO FREEZE PREVENTING THE AIR FROM EXHAUSTING THROUGH IT. THE LIMIT SWITCH HAD INTERNAL CORROSION HINDERING CONTACT MOVEMENT. THE SOLENOID WAS CLEANED INTERNALLY AND THE LIMIT SWITCH WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + MAINTENANCE [SOLAR] + STEAM + CONNECTICUT YANKEE (PWR) + CORROSION + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + WEATHER, SEVERE + FAILURE, INHERENT + COOLING SYSTEM, SECONDARY + VALVES

110940

SENSING LINES ON TWO STEAM FLOW SENSORS FREEZE AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HARTFORD, CT
2 PGS. LTR W/NO LER-76-171-T TO NRC OFFICE OF I & E, REGION 1, FEB. 3, 1976, DCKET 50-213, TYPE--PWR, NRC--
WEST.. AE--STONE & WEBSTER

CAUSE - SEVERE WEATHER. DURING SEVERE SUB-ZERO WEATHER CONDITIONS, SENSING LINES ON 2 STEAM FLOW TRANSMITTERS FROZE TRIPPING THE REACTOR FROM 100% POWER. THE SUB-ZERO WEATHER AND STAGNANT WIND COULDED WITH SOME OPENINGS INADVERTENTLY LEFT IN THE WALL AS A RESULT OF A RECENT HIGH ENERGY PIPE BREAK MODIFICATION TO THE ENCLOSURE OVERCAME THE HEATING SYSTEM AND CAUSED LOCAL FREEZING. THE OPENINGS WERE PLUGGED AND ADDITIONAL FREEZE PROTECTION WAS APPLIED TO THE LINES. THE REACTOR WAS OFF LINE FOR ABOUT 10 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

STEAM, REAL + STEAM + CONNECTICUT YANKEE (PWR) + INSTRUMENT, SWITCH + FAILURE, MAINTENANCE ERROR + WEATHER, SEVERE + REACTOR MODIFICATION + COOLING SYSTEM, SECONDARY + SENSORS, PLUG

110956

FISH IMPINGED ON INTAKE SCREENS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HARTFORD, CT
2 PGS. LTR W/NO LER-76-574-L TO NRC OFFICE OF I & E, REGION 1, FEB. 3, 1976, DCKET 50-213, TYPE--PWR, NRC--
WEST.. AE--STONE & WEBSTER

CAUSE - NATURAL OCCURRENCE. THE JANUARY 1976 ESTIMATED IMPINGEMENT LOSS FOR SPOTTAIL SHINERS GREATER THAN 6 INCHES IN LENGTH WAS 0. ALL OF WHICH WERE OBSERVED IN ONE SAMPLE. THIS EXCEEDS THE ETS LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONNECTICUT YANKEE (PWR) + FILTER, SCREEN + ANIMAL, FISH + MORTALITY + INTAKE + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

111045

CHARGING PUMP OUTBOARD SEAL LEAKS EXCESSIVELY AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HARTFORD, CT
2 PGS. LTR W/NO LER-76-573-L TO NRC OFFICE OF I & E, REGION 1, FEB. 20, 1976, DCKET 50-213, TYPE--PWR, NRC--
WEST.. AE--STONE & WEBSTER

CAUSE - O-RING FAILURE. DURING A PLANT LOAD INCREASE WITH THE REACTOR AT 25% POWER, EXCESSIVE SEAL LEAKAGE WAS OBSERVED ON CENTRIFUGAL CHARGING PUMP IN OUTBOARD SEAL. AN O-RING HAD FAILED. SOME SEAL FACE DETERIORATION WAS EVIDENT BUT WAS NOT CONTRIBUTING SIGNIFICANTLY TO THE TOTAL LEAKAGE. THE SEAL WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + CONNECTICUT YANKEE (PWR) + OSEAL + MAIN COOLING SYSTEM + LEAK + FAILURE, INHERENT + BEAR + PREDATOR + PUMPS

111002

EMERGENCY DIESEL TRIPS ON OVERSPEED AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HARTFORD, CT
2 PGS. LTR W/NO LER-76-673-L TO NRC OFFICE OF I & E, REGION 1, FEB. 23, 1976, DCKET 50-213, TYPE--PWR, NRC--
WEST.. AE--STONE & WEBSTER

CAUSE - CALIBRATION TOOL LEFT IN EQUIPMENT. DURING TESTING WITH THE REACTOR AT 100% POWER, EMERGENCY DIESEL 2 # TRIPPED ON OVERSPEED. A CALIBRATION TOOL LEFT IN THE INJECTOR RACK FOLLOWING RECENT GOVERNOR REPLACEMENT AND ADJUSTMENTS CAUSED THE INJECTOR RACK TO BE HELD OPEN 1 INCH CAUSING OVERSPEED WITH NO LOAD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC + FAILURE, EQUIPMENT + CONNECTICUT YANKEE (PWR) + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + ENGINES, INTERNAL COMBUSTION + GENERATION, DIESEL

111603

SET POINT DRIFT IN OVERPOWER INSTRUMENT AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HAMPTON, CT
2 PGS, LTR W/LE 70-773-L TO NRC OFFICE OF I & E, REGION 1, FEB. 23, 1976, DCKET 50-212, TYPE--POM, RF--
WEST., AE--STONE & WEBSTER

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR AT 100% POWER, NUCLEAR INSTRUMENTATION
CHANNEL 30 OVERPOWER TRIP SET POINT WAS FOUND TO BE 111%. THIS IS 2.0% ABOVE THE LIMIT. THE
APPARENT CAUSE WAS NORMAL INSTRUMENT DRIFT. THE TRIP SET POINT WAS ADJUSTED TO 107% TO ALLOW FOR
SOME DRIFT WITHOUT EXCEEDING THE LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * CONNECTICUT YANKEE (POM) * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT *
INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * INSTRUMENT, POWER RANGE * SET POINT * DRIFT

112209

UNPLANNED RELEASE OF RADIOACTIVE GAS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS, LTR W/LE 70-873-L TO NRC OFFICE OF I & E, REGION 1, APRIL 29, 1976, DCKET 50-213, TYPE--POM, RF--
WEST., AE--STONE & WEBSTER

CAUSE - RUPTURE DISC FAILURE. WHILE OPERATING AT 100% POWER, WASTE GAS DELAY TANK 00A WAS BEING
PLUGGED IN PREPARATION FOR VALVE MAINTENANCE AND TANK 00B WAS IN OPERATION. AN ALERT ALARM WAS
RECEIVED ON THE MAIN STACK MONITOR. TX-00B PRESSURE HAD DROPPED FROM 78 PSIG TO 35 PSIG. TX-00B
WAS ISOLATED AND TX-00C PLACED IN SERVICE. TWO RUPTURE DISCS HAD FAILED. PRESSURE IN THE TANK
HAD CYCLED 8 TIMES BETWEEN 70 AND 75 PSIG. NO REASON WAS FOUND FOR THE DISC WHICH WAS RATED FOR
222 PSIG TO FAIL AT 75 PSIG. A TOTAL OF 11.50 CI OF NUCLEONIC GASES WAS RELEASED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

AIRBORNE RELEASE * INSTRUMENT, PROTECTIVE * WASTE STORAGE * CONNECTICUT YANKEE (POM) * WASTE TREATMENT, GAS *
FAILURE, INSTRUMENT * STORAGE CONTAINER

112208

STEAM LINE BREAK LOW FLOW ALARM RECEIVED AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS, LTR W/LE 70-973-L TO NRC OFFICE OF I & E, REGION 1, MAY 3, 1976, DCKET 50-213, TYPE--POM, RF--WEST.,
AE--STONE & WEBSTER

CAUSE - HEAT TRACE EFFECT ON INSTRUMENT. WHILE HOLDING AT 25% POWER FOR S/L CHEMISTRY
ADJUSTMENTS, A STEAM LINE BREAK SIGNAL LOW FLOW ALARM WAS RECEIVED ON STEAM LINE 0.
INVESTIGATION FOUND THAT WEATHER CHANGE ALLOWED THE HEAT TRACE APPLIED TO THE SENSING LINES TO
CAUSE A DENSITY CHANGE WHICH RESULTED IN A LOW DELTA PRESSURE SIGNAL. SINCE THE LOW END OF THE
SCALE IS COMPRESSED AND AT 25% POWER, THE INDICATOR IS VERY CLOSE TO THE LOW FLOW TRIP SETTING.
THE SLIGHT CHANGE IN DENSITY CAUSED THE ALARM. THE HEAT TRACE WAS DE-ENERGIZED. THE ALARM
CLEARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * REACTOR PROTECTION SYSTEM * CONNECTICUT YANKEE (POM) * STEAM GENERATION * FAILURE,
INHERENT * SENSORS, FLOW * HEATERS

114170

BATTERY CHARGER GOES INTO OVERCHARGE AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS, LTR W/LE 70-1073-L TO NRC OFFICE OF I & E, REGION 1, MAY 24, 1976, DCKET 50-213, TYPE--POM, RF--
WEST., AE--STONE & WEBSTER

CAUSE - FAULTY CONTACT ON CENTRAL TIMER. WHILE OPERATING AT 100% POWER, BATTERY CHARGER A WENT
INTO OVERCHARGE DUE TO A FAULTY CONTACT ON THE CHARGER CONTROL TIMER. THEN THE VOLTAGE REGULATOR
BEGAN SPIKING TO 200 AMPS THEN SHUTTING OFF DUE TO A FAULTY PHASING CARD IN THE CURRENT LIMITER
CIRCUIT. THE FAULTY CONTACT WAS BYPASSED AS IT WAS NOT NEEDED OR USED. THE FAULTY CARD WAS
REPLACED. THIS IS A WESTINGHOUSE RECTOMATIC BATTERY CHARGER STYLE NO. 0700033001.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * SOLID STATE DEVICE * CONNECTICUT YANKEE (POM) * FAILURE,
INHERENT * RELAYS * BATTERIES & CHARGERS

115430

POWER LOST TO RHD PUMP AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS, LTR W/LE 70-1273-L TO NRC OFFICE OF I & E, REGION 1, JUNE 20, 1976, DCKET 50-213, TYPE--POM, RF--

115450 *CONTINUED*
WEST., AE--STONE & WEBSTER

CAUSE - BUS TIE BREAKER OVERLOADING. DURING THE REFUELING OUTAGE WITH THE FUEL DELAYED, BUS 4 WAS BEING SUPPLIED POWER THROUGH THE ALTERNATE LINE UP. WHILE CHANGING THE SYSTEM LINE UP TO RETURN THE SOUTH BAY TRAVELING WATER SCREENS TO SERVICE, BUS 4 WAS LOADED WITH ALL OF ITS NORMAL LOADS. SHORTLY AFTER THE LAST LOAD WAS APPLIED, THE 1000 AMP PHASE SIZE TIE BREAKER OPENED. DE-ENERGIZING BUS 4, ALLOWING BUS PUMP 1 TO LOSE POWER. THE PUMP 1A WAS STARTED WITHIN 2 MINUTES. ALL OPERATORS WERE REMINDED THAT A FULL LOAD CANNOT BE PLACED ON A 400 VOLT BUS THAT IS BEING SUPPLIED THROUGH ITS TIE BREAKER IN ALTERNATE POWER SUPPLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * ELECTRIC POWER * CONNECTICUT YANKEE (PWR) * REFUELING * SHUTDOWN COOLING SYSTEM * BREAKER * PUMP

115451
UPDATE REPORT ON RUPTURE DISK FAILURES AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HARTFORD, CT
2 PGS. LTR D/DA LER 78-10/3-L TO NRC OFFICE OF I & E REGION 1, JUNE 24, 1978. DCKET 50-213, TYPE--
WP, NRC--WEST., AE--STONE & WEBSTER

CAUSE - IMPROPER HANDLING PRIOR TO INSTALLATION. EVALUATION OF THE 2-INCH RUPTURE DISK BY THE WINDOW SAFETY SYSTEMS INC., INDICATED THAT THE DISK WAS DAMAGED PRIOR TO INSTALLATION, PROBABLY AT THE TIME THE IDENTIFICATION STAMPING WAS DONE ON THE TAB OF THE DISK. INSTRUCTIONS FOR SPECIAL HANDLING HAVE BEEN ISSUED. THE INITIAL EVENT WAS REPORTED ON 4/20/78 OF FAILURE OF A WASTE GAS RUPTURE DISK.

AVAILABILITY - PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE * TRANSPORTATION AND HANDLING * WASTE HANDLING * CONNECTICUT YANKEE (PWR) * FAILURE, MAINTENANCE ERROR * DAMAGE * IDENTIFICATION

115675
TOTAL LOSS OF 115 KV STATION SERVICE POWER OCCURS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HARTFORD, CT
5 PGS. LTR D/DA LER 78-10/1-T TO NRC OFFICE OF I & E, REGION 1, JULY 9 1978. DCKET 50-213, TYPE--PWR, NRC--
WEST., AE--STONE & WEBSTER

CAUSE - RELAYING DESIGN DEFICIENCY. WHILE THE REACTOR WAS SHUTDOWN FOR REFUELING, A TOTAL LOSS OF THE 115 KV STATION SERVICE WAS EXPERIENCED ON 3 SEPARATE OCCASIONS WHILE SWITCHING OPERATIONS WERE IN PROGRESS TO RESTORE LINE 1772 TO SERVICE. INVESTIGATIONS REVEALED THAT THE BACKUP PROTECTIVE FOR LINE 1200, WHOSE POTENTIAL SIGNAL WAS DERIVED FROM BUSHING CAPACITOR POTENTIAL DEVICES ON LINE 1772 SIDE OF THE TIE BREAKER, TRIPPED WHEN LINE 1772 DISCONNECT WAS CLOSED. BACKUP RELAYING POTENTIAL SENSING CIRCUITS WERE CHANGED SO THAT THE POTENTIAL FOR LINE 1772 RELAYS WOULD BE SENSED FROM LINE 1772 SIDE OF THE TIE BREAKER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * INSTRUMENT, PROTECTIVE * ACCIDENT, LOSS OF POWER * MAINTENANCE AND REPAIR * ELECTRIC POWER * CONNECTICUT YANKEE (PWR) * REFUELING * FAILURE, DESIGN ERROR * OFF SITE

115876
SMALL LEAK THROUGH WALL OF SI CURBICLE SUMP AREA AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HARTFORD, CT
4 PGS. LTR D/DA LER 78-13/990 TO NRC OFFICE OF I & E, REGION 1, JULY 12, 1978. DCKET 50-213, TYPE--PWR, NRC--
WEST., AE--STONE & WEBSTER

CAUSE - LEAK IN UNDERGROUND PIPING. A SMALL LEAK WAS FOUND THROUGH THE WALL OF THE SUMP AREA INTO THE SAFETY INJECTION CURBICLE. AFTER AN EXTENSIVE SEARCH, A LEAK WAS FOUND IN THE WASTE LIQUID STRAP GENERATOR BLOWDOWN DISCHARGE PIPING WHERE IT TIES INTO THE SERVICE WATER EFFLUENT LINE. THIS LINE WAS LOCATED UNDER A 12 INCH REINFORCED CONCRETE FLOOR. WITH THE CHANGE IN STEAM GENERATOR CHEMISTRY CONTROL FROM PHOSPHATE TO ALL VOLATILE TREATMENT, AN INCREASE IN STEAM GENERATOR BLOWDOWN WAS REQUIRED. THIS INCREASED VOLUME CAUSED RAPID DETERIORATION OF THE PIPING WHERE THE HOT BLOWDOWN CONTACTED COLD SERVICE WATER EFFLUENT. THE PIPING WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * CONNECTICUT YANKEE (PWR) * CORROSION * MODIFICATION * REFUELING * RADIOACTIVITY RELEASE * FAILURE, DESIGN ERROR * BLOWDOWN * STEAM GENERATOR * LEAK * UNDERGROUND * PIPES AND PIPE FITTINGS

116272
AUXILIARY FEED PUMPS FAIL TO DEVELOP PROPER PRESSURE AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HARTFORD, CT
3 PGS. LTR D/DA LER 78-10/3-L TO NRC OFFICE OF I & E, REGION 1, JULY 27, 1978. DCKET 50-213, TYPE--PWR, NRC--

110273 *CONTINUED*
WEST., AE--STONE & WEBSTER

CAUSE - VAPOR BINDING DUE TO CHECK VALVE BACK LEAKAGE. JOURNAL TUNING REPAIRS WITH THE REACTOR AT 12 P.M. AN OPERATOR ATTEMPTED TO START AN AUXILIARY FEED PUMP. IT FAILED TO DEVELOP PROPER DISCHARGE PRESSURE. STARTING THE SECOND AUXILIARY FEED PUMP PRODUCED THE SAME RESULTS. THE REACTOR WAS SHUT DOWN. BOTH PUMPS WERE FOUND TO BE VAPOR BOUND PROBABLY DUE TO BACK LEAKAGE FROM STEAM GENERATOR 3 THROUGH THE CHECK VALVE IN THE FEED LINE. THE PUMPS WERE VENTED AND RETURNED TO SERVICE. THE FAULTY CHECK VALVE WAS CLEANED AND REPAIRED. THE FOLLOWING DAY, SMALL PIECES OF METAL CAUSED WEARING OF THE REC REGULATORY BYPASS VALVES. THE SMALL SPACE DURING VENTING DAMAGED THE IMPULSER SECTION AREA.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONNECTICUT YANKEE (PWR) * LEAK * VALVE, CHECK * REACTOR SHUTDOWN * AUXILIARY * COOLING SYSTEM, SECONDARY * OIL/WATER * PUMPS

110274
WASTE GAS DECAY TANK RUPTURE DISC FAILS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS. LTR W/NO LER 70-15/3-L TO NRC OFFICE OF I & E, REGION 1, JULY 27, 1970. UCJET 50-213, TYPE--PWR, PFC--
WEST., AE--STONE & WEBSTER

CAUSE - PROBABLY A PRESSURE SURGE, WITH THE PLANT IN COLD SHUTDOWN AT COMPLETION OF FUEL LOADING AND WHILE FILLING THE REACTOR COOLANT SYSTEM, THE OPERATOR NOTED ABNORMAL PRESSURE IN WASTE GAS DECAY TANK 000. IT WAS ISOLATED AND TANK 000 RE-IGNITED FOR OPERATION. THE WASTE GAS SYSTEMS, IAC., MODEL RG-00 2-INCH RUPTURE DISC HAD RUPTURED AT 52 PSIG RATHER THAN 225 PSIG AS DESIGNED. THE PRESENT LOCATION IN THE SYSTEM IS BELIEVED TO SUBJECT THE DISC TO PRESSURE SURGES WHEN ITS ASSOCIATED DECAY TANK IS AUTOMATICALLY PLACED IN SERVICE. THE LOCATION WILL BE CHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PIPE/BORNE RELEASE * INSTRUMENT, PROTECTIVE * WASTE STORAGE * WASTE TREATMENT * CONNECTICUT YANKEE (PWR) * WASTE TREATMENT, GAS * STORAGE CONTAINER * FAILURE, DESIGN ERROR * PRESSURE PULSE

110275
STEAM LINE FLOW INDICATOR FAILS LCM AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
3 PGS. LTR W/NO LER 70-17/3-L TO NRC OFFICE OF I & E, REGION 1, AUG. 3, 1970. UCJET 50-213, TYPE--PWR, PFC--
WEST., AE--STONE & WEBSTER

CAUSE - SENSING LINE LEAK DUE TO CROSS-THREADING. DURING INITIAL LOADING FUEL OILING REFUELING STEAM LINE 2 FLOW INDICATOR FAILED LCM. A SENSING LINE FITTING ON THE HIGH SIDE OF THE PRESSURE TRANSDUCER BROKE THE DUCT TO ZERO RESULTING IN A LOW FLOW INDICATION. THE LEAK RESULTED FROM A CROSS THREADED FITTING. THE DAMAGED FITTING WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * STEAM * CONNECTICUT YANKEE (PWR) * INSTRUMENT, SWITCH * FAILURE, MAINTENANCE ERROR * LEAK * COOLING SYSTEM, SECONDARY * SENSORS, FLOW

11700
ERROR DISCOVERED IN ECCS ANALYSIS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., HAMPTON, CT
2 PGS. LTR W/NO LER 70-10/1-F TO NRC OFFICE OF I & E, REGION 1, SEPT. 3, 1970. UCJET 50-213, TYPE--PWR, PFC--
WEST., AE--STONE & WEBSTER

CAUSE - INCORRECT ASSUMPTIONS. THE UTILITY HAD EMPLOYED UP BEST ESTIMATE THAT AN ERROR HAD BEEN DISCOVERED IN THE ECCS ANALYSIS. ADMINISTRATIVE LIMITS HAVE BEEN EMPLOYED TO REDUCE RISK OFFSET LIMITS UNTIL SUCH TIME AS FURTHER ANALYSIS CAN BE COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

* ACCIDENT ANALYSIS * CLADDING * ACCIDENT, LJS OF COOLANT * ANALYTICAL MODEL * CONNECTICUT YANKEE (PWR) * FAILURE, DESIGN ERROR * FUEL ROD * TEMPERATURE

110702
FISH IMPINGED UPON TRAVELING SCREENS AT CONNECTICUT YANKEE
CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT
1 PG. LTR W/NO. RPT FTS-NR/50-213/76-1 TO NRC OFFICE OF I & E, REGION 1, JULY 13, 1970. UCJET 50-213, TYPE--
PWR, PFC--WEST., AE--STONE & WEBSTER

CAUSE - NO APPARENT CAUSE. THE DAILY COUNT OF FISH IMPINGED UPON THE TRAVELING BATH SCREENS OPEN EXTRAPOLATED TO A MONTHLY TOTAL, EXCEEDED THE REPORT LEVEL OF 710 FISH COUNT REMAINING IN THE 3-8 INCH SIZE CLASS. THE PLANT WAS OPERATING AT 100% POWER WITH A CIRCULATING BATH PUMP.

11762 CONTINUED

OPERATING. THERE WAS NO APPARENT CAUSE. A CONSTRUCTION DARGE WAS ANCHORED OFF THE INTAKE AREA WHICH MAY HAVE TEMPORARILY ALTERED FLOW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONNECTICUT YANKEE (PWR) * FILTER, SCREEN * ANIMAL, FISH * MORTALITY * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

119215

CONCENTRATED SULFIC ACID PUMP FAILS AT CONNECTICUT YANKEE

CONNECTICUT YANKEE ATOMIC POWER CO., EAST HAMPTON, CT

2 PGS, LTR D/LL 76-1973L TO NRC OFFICE OF I & E, REGION I, OCT. 22, 1976. DCKET 50-213, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - BEARING FAILURE. DURING 100% POWER OPERATION, CONCENTRATED SULFIC ACID PUMP 1A (CANNED MOTOR) DEVELOPED A LEAK IN THE CAN. SULFIC ACID GOT INTO THE MOTOR SHORTING OUT THE WINDINGS. THE PUMP WAS REPLACED WITH A SPARE. THE PUMP BEARINGS WIPED ALLOWING THE ROTOR TO DRIP AND BEAR A HOLE THROUGH THE CAN. THE CRANE LIFT PUMP, MODEL GE, WAS RESULIT AND PLACED IN SPARE PARTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * POISON, SOLUBLE * CONNECTICUT YANKEE (PWR) * BEARING * FAILURE, IMMINENT * PUMPS

119757

FISH IMPINGED ON INTAKE SCREENS AT CONNECTICUT YANKEE

CONNECTICUT YANKEE ATOMIC POWER CO., HAMPTON, CT

1 PGS, LTR D/ENV, TECH, SPEC, RPT ETS-NA/50-213/76-1 TO NRC OFFICE OF I & E, REGION I, NOV. 9, 1976. DCKET 50-213, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - NO APPARENT CAUSE. DURING POWER OPERATIONS WITH 4 CIRCULATING PUMPS RUNNING, AN ESTIMATED 775 GAUT BERNING, 3 TO 6 INCHES LONG, WERE IMPINGED AS OF OCT. 5, EXCEEDING THE REPORT LIMIT 710. AS OF OCT. 13, 1,700 AMERICAN SHAD, 3 TO 6 INCHES, WERE IMPINGED EXCEEDING THE LIMIT OF 80. ALSO, ON OCT. 13, 132 PURPRINSEED SUNFISH, 0 TO 3 INCHES, WERE IMPINGED. THE LIMIT IS 40. THERE WAS NO APPARENT CAUSE FOR THESE OCCURRENCES WHICH COULD BE RELATED TO OPERATION OR THE PRESENCE OF THE CONSTRUCTION DARGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONNECTICUT YANKEE (PWR) * ANIMAL, FISH * MORTALITY * FILTER, SCREEN * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

10965

UNIFT IN PRESSURIZER LEVEL INDICATION AT COOR 1

INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI

3 PGS, LTR D/NO 50-315/75-76 TO NRC OFFICE OF I & E, REGION III, JAN. 5, 1976. DCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - GAS IN SENSING LINES. WHILE OPERATING AT 91% POWER, 1 OF THE 3 PRESSURIZER LEVEL INDICATIONS WAS OBSERVED TO BE MORE THAN 4% HIGHER THAN THE REDUNDANT CHANNELS. THE PROBLEM APPEARS TO BE CAUSED BY GAS ENTRAPMENT IN THE SENSING LINES. FLUSHING AND FILLING THE TRANSMITTERS DURING SHUTDOWN REMOVES THE GAS AND ALLOWS PROPER INSTRUMENT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

AIM * FAILURE, INSTRUMENT * PRESSURIZER * INSTRUMENT, ABNORMAL INDICATION * TUDING * COOR 1 (PWR) * DRIFT * RESPONSE, LEVEL

110960

PRESSURIZER LEVEL INDICATION DRIFT HIGH AT COOR 1

INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI

3 PGS, LTR D/NO 50-315/76-76 TO NRC OFFICE OF I & E, REGION III, JAN. 9, 1976. DCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - GAS IN SENSING LINES. WHILE THE REACTOR WAS OPERATING AT 91% POWER, A PRESSURIZER LEVEL INDICATION WAS OBSERVED TO BE MORE THAN 4% HIGHER THAN REDUNDANT CHANNELS. SIMILAR PROBLEMS HAVE BEEN EXPERIENCED IN THE PAST. THE PROBLEM APPEARS TO BE GAS ENTRAPMENT IN THE SENSING LINES. FLUSHING AND FILLING THE TRANSMITTERS DURING SHUTDOWN REMOVE THE GAS AND ALLOWS PROPER INSTRUMENT OPERATION. PHYSICAL INSTALLATION OF THE SENSING LINES IS UNDER STUDY TO DETERMINE THAT LINES HAVE THE PROPER SLOPE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * AIM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * INSTRUMENT, ABNORMAL INDICATION

110900 *CONTINUED*
 * TUBING * COCK 1 (PWR) * DRIFT * SENSORS, LEVEL

110201
 OPENING TORQUE OF ICE CONDENSER INLET DOOR EXCEEDS LIMIT AT COCK 1
 INDIANA & MICHIGAN POWER CO., BRIGGAN, MI
 2 PGS. LTR W/NO 50-315/76-01 TO NRC OFFICE OF I & E, REGION III, JAN. 20, 1976. DCKET 50-315, TYPE--PWR, RW--
 WEST., AE--UTILITY

CAUSE - ADHESIVE RESIDUE ON SEAL. DURING TESTING WITH THE REACTOR SHUT DOWN, THE INITIAL OPENING
 TORQUE FOR LOWER INLET DOOR IS 645 INCH-POUNDS. MAXIMUM ALLOWABLE TORQUE IS 675 INCH-
 POUNDS. THE CAUSE WAS A RESIDUE OF ADHESIVE USED TO INSTALL UOUM FRAME INSULATION BEING ON THE
 DOOR SEAL. THE DOOR SEAL WAS CLEANED WITH ACETONE. OPENING TORQUE WAS THEN 651 INCH-POUNDS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * SEAL * COMPONENTS * CONTAINMENT, ICE CONDENSER *
 COCK 1 (PWR)

110200
 CONTAINMENT AREA MONITOR FAILS LCO AT COCK 1
 INDIANA & MICHIGAN POWER CO., BRIGGAN, MI
 2 PGS. LTR W/NO 50-315/76-02 TO NRC OFFICE OF I & E, REGION III, JAN. 27, 1976. DCKET 50-315, TYPE--PWR, RW--
 WEST., AE--UTILITY

CAUSE - DIRTY CONNECTOR AT DETECTOR. WHILE OPERATING AT BOX POWER, CONTAINMENT AREA MONITOR
 CHANNEL #2 FAILED LCO. NO RESPONSE WAS RECEIVED FROM THE CHECK SOURCE. THE DETECTOR CABLE
 CONNECTOR WAS CLEANED AND RECONNECTED. WHEN THE DRABEN WAS RESTORED TO SERVICE, IT FUNCTIONED
 SATISFACTORILY. THE CONNECTOR AT THE DETECTOR APPEARS TO HAVE BEEN DIRTY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTAINMENT * FAILURE, INSTRUMENT * MONITOR, AREA * COCK 1 (PWR) * CABLES AND CONNECTIONS * FAILURE, INHERENT
 * RADIATION MONITORS

110279
 HYDRAULIC SHROUDERS ON SG FEEDWATER LINE FOUND TO BE DAMAGED AT COCK 1
 INDIANA & MICHIGAN POWER CO., BRIGGAN, MI
 4 PGS. LTR W/NO 50-315/76-03 TO NRC OFFICE OF I & E, REGION III, JAN. 29, 1976. DCKET 50-315, TYPE--PWR, RW--
 WEST., AE--UTILITY

CAUSE - APPARENT WATER HAMMER. DURING A REACTOR SHUTDOWN, 3 HYDRAULIC SHROUDERS ON THE 1-1/2-INCH
 MAIN FEEDWATER LINE TO STEAM GENERATOR 4 INSIDE THE CONTAINMENT CHAMBER WALL WERE FOUND TO BE
 DAMAGED. THE HYDRAULIC FITTINGS FROM THE CONTROL VALVE ASSEMBLY TO THE CYLINDER END BLOCAS WERE
 BROKEN ON ONE SHROUDER, THE HYDRAULIC TUBING BENT ON ANOTHER, AND THE FEEDPIPE FROM THE RESERVOIR
 WAS SNAPPED OFF ON THE THIRD. AN APPARENT WATER HAMMER IN THE FEEDWATER LINE IS THE PROBABLE
 CAUSE. NO WATER HAMMERS ARE KNOWN TO HAVE HAPPENED SINCE THE LAST INSPECTION. TWO SHROUDERS WERE
 REPLACED AND THE OTHER REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT * HYDRAULIC EFFECT * SHOCK ABSORBER * DAMAGE * SUPPORT STRUCTURE * STEAM GENERATOR * COCK
 1 (PWR) * PIPES AND PIPE FITTINGS

111797
 POTENTIAL FOR FUEL CLAD STRESS CRACKING AT COCK 1
 INDIANA & MICHIGAN POWER CO., BRIGGAN, MI
 4 PGS. LTR W/NO 50-315/76-04 TO NRC OFFICE OF I & E, REGION III, FEB. 16, 1976. DCKET 50-315, TYPE--PWR, RW--
 WEST., AE--UTILITY

CAUSE - FUEL PELLETT-CLAD INTERACTION. AN EVALUATION OF FUEL PELLETT-CLAD INTERACTION AND THE
 POTENTIAL FOR FUEL CLAD FAILURES IN HIGH POWER DENSITY (6.7 KW/FOOT) REACTORS DUE TO THIS
 PHENOMENA WAS CONDUCTED BY WESTINGHOUSE. RECENT CORRELATION INDICATES THAT THERE SHOULD BE NO
 FUEL FAILURE IN COCK 1 AT 100% POWER DURING NORMAL OPERATION OR DURING ANSI N18.2 CONDITION II
 TRANSIENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FUEL INTEGRITY * SAFETY EVALUATION * COCK 1 (PWR) * FUEL CLAD INTERACTION * WESTINGHOUSE

111810
 SURVEILLANCE TEST PROCEDURES INADEQUATE FOR AN INSTRUMENT AT COCK 1
 INDIANA & MICHIGAN POWER CO., BRIGGAN, MI

111010 CONTINUED
 3 PGS. LTR #/NO 50-315/76-05 TO NRC OFFICE OF I & E, REGION III, FEB. 23, 1976. DCKET 50-315. TYPE--PWR. NRC--
 WEST., AE--UTILITY

CAUSE - DESIGN DEFICIENCY. WHILE OPERATING AT 60% POWER, A GENERIC PROBLEM ASSOCIATED WITH THE SOLID STATE PROTECTION SYSTEM WAS IDENTIFIED BY WESTINGHOUSE. PRESENT TESTING PROCEDURES DO NOT ADEQUATELY TEST THE OPERABILITY OF AND GATE ZIC ON THE UNDERVOLTAGE COIL DRIVER CARD. THE INSTALLED TEST CIRCUITRY IS UNABLE TO TEST THIS COMPONENT. THE GATE IN EACH TRAIN WAS TESTED IMMEDIATELY. PROCEDURE WAS REVISED BY A TEMPORARY CHANGE SHEET. A PERMANENT CHANGE WILL BE PROVIDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE + TESTING + FAILURE, DESIGN ERROR + COOL I (PWR) + WESTINGHOUSE + FAILURE, COMMON MODE + ELECTRONIC FUNCTION UNITS

111011
 CONTAINMENT AIR PARTICULATE AND RADIOGAS MONITORS FAIL AT COOL I
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 4 PGS. LTR #/NO 50-315/76-06 TO NRC OFFICE OF I & E, REGION III, FEB. 23, 1976. DCKET 50-315. TYPE--PWR. NRC--
 WEST., AE--UTILITY

CAUSE - DRIVE CHAIN SLIPPED OFF. WHILE OPERATING AT 31% POWER, CONTAINMENT AIR PARTICULATE AND RADIOGAS MONITORS FILTER PAPER DRIVE STOPPED. THE DRIVE CHAIN SLACKENED TO THE POINT WHERE IT BORRER FELL OF THE DRIVE SPROCKET. MAINTENANCE PROGRAM IS BEING REVISED TO INCLUDE A CHECK OF THE DRIVE CHAIN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT + CONTAINMENT + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + COOL I (PWR) + RADIOGAS MONITORS

112145
 SPECIAL REPORT ON SAFETY INJECTION AT COOL I
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 3 PGS. LTR #/NO 50-315/76-06 TO NRC OFFICE OF I & E, REGION III, MARCH 12, 1976. DCKET 50-315. TYPE--PWR. NRC--
 WEST., AE--UTILITY

CAUSE - FAILURE TO FOLLOW PROCEDURES. DURING SURVEILLANCE TESTING WITH THE REACTOR AT 81% POWER, THE TECHNICIAN FAILED TO NOTIFY THE CONTROL ROOM OPERATOR TO HAVE THE CONTROLLING CHANNEL CHANGED FROM THE CME TO BE TESTED TO THE STANDBY CHANNEL. TESTING OF THE STEAM FLOW SIGNAL THEN RESULTED IN A REACTOR-TURBINE TRIP AND INITIATION OF SAFETY INJECTION. THE CAUSE OF SAFETY INJECTION ACTIVATION WAS NOT IMMEDIATELY APPARENT TO THE OPERATOR AND THE SYSTEM WAS ALLOWED TO OPERATE FOR 7 MINUTES PRIOR TO TERMINATION. THERE WAS NO EVIDENCE OF ANY MECHANICAL DAMAGE OR ABNORMAL PIPING MOVEMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS + SCRAM, REACTOR + SAFETY INJECTION + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + COOL I (PWR) + REACTOR SHUTDOWN + THERMAL TRANSIENT + COMMUNICATION

112148
 INSTRUMENT PIPE WELD LEAKS AT COOL I
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 2 PGS. LTR #/NO 50-315/76-07 TO NRC OFFICE OF I & E, REGION III, MARCH 15, 1976. DCKET 50-315. TYPE--PWR.
 NRC--WEST., AE--UTILITY

CAUSE - VIBRATION INDUCED FATIGUE. DURING OPERATION AT 81% POWER, A PIN HOLE WELD LEAK WAS DISCOVERED AT THE HIGH PRESSURE SIDE OF A PI-200. THE LEAKING WELD WAS GROUND OUT AND REWELED. ANOTHER SECTION OF THE WELD FAILED 8 DAYS LATER. THIS WAS REPAIRED BY CHANGING THE PIPING CONFIGURATION TO REDUCE VIBRATION. FAILURE WAS CAUSED BY FATIGUE DUE TO VIBRATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE + WELDS + MODIFICATION + FAILURE, FATIGUE + VIBRATION + FAILURE, INSTALLATION ERROR + LEAK + COOL I (PWR) + PIPES AND PIPE FITTINGS + INSTRUMENTS, MISC.

111937
 WIND SPEED AND DIRECTION INSTRUMENTS FAIL AT COOL I
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 4 PGS. LTR #/NO 50-315/76-08 TO NRC OFFICE OF I & E, REGION III, MARCH 18, 1976. DCKET 50-315. TYPE--PWR. NRC--
 WEST., AE--UTILITY

CAUSE - ICING DURING SLEET STORM. WHILE THE REACTOR WAS OPERATING AT 81% POWER, THE 150-FOOT WIND SPEED AND THE 50-FOOT WIND DIRECTION INDICATIONS FAILED. DURING A SLEET STORM, THE TRANSMITTERS

111937 *CONTINUED*

BECAME COVERED WITH ICE, RESTRICTING MOVEMENT OF MOVING PARTS. THE INSTRUMENTS WERE THAWED WITH A HEAT GUN AND RETURNED TO SERVICE. STATIONARY PORTIONS OF THE TRANSMITTERS WILL BE HEAT TRACED TO PREVENT RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, METEOROLOGICAL * FAILURE, DESIGN ERROR * WIND STATISTICS * WEATHER, SEVERE * COOK 1 (PWR) * HEATERS

111938

WIND DIRECTION SYSTEM FAILS AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/RO 50-315/76-09 TO NRC OFFICE OF I & E, REGION III, MARCH 19, 1976. DCKET 50-315, TYPE--PWR, WFO--
WEST., AE--UTILITY

CAUSE - TRANSLATOR FAILURE. WITH THE UNIT OPERATING AT SIX POWER, THE 50-FOOT WIND DIRECTION SYSTEM AT THE MICROWAVE TOWER FAILED. A TRANSLATOR HAD FAILED DUE TO NORMAL USAGE. A SPARE WAS NOT ON HAND. A REPLACEMENT UNIT WAS RECEIVED 5 DAYS LATER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, METEOROLOGICAL * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * WIND STATISTICS * COOK 1 (PWR) * FAILURE, INHERENT * ELECTRONIC FUNCTION UNITS

112310

TWO ICE CONDENSER DECK DOORS FAIL TO OPEN AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/RO 50-315/76-10 TO NRC OFFICE OF I & E, REGION III, MARCH 29, 1976. DCKET 50-315, TYPE--PWR, WFO--
WEST., AE--UTILITY

CAUSE - ICE BUILDUP FROM WATER LEAK. DURING OPERATION AT SIX POWER, 2 ICE CONDENSER INTERMEDIATE DECK DOORS COULD NOT BE OPENED BECAUSE OF ICE BUILDUP AMONG THE DOORS CAUSED BY WATER LEAKAGE FROM AIR HANDLER I-04. AN ABNORMAL BUILDUP OF ICE WITHIN THE AIR HANDLER PREVENTED PROPER DRAINAGE. THE ICE WAS REMOVED AND ALL COMPONENTS OPERATED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

VENTILATION SYSTEM * WATER * TEST, SYSTEM OPERABILITY * COMPONENTS * CONTAINMENT, ICE CONDENSER * COOK 1 (PWR) * ACCUMULATION * FAILURE, INHERENT

112319

WIND DIRECTION INDICATION MALFUNCTION AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/RO 50-315/76-11 TO NRC OFFICE OF I & E, REGION III, MARCH 29, 1976. DCKET 50-315, TYPE--PWR, WFO--
WEST., AE--UTILITY

CAUSE - TRANSLATOR CALIBRATION SHIFTED. WHILE AT SIX POWER, IT WAS NOTICED THAT THE INDICATED WIND DIRECTION BY THE 150 FOOT WIND DIRECTION RECORDER DID NOT AGREE WITH ACTUAL WIND DIRECTION. THE TRANSLATOR CALIBRATION HAD SHIFTED 60-70 DEGREES FOR REASONS UNKNOWN. LIGHTNING STRIKING THE LINE IS SUSPECTED. THE TRANSLATOR WAS RECALIBRATED AND THE SYSTEM RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, METEOROLOGICAL * LIGHTNING * FAILURE, INSTRUMENT * WIND STATISTICS * INSTRUMENT, ABNORMAL INDICATION * COOK 1 (PWR) * ELECTRONIC FUNCTION UNITS

112621

WIND SPEED INDICATION SYSTEM FAILS LOW AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
3 PGS, LTR W/RO 50-315/76-12 TO NRC OFFICE OF I & E, REGION III, APRIL 7, 1976. DCKET 50-315, TYPE--PWR, WFO--
WEST., AE--UTILITY

CAUSE - ADVERSE ENVIRONMENTAL CONDITIONS. WHILE AT SIX POWER, THE 150 FT WIND SPEED INDICATION SYSTEM FAILED LOW ON 2 DAYS. IN BOTH CASES, THE TRANSMITTER WAS FOUND TO BE FROZEN DUE TO TEMPERATURES AROUND THE FREEZING POINT AND PRECIPITATION IN THE AIR. ONCE, THE PROBLEM CORRECTED ITSELF WITHIN AN HOUR AS AIR TEMPERATURE ROSE ENOUGH TO THAW THE TRANSMITTER. THE SPARE TRANSMITTER WAS CONNECTED TO THE SYSTEM THE SECOND TIME. HEAT TRACING WILL BE INSTALLED ON THE STATIONARY PARTS AS SOON AS WEATHER CONDITIONS PERMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, METEOROLOGICAL * FAILURE, INSTRUMENT * MODIFICATION * FAILURE, DESIGN ERROR * WEATHER, SEVERE * COOK 1 (PWR) * INDICATORS

11204

SHUT DOWN BANK HIGH POSITION INDICATOR FAILS HIGH AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
2 PGS. LTR W/NO 50-315/70-13 TO NRC OFFICE OF I & E, REGION III, APRIL 7, 1970. DOCKET 50-315, TYPE--PWR, NRC--
WEST., AE--UTILITY

CAUSE - FAILED INTEGRATED CIRCUIT. WHILE AT 818 POWER, SHUT DOWN BANK AND F-6 POSITION INDICATOR
FAILED HIGH. THE AMPLIFIER BECAUSE FOR THAT INDICATOR WAS REPLACED, THE CIRCUIT RECALIBRATED, AND
THE CHANNEL RETURNED TO SERVICE. LATER INVESTIGATION FOUND A FAILED INTEGRATED CIRCUIT ON THE
AMPLIFIER BOARD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, COMPONENT + TEST, SYSTEM OPERABILITY + COOK 1 (PWR) + FAILURE, INSTRUMENT + CONTROL ROOMS + ELECTRONIC
FUNCTION UNITS + INDICATORS

11204

HIGH OPENING TORQUE OF ICE CONDENSER DOCKS NOT REPORTED ON TIME AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI.
3 PGS. LTR W/NO 50-315/70-14 TO NRC OFFICE OF I & E, REGION III, APRIL 7, 1970. DOCKET 50-315, TYPE--PWR, NRC--
WEST., AE--UTILITY

CAUSE - PROCEDURAL DEFICIENCY. A REVIEW OF SURVEILLANCE TEST DATA TAKEN DURING JULY AND AUGUST
1970 INDICATED THAT 5 ICE CONDENSER INLET DOCKS EXCEEDED THE MAXIMUM OF 155 INCH-POUNDS OPENING
TORQUE OPEN 00 DEGREES OPEN AND 1 DOCK INDICATED A HINGE FRICTION FORCE IN EXCESS OF THE 40 INCH-
POUND LIMIT. FAILURE TO RECOGNIZE THE DEFICIENT CONDITION AT THE TIME WAS DUE IN PART TO THE
PROCEDURE NOT DIRECTLY SPECIFYING TORQUE AS A TECH SPEC ITEM AND IN PART TO INADEQUATE DATA
HELD AT THE TIME OF THE TESTS. PROCEDURES ARE BEING REVISED. ALL INLET DOCKS WERE TESTED ON
MARCH 25, 1970, WITH SATISFACTORY RESULTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

PROCEDURES AND MANUALS + TEST, SYSTEM OPERABILITY + REVIEW + FAILURE, ADMINISTRATIVE CONTROL + COMPONENTS +
CONTAINMENT, ICE CONDENSER + COOK 1 (PWR)

11202

UNSAMPLED RELEASE FROM WASTE GAS SYSTEM OCCURS AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
3 PGS. LTR W/NO 50-315/70-01 TO NRC OFFICE OF I & E, REGION III, APRIL 8, 1970. DOCKET 50-315, TYPE--PWR, NRC--
WEST., AE--UTILITY

CAUSE - VENT HEADER DRAIN TRAPS LEAK. AN UNSAMPLED RELEASE FROM 3 GAS DECAY TANKS OCCURRED OVER A
24 HOUR PERIOD. THE RELEASE WAS MONITORED BY THE VENTILATION STACK GASEOUS AND PARTICULATE
SENSORS WHICH INDICATED SLIGHTLY ABOVE NORMAL BUT DID NOT REACH THE ALARM POINT. VENT HEADER
TRAPS AT 20-20 AND 20-21 WERE HELD SLIGHTLY OPEN DUE TO A BUILDUP OF FOREIGN MATERIAL UNDER THE
SEAT ALLOWING GAS TO ESCAPE TO THE CLEAN SUMP TANK AND THEN THROUGH THE LIQUID OFF GAS HEADER TO
ATMOSPHERE. THE TRAPS WERE ISOLATED AND CLEANED. RELEASE RATES DID NOT EXCEED LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

WASTE GAS RELEASE + FAILURE, EQUIPMENT + WASTE HANDLING + WASTE STORAGE + CRUD + STORAGE CONTAINMENT + FAILURE,
DESIGN ERROR + LEAK + COOK 1 (PWR) + VALVE, CHECK

11320

TUBE LEAKS FOUND IN UG NEAR BANK AIR AFTERCOOLERS AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
2 PGS. LTR W/NO 50-315/70-16 TO NRC OFFICE OF I & E, REGION III, APRIL 30, 1970. DOCKET 50-315, TYPE--PWR, NRC--
WEST., AE--UTILITY

CAUSE - NOT STATED. DURING A ROUTINE INSPECTION WHILE OPERATING AT 90% POWER, A TUBE LEAK WAS
FOUND IN EMERGENCY DIESEL GENERATOR 100 NEAR BANK AIR COOLER. THE COOLER WAS REPLACED. A FEW
DAYS LATER EMERGENCY DIESEL GENERATOR 1A DEVELOPED A SIMILAR LEAK IN ITS NEAR BANK AIR
AFTERCOOLERS. IT WAS ALSO REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

TEST, SYSTEM OPERABILITY + FAILURE, TUBING + TUBING + LEAK + COOK 1 (PWR) + FAILURE, INSTRUMENT + ENGINES,
INTERNAL COMBUSTION + GENERATOR, DIESEL + HEAT EXCHANGERS

11321

TEN HYDRAULIC SHUTTERS FOUND INOPERABLE AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
3 PGS. LTR W/NO 50-315/70-15 TO NRC OFFICE OF I & E, REGION III, APRIL 30, 1970. DOCKET 50-315, TYPE--PWR, NRC--
WEST., AE--UTILITY

113521 CONTINUED

CAUSE - OUT OF ADJUSTMENT. DURING A SHUT DOWN PERIOD, ALL 78 ITT GREENELL SAFETY RELATED MOUNTAINS WERE TESTED IN THE VENDOR'S SHOP. TEN FAILED TO HAVE PROPER CRITERIA FOR BLEED OR FUM LOCKUP. ALSO, ALL WITHOUT ETHYLENE POLYURETHANE SEAL MATERIAL WERE REDULY USING ETHYLENE POLYURETHANE SEALS. ALL WERE PROPERLY ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * MAINTENANCE AND REPAIR * SHOCK ABSORBER * SEAL * SUPPORT STRUCTURE * SURVEILLANCE PROGRAM * COOL 1 (PWR) * FAILURE, INHERENT * PIPES AND PIPE FITTINGS

113516

AUXILIARY FEEDWATER REGULATING VALVE INSTALLED IMPROPERLY AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR D/WO 50-315/76-17 TO NRC OFFICE OF I & E, REGION III, MAY 4, 1976, DOCKET 50-315, TYPE--PWR, RPL--WEST,, AE--UTILITY

CAUSE - CONSTRUCTION DEFICIENCY. DURING ROUTINE MAINTENANCE WHILE THE REACTOR WAS SHUT DOWN, THE AUXILIARY FEEDWATER REGULATING VALVE WAS FOUND TO BE INSTALLED IMPROPERLY IN THAT THE INLET FLOW WAS ENTERING THE OUTLET OF THE VALVE. THE VALVE WAS REMOVED AND REINSTALLED PROPERLY. THIS WAS A CONSTRUCTION DEFICIENCY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TEST, SYSTEM OPERABILITY * FAILURE, INSTALLATION ERROR * COOL 1 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * VALVES

113972

ACCELEROMETER FOUND INOPERABLE AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR D/WO 50-315/76-19 TO NRC OFFICE OF I & E, REGION III, MAY 10, 1976, DOCKET 50-315, TYPE--PWR, RPL--WEST,, AE--UTILITY

CAUSE - NORMAL DETERIORATION. WHILE THE REACTOR WAS SHUT DOWN, CALIBRATION TESTS ON SEISMIC PEAAR RECORDING ACCELEROMETERS LOCATED IN THE SPENT FUEL PIT AREA AND REACTOR PIT AREA FOUND 1 ACCELEROMETER OUT OF 3 ON EACH INSTRUMENT WITH THE MOVABLE MASS HARD-UP AGAINST THE STOPS. THE CAUSE WAS NORMAL COMPONENT DETERIORATION. THE UNITS WERE REPLACED WITH FUNCTIONAL UNITS FROM MORE ACCESSIBLE AREAS. TEST INTERVAL HAS BEEN CHANGED FROM 18 MONTHS TO 12 MONTHS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * INSTRUMENT, EARTHQUAKE * COOL 1 (PWR) * DEFECT, AGE * FAILURE, INHERENT

113973

REACTOR COOLANT SYSTEM PRESSURE TRANSIENT OCCURS DURING TEST AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
3 PGS, LTR D/WO 50-315/76-18 TO NRC OFFICE OF I & E, REGION III, MAY 14, 1976, DOCKET 50-315, TYPE--PWR, RPL--WEST,, AE--UTILITY

CAUSE - PROCEDURAL DEFICIENCY. DURING REACTOR PROTECTION SYSTEM RESPONSE TIME TESTING WHILE THE REACTOR WAS SHUT DOWN, AN INADVERTENT LET-DOWN ISOLATION WAS INITIATED WHICH CAUSED THE REACTOR COOLANT SYSTEM PRESSURE TO INCREASE TO 1000 PSIG WHILE RCS TEMPERATURE WAS 110 F, EXCEEDING TECH SPEC LIMITS. PREREQUISITES FOR RESPONSE TIME TESTING INCLUDED PLACING BOTH TRAINS IN TEST SIMULTANEOUSLY AND REMOVING TRAIN B OUTPUT FUSES. REMOVAL OF FUSES DEENERGIZED RELAYS GIVING LETDOWN ISOLATION AND RWR ISOLATION. PROCEDURES WERE MODIFIED. NO DAMAGE OCCURRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * REACTOR PROTECTION SYSTEM * TESTING * RESPONSE TIME * TEST, SYSTEM OPERABILITY * FAILURE, ADMINISTRATIVE CONTROL * RAJA COOLING SYSTEM * PRESSURE TRANSIENT * COOL 1 (PWR)

114192

DIESEL GENERATOR FOR CHARGING PUMP OUT OF SERVICE AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
3 PGS, LTR D/WO 50-315/76-20 TO NRC OFFICE OF I & E, REGION III, MAY 26, 1976, DOCKET 50-315, TYPE--PWR, RPL--WEST,, AE--UTILITY

CAUSE - MISUNDERSTANDING. WITH THE REACTOR IN COLD SHUTDOWN AND THE REACTOR COOLANT SYSTEM OPENED, TECH SPEC REQUIRES THAT 3 CHARGING PUMP IN THE BUNION INJECTION FLOW PATH SHALL BE OPERABLE AND CAPABLE OF BEING POWERED FROM AN OPERABLE EMERGENCY BUS. THE LAST PUMP WAS THE OPERABLE PUMP. HOWEVER, DURING TESTING OF THE PUMP, IT WAS FOUND THAT THE DIESEL GENERATOR SUPPLYING THE ASSOCIATED EMERGENCY BUS HAD BEEN TAGGED OUT FOR MAINTENANCE. THE EVENT WAS CAUSED BY A MISUNDERSTANDING OF THE INTENT OF THE ACTION ITEM SINCE NO OPERATION INVOLVING CORE ALTERATIONS OR POSITIVE REACTIVITY CHANGES WERE PLANNED.

114152 OCCASIONAL
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

EMERGENCY FUEL, ELECTRIC, FAILURE, OPERATOR ERROR, MAINTENANCE AND REPAIR, TEST, SYSTEM OPERABILITY, MAIN
 COOLING SYSTEM, COOL 1 (PWR), COMMUNICATION, FEEDWATER, PUMPS, GENERATOR, JIRSEL

114190
 RESPONSE TIME OF CONTAINMENT ISOLATION VALVES EXCEEDS LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
 2 PGS. LTR #/NO 50-315/70-22 TO NRC OFFICE OF I & E, REGION III, MAY 25, 1970. JACKET 50-315, TYPE--PWR, RFG--
 REST.. AE--UTILITY

CAUSE - VENT TUBING TOO SMALL. WHILE THE UNIT WAS SHUTDOWN, RESPONSE TIME TESTING OF VALVES CCR-
 400 AND CCR-402 FOUND ISOLATION TIMES EXCEEDING THE LIMITS. VENT PLUG WAS RESTRICTED DUE TO THE
 TUBING BEING 3/8 INCH OD RATHER THAN 1/2 INCH OD AS REQUIRED ON THE DRAWINGS. THE CORRECT
 DIAPHRAGM TUBING WAS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTAINMENT ISOLATION, RESPONSE TIME, TEST, SYSTEM OPERABILITY, FAILURE, INSTALLATION ERROR, COOL 1 (PWR)
 VALVES

114191
 INDICATED QUADRANT POWER TILT FOUND AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
 3 PGS. LTR #/NO 50-315/70-23 TO NRC OFFICE OF I & E, REGION III, MAY 25, 1970. JACKET 50-315, TYPE--PWR, RFG--
 REST.. AE--UTILITY

CAUSE - BROKEN CONTROL ROD FINGERS. WHILE OPERATING AT 60% POWER, AN INDICATED QUADRANT POWER
 TILT OF 1.023 WAS CALCULATED USING EXCISE NUCLEAR INSTRUMENTATION READINGS. AN INCOME AVAILABLE
 DETECTOR MAP INDICATED 1.000 IN THE LOWER HALF. A FLUX DEPRESSION OCCURRED NEAR ASSEMBLY E-3. A
 SMALL PUNCTURE (1/4 IN. L OF THE 20 FINGERS) OF MOD CLUSTER CONTROL ASSEMBLY E-3 HAD BROKEN LOOSE AND
 BECAME FULLY INSERTED IN THE CORE. RCCA E-3 WAS UNLATCHED INOPERABLE AND POWER OPERATION WAS
 LIMITED TO 75%. DURING A SCU DROP TEST, THIS RCCA HAD BEEN FOUND TO BE STUCK AND WAS FREED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, COMPONENT, REACTIVITY EFFECT, POWER DISTRIBUTION, REACTOR POWER, TEST, SYSTEM OPERABILITY, PLUA
 TILT, COOL 1 (PWR), OCCASIONAL NEEDS

114776
 CONTAINMENT ISOLATION VALVE LEAK RATES EXCEED LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
 3 PGS. LTR #/NO 50-315/70-23 TO NRC OFFICE OF I & E, REGION III, APRIL 2, 1970. JACKET 50-315, TYPE--PWR, RFG--
 REST.. AE--UTILITY

CAUSE - DEPOSIT ON VALVE SEATS. DURING TESTING OF CONTAINMENT ISOLATION VALVES WHILE THE UNIT WAS
 SHUT DOWN, 23 VALVES FAILED TO MEET ACCEPTABLE TYPE B LEAK RATE SPECS. EXCESSIVE LEAKAGE WAS DUE
 TO DEPOSIT BUILDUP ON VALVE SEATS AND BEAR BY VALVE OPERATIONS. ALL VALVES WITH EXCESSIVE LEAKAGE
 WERE REPAIRED AND RETESTED. TOTAL LEAKAGE WAS WITHIN SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT, CONTAINMENT ISOLATION, TEST, LEAK RATE, CHUD, TEST, SYSTEM OPERABILITY, LEAK RATE,
 COOL 1 (PWR), FAILURE, INCIDENT, REPAIR, VALVES

114777
 ICE CONDENSER INLET DOOR TORQUE EXCEEDS LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
 3 PGS. LTR #/NO 50-315/70-24 TO NRC OFFICE OF I & E, REGION III, JUNE 2, 1970. JACKET 50-315, TYPE--PWR, RFG--
 REST.. AE--UTILITY

CAUSE - SPRING TENSION DRIFT/ICE BUILDUP. DURING ICE CONDENSER INLET DOOR OPENING TORQUE TESTING
 WHILE THE REACTOR WAS SHUT DOWN, LOWER INLET DOOR 1-R OPENING TORQUE WAS FOUND IN EXCESS OF THE
 150 INCH POUNDS LIMIT DUE TO SPRING TENSION DRIFT. THE TENSION WAS ADJUSTED TO 100 INCH POUNDS.
 LOWER INLET DOOR 3-L INITIAL OPENING TORQUE WAS FOUND TO BE IN EXCESS OF THE 675 INCH POUND LIMIT
 DUE TO AN ICE BUILDUP FROM CONDENSATION ON THE LOWER SILL. AFTER THE SILL WAS CLEANED, THE
 TORQUE WAS MEASURED AS 287 INCH POUNDS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT, CHUD, TEST, SYSTEM OPERABILITY, CONTAINMENT, ICE CONDENSER, COOL 1 (PWR), DRIFT,
 FAILURE, INCIDENT, VALVES

11477A

ERROR IN SOLAR BOOT EXTRACTOR EXCEEDS LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGGAM, MI
 3 PGS. LTR D/WO 50-315/76-25 TO NRC OFFICE OF I & E, REGION III, JUNE 8, 1976. DOCKET 50-315, TYPE--PWR, REG--
 WEST., AE--UTILITY

CAUSE - INSTRUMENT DRIFT. WHILE THE UNIT WAS SHUT DOWN, A REVIEW OF DATA TAKEN ON STEAM GENERATOR
 2 AND 4 DISMANT PROTECTICA SET 2 INDICATES THAT THE 2-9253 ERROR FLAG IN THE SOLAR BOOT
 EXTRACTOR WAS IN EXCESS OF 0.38 ERROR ALLOWED IN TECH SPECS. THE CHANNEL WAS RECALIBRATED. A
 REQUEST WAS INITIATED TO LOWER THE DISMANT SET POINT TO INCREASE DRIFT TOLERANCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

INSTRUMENT, PROTECTIVE + REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT +
 INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + COOL 1 (PWR) + SET POINT + DRIFT

11477J

TEMPERATURE GRADIENT ACROSS THE CONDENSER EXCEEDS LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGGAM, MI
 2 PGS. LTR D/WPT TO NRC OFFICE OF I & E, REGION III, JUNE 11, 1976. DOCKET 50-315, TYPE--PWR, REG--WEST., AE--
 UTILITY

CAUSE - W. THERMOCOUPLE JUNCTIONS. THE TEMPERATURE GRADIENT ACROSS THE CONDENSER WAS BETWEEN 23
 F AND 24.25 F FOR ABOUT 4.3 HOURS IN VIOLATION OF TECH SPECS. THE INLET THERMOCOUPLE, FROM THE
 AVERAGE CIRCUIT HAD MET JUNCTIONS WHICH CAUSED THE INDICATED AVERAGE TJ HEAD OUT IN ERROR. THE
 JUNCTIONS WERE OILED OUT AND COVERED WITH VARNISH TO PREVENT THEIR GETTING HOT IN THE FUTURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

EFFLUENT + TEMPERATURE GRADIENT + FAILURE, INSTRUMENT + INSTRUMENT, ABNORMAL INDICATION + CONDENSER + COOL 1
 (PWR) + THERMOCOUPLE + CONDENSER COOLING SYSTEM + FAILURE, IMMINENT

115120

BONIC ACID CONCENTRATION IN BAST AND BIT BELOW LIMIT AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGGAM, MI
 3 PGS. LTR D/WO 50-315/76-26 TO NRC OFFICE OF I & E, REGION III, JUNE 15, 1976. DOCKET 50-315, TYPE--PWR, REG--
 WEST., AE--UTILITY

CAUSE - DILUTION FROM FLUSHING LINES. WHILE AT 75% POWER, THE BAST CONCENTRATIONS IN THE BONIC
 ACID STORAGE TANKS AND BAST INJECTION TANK WERE FOUND TO BE LESS THAN THE 20000 PPM LIMIT.
 CONCENTRATIONS RANGED FROM 19,000 TO 19,010 PPM. DURING OPERATION OF THE BONIC ACID EVAPORATOR,
 THE CONCENTRATED HOLDING TANK WAS NOT IN SERVICE AND EVAPORATOR EFFLUENTS WERE PUMPED DIRECTLY TO
 BAST. THE LINE WAS FLUSHED TO REMOVE THE CONCENTRATED ACID. THIS RESULTED IN THE DILUTION. THE
 FLUSHING PRACTICE WILL BE STOPPED AS ALL LINES ARE HEAT TRACED. THE HOLDING TANK IS BACK IN
 SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

POISON, SOLUBLE + STORAGE CONTAINER + TEST, SYSTEM OPERABILITY + CHEMICAL SWIM + FAILURE, ADMINISTRATIVE
 CONTROL + COOL 1 (PWR) + CONCENTRATED

115126

STEAM GENERATOR BLOWDOWN WITH RADIATION MONITOR OUT OF SERVICE AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGGAM, MI
 2 PGS. LTR D/WO 50-315/76-03 TO NRC OFFICE OF I & E, REGION III, JUNE 16, 1976. DOCKET 50-315, TYPE--PWR, REG--
 WEST., AE--UTILITY

CAUSE - OPERATOR ERROR. WHILE PREPARING FOR STEAM GENERATOR WASTEWATER CARRYOVER TESTING, IT WAS
 DETERMINED THAT DURING PREVIOUS TESTING THE SG BLOWDOWN RADIATION MONITOR WAS PLACED IN THE RESET
 POSITION. THIS WOULD ALLOW BLOWDOWN TO CONTINUE WITH EXCESSIVE LEVELS OF NA-24. TECH SPECS
 REQUIRE BLOWDOWN TREATMENT IF THE MONITOR IS NOT IN SERVICE. OPERATIONS FAILED TO RECOGNIZE THIS
 REQUIREMENT. SAMPLING INDICATED THAT .309 CI OF NA-24 WERE RELEASED. THIS IS 0.11% OF THE TECH
 SPEC LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, OPERATOR ERROR + TESTING + BLOWDOWN + STEAM GENERATOR + COOL 1 (PWR) + RADIATION MONITORS

115137

CONTAINER 7 DETECTOR PUMP FAILS TO RUN AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGGAM, MI
 2 PGS. LTR D/WO 50-315/76-27 TO NRC OFFICE OF I & E, REGION III, JUNE 16, 1976. DOCKET 50-315, TYPE--PWR, REG--
 WEST., AE--UTILITY

115117 *CONTINUED*

CAUSE - BYPASS VALVE UNFITTED OPEN. WHILE OPERATING AT 75% POWER, THE CONTAINMENT AIR PARTICULATE DETECTION PUMP WOULD NOT RUN. THIS REMOVED 2 CONTAINMENT RADIATION DETECTORS FROM SERVICE. THE PUMP BYPASS VALVE WAS UNFITTED OPEN CAUSING A HIGH FLOW CONDITION AND TRIPPING THE PUMP. THE VALVE WAS TIGHTENED FOR PROPER FLOW AND VALVE PACKING WAS TIGHTENED TO HOLD THE VALVE IN POSITION. THE SYSTEM WAS RETURNED TO OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * COOL 1 (PWR) * PUMPS * RADIATION MONITORS

115474

CHANGES OF PRESSURIZER TRANSMITTERS CHANGED AT COOL 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS. LTR D/RG 50-315/76-24 TO NRC OFFICE OF I & E, REGION III, JULY 1, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - IMPROPER WELD CONNECTION. ON 4/29/76 DURING AN OUTAGE, A TECHNICIAN DISCOVERED THAT A 25 PSI STATIC HEAD CONNECTION TO THE PRESSURIZER PRESSURE TRANSMITTERS HAD BEEN SUBTRACTED FROM THE IMPT INSTEAD OF BEING ADDED. THIS LOWERED ALL SET POINTS 30 PSI. AS SOON AS THE ERROR WAS DISCOVERED, ALL 4 TRANSMITTERS WERE RECALIBRATED CORRECTLY. A CONDITION REPORT WAS INADVERTENTLY NOT PREPARED. AN NRC INSPECTOR FOUND THE OMISSION DURING A REVIEW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * INSTRUMENT, SWITCH * FAILURE, ADMINISTRATIVE CONTROL * COOL 1 (PWR) * SET POINT * SENSORS, PRESSURE

115919

CHLORINE RESIDUAL IN EFFLUENT EXCEEDS LIMIT AT COOL 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

2 PGS. LTR D/RPT TO NRC OFFICE OF I & E, REGION III, JULY 14, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - MANUAL OPERATION. THE CHLORINATION SYSTEM CHLORINE EVAPORATOR WATER LEVEL CONTROLLER MALFUNCTIONED. THE CHLORINATION SYSTEM WAS THEN LINED UP TO CHLORINATE MANUALLY. DURING THIS PERIOD, THE CIRCULATING WATER SYSTEM CHLORINE RESIDUAL INCREASED TO 0.18 PPM EXCEEDING THE LIMIT FOR 15 MINUTES. THE RATE OF CHLORINATION WAS LOWERED UNTIL THE RESIDUAL WAS LESS THAN 0.10 PPM. FAILURE OF THE EVAPORATOR RESULTED FROM THE HIGH TEMPERATURE ALARM BEING SET TOO HIGH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * FAILURE, OPERATOR ERROR * CHLORINE * WATER QUALITY * COOL 1 (PWR) * CONCENTRATION * CONDENSER COOLING SYSTEM

115920

VALVE CONTROL CENTER POWER FOUND OFF AT COOL 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS. LTR D/RG 50-315/76-29 TO NRC OFFICE OF I & E, REGION III, JULY 15, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - BREAKER TRIPPED DUE TO SHORT. DURING A ROUTINE CHECK WHILE OPERATING AT 100% POWER, POWER WAS FOUND OFF TO ALL VALVES FED FROM VALVE CONTROL CENTER 1-A1V-A. THE BREAKER WHICH FED POWER TO THE CENTER WAS FOUND TRIPPED. IT WAS RESET AND CLOSED, RESTORING POWER TO THE AFFECTED CIRCUIT. A WELDING MACHINE WAS POWERED WITHOUT BEING DISCONNECTED FROM THE POWER RECEPTACLE. THE POWER CABLE PULLED OUT OF THE WELDER, RESULTING IN SHORT CIRCUIT AND FEED BREAKER INSTANTANEOUS TRIP. ALL WELDING RECEPTACLES WERE REMOVED FROM MOTION CONTROL CENTERS FOR ENGINEERED SAFEGUARDS SYSTEMS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * EQUIPMENT * ENGINEERED SAFETY FEATURE * COOL 1 (PWR) * BREAKER * VALVES

116203

ICE CONDENSER INLET DOOR OPENING TORQUE EXCEEDS LIMIT AT COOL 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS. LTR D/RG 50-315/76-30 TO NRC OFFICE OF I & E, REGION III, AUG. 4, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST., AE--UTILITY

CAUSE - SEAL LEAKAGE. DURING ICE CONDENSER INLET DOOR OPENING TORQUE SURVEILLANCE TESTING WITH THE REACTOR SHUT DOWN, IT WAS FOUND THAT THERE WAS AN ICE BUILDUP AT THE BOTTOM OF 2 LOWER INLET DOORS - BAY 3 RIGHT HAND DOOR AND BAY 5 LEFT HAND DOOR. THE ICE ACCUMULATION WAS REMOVED AND THE DOOR SWYPACKS CLEANED. BAY 3 DOOR SEALS WERE REPLACED WITH AN IMPROVED DESIGN WHICH HAS PROVEN VERY EFFECTIVE IN REDUCING AIR LEAKAGE. THE EXPERIMENTAL SEAL ON BAY 5 DOOR WAS READJUSTED.

110502 *CONTINUED*

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * SEAL * *CONTAINMENT, ICE CONDENSER * LEAK * LOCA I (PWR) * FAILURE, INHERENT * VALVES

117008

SET POINT DRIFT IN FEEDWATER FLOW TRANSMITTERS AT COOK 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS, LTR W/NO 50-315/76-32 TO NRC OFFICE OF I & E, REGION III, AUG. 17, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST, AE--UTILITY

CAUSE - INSTRUMENT DRIFT. DURING CALIBRATION OF FEEDWATER FLOW TRANSMITTERS WHILE OPERATING AT 100% POWER, ONE WAS FOUND OUT OF SPEC BY 1.425% OF SPAN AND ONE BY 0.875% OF SPAN. NO APPARENT CAUSE OTHER THAN INSTRUMENT DRIFT WAS FOUND. BOTH FLOWERS TRANSMITTERS (MODEL NO. E130M-WASHAI) WERE RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * REINSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * COCA I (PWR) * SET POINT * DRIFT * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, FLOW

117107

LIQUID RELEASE MADE WITHOUT GAMMA SPECTRUM ANALYSIS AT COOK 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS, LTR W/NO 50-315/76-32 TO NRC OFFICE OF I & E, REGION III, AUG. 25, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST, AE--UTILITY

CAUSE - PERSONNEL ERROR. AFTER NORMAL RECIRCULATION, THE SOUTH WASTE EVAPORATION CONDENSATE TANK WAS SAMPLED PRIOR TO RELEASE. ANALYSIS INDICATED TRITIUM, UNIDENTIFIED GROSS BETA, AND URANIUM TO BE LESS THAN A SAMPLE OF A PRIOR RELEASE MADE THAT DAY. BECAUSE NEITHER WELL'S GAMMA SPECTRUM ANALYSIS UNIT WAS OPERATING, THE TECHNICIAN SUGGESTED USING THE GAMMA ANALYSIS FOR THE PRIOR RELEASE. THE CHEMICAL FOREMAN GAVE PERMISSION. THE ALARM POINT ON THE EFFLUENT MONITOR WAS REDUCED. THE RELEASE WAS MADE WITHOUT AN ALARM. ALL PERSONNEL WERE TOLD TO COMPLETE ANALYSIS PRIOR TO RELEASE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

WASTE DISPOSAL * SAMPLING * WASTE DISPOSAL, LIQUID * RADIOCHEMICAL ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * COCK 1 (PWR)

117798

REQUIRED INCORE DETECTOR SCAN NOT MADE ON TIME AT COOK 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS, LTR W/NO 50-315/76-34 TO NRC OFFICE OF I & E, REGION III, AUG. 26, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST, AE--UTILITY

CAUSE - PERSONNEL ERROR. WHILE OPERATING AT 100% POWER, THE ARIAL PUREN DISTRIBUTION MONITORING SYSTEM WAS MADE INOPERABLE FOR MAINTENANCE IN THE CONTAINMENT IN-TURNMENT HOUR. WITH APPROX INOPERABLE, A SCAN USING REVEALABLE INCORE DETECTORS IS REQUIRED ONCE PER 8 HOURS. THIS SCAN WAS NOT CONDUCTED FOR 14 HOURS AND 21 MINUTES. ADDITIONAL MAINTENANCE ACTIVITY REQUIRED APPROX BEING INOPERABLE LONGER THAN ORIGINALLY PLANNED AND RESULTED IN THE SCAN NOT BEING CONDUCTED IN THE REQUIRED TIME FRAME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * INSTRUMENT, IN CORE * MAINTENANCE AND REPAIR * PUREN DISTRIBUTION * TEST INTERVAL * COCK 1 (PWR)

117799

AUXILIARY FEED PUMP TRIPS WITHOUT GIVING CONTROL ROOM ALARM AT COOK 1

INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI

3 PGS, LTR W/NO 50-315/76-35 TO NRC OFFICE OF I & E, REGION III, AUG. 26, 1976, DOCKET 50-315, TYPE--PWR, NRC--WEST, AE--UTILITY

CAUSE - DEFECTIVE SCLNCID. DURING A TEST WHILE OPERATING AT 100% POWER, THE TURBINE DRIVEN AUXILIARY FEED PUMP TRIP AND THROTTLE VALVE TRIPPED WITHOUT GIVING AN ALARM IN THE CONTROL ROOM. AFTER RESETTING THE TURBINE TRIP ASSEMBLY, THE TURBINE COULD NOT BE TRIPPED FROM THE CONTROL ROOM. THE RESET SCLNCID (GE MODEL C9503) WAS DEFECTIVE. IT WAS REPLACED AND THE OVERSPEED TRIP SWITCH WAS REALIGNED, CORRECTING THE ANNUNCIATION ALARM FAILURE. THE TURBINE TRIP FEATURE THEN TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

117750 (CONTINUED)
FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * COOL 1 (PWR) * FAILURE, INHERENT * SOLENOID * AUXILIARY *
COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS * ANNUNCIATIONS

117760
CRONS FOUND IN ACCIDENT ANALYSIS AT CCGR 1
INDIANA & MICHIGAN POWER CO., BIRLEIGH, MI
J 465, LTR W/PU 50-315/70-31 TO NRC OFFICE OF I & E, REGION III, SEPT. 1, 1970, DOCKET 50-315, TYPE--PWR, RFG--
BEST., AE--UTILITY

CAUSE - INCORRECT ASSUMPTIONS. WESTINGHOUSE ADVISED THE UTILITY OF 2 ITEMS IDENTICAL AS
UNREVIEWED SAFETY QUESTIONS. (1) THE TEMPERATURE OF THE WATER IN THE UPPER HEAD OF THE REACTOR
VESSEL IS HIGHER THAN THAT ASSUMED IN THE ACCIDENT ANALYSIS. (2) NEW TEST DATA INDICATE THAT THE
LWD PENALTY INVOLVING RGD RUDING IS NOT CONSERVATIVE. APPROPRIATE RESTRICTIONS TO OPERATING
CONDITION WILL BE MADE TO COMPENSATE FOR THESE QUESTIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

* ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * WND * FAILURE, DESIGN ERROR
* FUEL ROD * COOL 1 (PWR) * TEMPERATURE

118207
REACTOR SCRAMS AND SAFETY INJECTION OCCURS AT CCGR 1
INDIANA & MICHIGAN POWER CO., BIRLEIGH, MI
J 465, LTR W/SPECIAL RPT, SI-85 TO NRC OFFICE OF I & E, REGION III, SEPT. 1, 1970, DOCKET 50-315, TYPE--PWR,
RFG--BEST., AE--UTILITY

CAUSE - LOSS OF A VITAL BUS CHANNEL. WHILE OPERATING AT 100% POWER IN THE AUTOMATIC MODE OF
CONTROL, A REACTOR TRIP OCCURRED DUE TO FAILURE OF THE INVERTER FOR VITAL BUS CHANNEL 1. WHEN
THE CHANNEL WAS LOST, THE EPS RECEIVED A REACTOR COOLANT PUMP BREAKER OPEN INDICATION WHICH
RESULTED IN THE REACTOR TRIP. A SAFETY INJECTION ACTUATION OF SAFEGUARDS TRAIN B AND STEAM LINE
ISOLATION RESULTED FROM A FALSE INDICATION OF HIGH STEAM LINE FLOW ON 1 CHANNEL WITH A VERY
MOMENTARY DROP IN TAVG TO THE LCU-LOW VALUE. SAFETY INJECTION WAS TERMINATED IN ABOUT 6 MINUTES.
NO DAMAGE OCCURRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

* FAILURE, EQUIPMENT * SCRAM, REAR * SAFETY INJECTION * ELECTRIC POWER, VITAL * COOL 1 (PWR) * REACTOR
SHUTDOWN * TRANSIENT * GENERATORS

118246
DIESEL GENERATOR FAILS TO START AT CCGR 1
INDIANA & MICHIGAN POWER CO., BIRLEIGH, MI
J 465, LTR W/PU 50-315/70-30 TO NRC OFFICE OF I & E, REGION III, SEPT. 17, 1970, DOCKET 50-315, TYPE--PWR, RFG--
BEST., AE--UTILITY

CAUSE - ISOLATION VALVE TO SWITCHES CLOSED. DURING A TEST WHILE OPERATING AT 100% POWER, DIESEL
GENERATOR C-D FAILED TO START ON 2 SUCCESSFUL ATTEMPTS. THE EXCITER INVERTER HAD NO OUTPUT. AN
IMMEDIATE INVESTIGATION REVEALED THE ISOLATION VALVES FOR THE START-TO-RUN TRANSFER SIGNAL SWITCH
AND THE DISCONNECTED FIELD FLASHING AT BOX SPEED WERE SHUT. THIS RESULTED IN THE DIESEL STOPPING
AFTER A 10 SECOND RUN. THE VALVES WERE OPENED. ALSO, THE INVERTER FOR THE GOVERNOR PUMP HAD
FAILED. THE INVERTER WAS SWITCHED TO AN ALTERNATE POWER SOURCE. IT WAS REPAIRED BY REPLACING
THE SOLID STATE CONTROLS, INC. OSCILLATION BOARD NO. V0018.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CONTROL SYSTEM * FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * FAILURE,
SIMULTANEOUS * COOL 1 (PWR) * VALVES * ENGINES, INTERNAL COMBUSTION * GENERATORS, DIESEL * ELECTRONIC
FUNCTION UNITS * GENERATORS

118312
SPECIAL REPORT ON SAFETY INJECTION ACTUATION AT CCGR 1
INDIANA & MICHIGAN POWER CO., BIRLEIGH, MI
J 465, LTR W/SPECIAL RPT, SI-76 TO NRC OFFICE OF I & E, REGION III, SEPT. 30, 1970, DOCKET 50-315, TYPE--PWR,
RFG--BEST., AE--UTILITY

CAUSE - UNKNOWN. WHILE PREPARING FOR A STARTUP AND WITH THE REACTOR IN HOT STANDBY, A SAFETY
INJECTION ACTUATION OCCURRED ON SAFEGUARDS TRAIN A FOR NO APPARENT REASON. NO STATUS LIGHTS WERE
RECEIVED AND NO REACTOR TRIP OCCURRED. IT WAS FELT THAT THE PROBLEM WAS ASSOCIATED WITH THE
MASTER RELAY DRIVER CARD. THIS CARD WAS REPLACED. ABOUT 600 GALLONS OF BONATED WATER AT 165 P
INITIALLY WERE INJECTED INTO THE SYSTEM. THIS IS THE SIXTH INADVERTANT ACTUATION OF THE SAFETY
INJECTION SYSTEM. CONSERVATIVELY IT CONSTITUTES 1/50 OF ALLOWABLE THERMAL CYCLES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

110022 MCINTIMED
SAFETY INJECTION * MAIN COOLING SYSTEM * COOL 1 (PWR) * THERMAL TRANSIENT * ELECTRONIC FUNCTION UNITS

110200
AUXILIARY PUMP/TURBINE FAILS TO START AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
3 PGS. LTR W/NO 50-315/76-37 TO NRC OFFICE OF I & E, REGION III, OCT. 8, 1976. DOCKET 50-315, TYPE--PWR, REG--
WEST.. AE--UTILITY

CAUSE - LIMIT SWITCH SET SCREWS FAIL TO HOLD. DURING 100% POWER OPERATION, THE AUXILIARY PUMP/TURBINE WOULD NOT START. LIMIT SWITCH ARMS ON THE LINKAGE WERE MUTATED ON A SHAFT CAUSING MISALIGNMENT. THE SET SCREWS WHICH HOLD THE ARMS IN PLACE DID NOT HOLD. THE SET SCREWS WERE REMOVED AND TAPERED CONE FITS INSTALLED TO PREVENT RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FASTENER * MODIFICATION * FAILURE, DESIGN ERROR * PUMP/TURBINE * COOL 1 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER

110000
INITIAL OPENING FORCE OF ICE CONDENSER INLET DOORS EXCEEDS LIMIT AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
3 PGS. LTR W/NO 50-315/76-38 TO NRC OFFICE OF I & E, REGION III, OCT. 13, 1976. DOCKET 50-315, TYPE--PWR, REG--
WEST.. AE--UTILITY

CAUSE - EXPERIMENTAL SEAL LEAK. DURING TESTING OF THE ICE CONDENSER LOWER INLET DOORS WITH THE UNIT IN SHUTDOWN, ICE BUILDUP ON THE BOTTOM OF THE LEFT DOOR IN BAY 3 CAUSED THE INITIAL OPENING FORCE TO BE GREATER THAN THE LIMIT. THE EXPERIMENTAL PROTOTYPE SEALS HAVE BEEN REMOVED FROM BOTH LEFT AND RIGHT SIDES OF BAY 3. SEALS OF THE ORIGINAL DESIGN WERE INSTALLED. THEY ARE OF A PROVEN DESIGN AND DO NOT HAVE THE EXCESSIVE ICING PROBLEMS EXPERIENCED WITH THE PREVIOUSLY INSTALLED PROTOTYPE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TESTING * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * SEAL * CONTAINMENT, ICE CONDENSER * LEAK * COOL 1 (PWR) * ANALYSIS

110007
STEAM GENERATOR FEEDWATER FLOW INDICATION HIGH - COOL 1
INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
3 PGS. LTR W/NO 50-315/76-39 TO NRC OFFICE OF I & E, REGION III, OCT. 13, 1976. DOCKET 50-315, TYPE--PWR, REG--
WEST.. AE--UTILITY

CAUSE - LOOSE WASHER IN CASE. WHILE THE UNIT WAS SHUT DOWN, IT WAS OBSERVED THAT STEAM GENERATOR FEEDWATER FLOW INDICATION WAS HIGH WITH NO FLOW TO THE STEAM GENERATOR. A WASHER WAS FOUND IN THE CASE OF THE FORWARD TRANSMITTER, SIGNAL COLUMN. THE WASHER SHOULD HAVE BEEN BETWEEN THE BOLT AND DIAPHRAGM CONNECTION. THIS CONDITION CAUSED A DISTORTION IN THE LINKAGE. THE ERROR OCCURRED DURING THE INITIAL ASSEMBLY. THE DIAPHRAGM ASSEMBLY WAS REPLACED AND THE TRANSMITTER RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * FAILURE, FABRICATION ERROR * COOL 1 (PWR) * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, FLOW

110008
SET POINT DRIFT IN PRESSURIZER LEVEL TRANSMITTER AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
3 PGS. LTR W/NO 50-315/76-40 TO NRC OFFICE OF I & E, REGION III, OCT. 13, 1976. DOCKET 50-315, TYPE--PWR, REG--
WEST.. AE--UTILITY

CAUSE - ZERO SHIFT. DURING TESTING WHILE THE UNIT WAS SHUT DOWN, THE PRESSURIZER LEVEL TRANSMITTER ERROR EXCEEDED THE LIMIT BY 0.178 FOR THE HIGH LEVEL SET POINT. THE ZERO HAD DRIFTED LOW ON THE TRANSMITTER. THE ZERO SETTING WAS READJUSTED AND THE INSTRUMENT RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * COOL 1 (PWR) * SET POINT * DRIFT * FAILURE, INSTRUMENT * SENSORS, LEVEL

110009
SET POINT DRIFT IN LEVEL TRANSMITTER AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIGMAN, MI

11005 PLANTING
 J PLS. LTR W/NO 50-315/70-01 TO NAC OFFICE OF I & E, REGION III, OCT. 13, 1976, DOCREF 50-315, TYPE--PWR, RFG--
 REST.. RE--LTIILITY

CAUSE - ZERO SHIFT. DURING TESTING WITH THE REACTOR SHUT DOWN, INSTRUMENT EM-JM FOR A PRESSURIZED
 LEVEL TRANSMITTER EXCEEDED THE LIMIT BY 1.08 FOR THE HIGH LEVEL SET POINT. THE ZERO WAS ADJUSTED
 LCO ON THE TRANSMITTER. THE ZERO SETTING WAS READJUSTED AND THE INSTRUMENT RECALIBRATED.

AVAILABILITY - NAC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM
 OPERABILITY * COGA 1 (PWR) * RESET POINT * SHIFT * FAILURE, IMMINENT * SENSORS, LEVEL

11008
 TEMPERATURE OF EMERGENCY DEVIATION FLOOD PATH LOW AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 J PLS. LTR W/NO 50-315/70-02 TO NAC OFFICE OF I & E, REGION III, OCT. 13, 1976, DOCREF 50-315, TYPE--PWR, RFG--
 REST.. RE--LTIILITY

CAUSE - THERMOSTAT SHIFT. DURING A TEST WHILE THE REACTOR WAS SHUT DOWN, THE EMERGENCY DEVIATION
 FLOOD PATH TO THE CHARGING BUBBLE WAS FOUND AT 100 %. THERMOSTAT SHIFT CAUSED THE LOW TEMPERATURE.
 THERMOSTATS WERE ADJUSTED FOR PROPER TEMPERATURE CONTROL.

AVAILABILITY - NAC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

ELECTRIC POWER * CONTROL * FAILURE, INSTRUMENT * OSMOTICION SYSTEM, SECONDARY * COOL 1 (PWR) * TEMPERATURE *
 PIPES AND PIPE FITTINGS

11009
 SET POINT SHIFT IN STEAM GENERATOR LEVEL TRANSMITTER AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 J PLS. LTR W/NO 50-315/70-03 TO NAC OFFICE OF I & E, REGION III, OCT. 14, 1976, DOCREF 50-315, TYPE--PWR, RFG--
 REST.. RE--LTIILITY

CAUSE - ZERO SHIFT. DURING TESTING WITH THE REACTOR SHUT DOWN, THE STEAM GENERATOR LEVEL
 TRANSMITTER WAS FOUND TO BE 10.125% IN EXCESS OF THE LIMIT. THE ZERO SETTING WAS ADJUSTED AFTER
 BEING CALIBRATED. THERE WAS A RECURRENCE OF THE ZERO SHIFT. THE FORWARD TRANSMITTER, MODEL NO. E-
 1200-MASPI, WAS REBUILT, REPLACING THE AMP (NO. 401000) AND THE FORCE MOTOR (NO. 101500). THE
 INSTRUMENT WAS CALIBRATED. IT FUNCTIONED PROPERLY.

AVAILABILITY - NAC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * STEAM
 GENERATOR * COGA 1 (PWR) * RESET POINT * SHIFT * FAILURE, IMMINENT * SENSORS, LEVEL

11021
 CONTROL ROOM FLOOD INDICATING BELLS DEMAND INDICATION AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 J PLS. LTR W/NO 50-315/70-04 TO NAC OFFICE OF I & E, REGION III, OCT. 26, 1976, DOCREF 50-315, TYPE--PWR, RFG--
 REST.. RE--LTIILITY

CAUSE - INTEGRATED CIRCUIT SHIFT. WHILE OPERATING AT 100% POWER, HUD F-6 OF BANK D WAS FOUND
 INDICATING 13 STEPS BELLO DEMAND INDICATION. THE OPERATIONAL AMPLIFIER SUPPLYING THE PANEL
 INDICATORS WAS REALIGNED FOR FAULTER INDICATION. THE INTEGRATED CIRCUIT SHIFT WAS BELIEVED TO
 HAVE BEEN CAUSED BY A CHANGE IN AMBIENT TEMPERATURE. THE NEXT DAY, THIS POSITION INDICATION
 SHIFTED AGAIN AND WAS REALIGNED. A NEW INTEGRATED CIRCUIT, MODEL NO. LM-301, WAS REPLACED AND
 REALIGNED FOR PROPER OUTPUT.

AVAILABILITY - NAC PUBLIC DOCUMENT ROOM, 1717 N STREE, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

NUCLEAR STATE DEVICE * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * INSTRUMENT, POSITION * COOL 1 (PWR) *
 SHIFT * FAILURE, IMMINENT * CONTROL ROOMS * ELECTRONIC FUNCTION UNITS

11022
 TEMPORARY CHANGE SHEETS USED FOR TESTS WITHOUT PROPER APPROVAL AT COOL 1
 INDIANA & MICHIGAN POWER CO., BRIGMAN, MI
 J PLS. LTR W/NO 50-315/70-05 TO NAC OFFICE OF I & E, REGION III, OCT. 26, 1976, DOCREF 50-315, TYPE--PWR, RFG--
 REST.. RE--LTIILITY

CAUSE - ENGINEER UNWARE OF REQUIREMENT. A REVIEW OF PROCEDURES INDICATED THERE WERE 3 TEMPORARY
 SHEETS FOR ONE PROCEDURE AND 4 FOR ANOTHER THAT WERE USED PRIOR TO PROPER APPROVAL. THE ENGINEER
 WHO INITIATED THE TEMPORARY CHANGE SHEETS WAS UNWARE OF THE 14 DAY REQUIREMENT FOR APPROVAL.
 THE METHOD OF HANDLING TEMPORARY CHANGE SHEETS HAS BEEN INITIATED TO PREVENT RECURRENCE.

AVAILABILITY - NAC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

119322 *CONTINUED*
CHARGE \$2.00

PROCEDURES AND MANUALS * TESTING * FAILURE, ADMINISTRATIVE CONTROL * COOL 1 (PWR) * *CERTIFICATION * COMMUNICATION

119322

TOTAL CHLORINE RESIDUAL NOT DETERMINED IN LAKE DISCHARGE AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/NO 50-315/70-60 TO NRC OFFICE OF 1 & E, REGION III, NOV. 3, 1976, DOCKET 50-315, TYPE--
PWR, RFG--WEST, AE--UTILITY

CAUSE - OPERATOR OVERSIGHT. TOTAL CHLORINE RESIDUAL WAS NOT DETERMINED DURING A CHLORINATION CYCLE DUE TO THE CHEMICAL TECHNICIAN BEING INVOLVED IN OTHER ANALYSIS AND LOSING TRACK OF THE TIME. UPON REALIZING THE TIME, THE TECHNICIAN IMMEDIATELY BEGAN SAMPLING AT THE CONDENSED COLLECT. NO CHLORINE RESIDUAL WAS DETECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * FAILURE, OPERATOR ERROR * SAMPLING * CHLORINE * TEST INTERVAL * COOL 1 (PWR) * CONDENSED COOLING SYSTEM

119401

FEEDWATER FLOW TRANSMITTER OUT OF CALIBRATION AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/NO 50-315/70-60 TO NRC OFFICE OF 1 & E, REGION III, NOV. 4, 1976, DOCKET 50-315, TYPE--PWR, RFG--
WEST, AE--UTILITY

CAUSE - VALVING ERROR. DURING PREPARATION FOR A THERMAL POWER CALCULATION WHILE OPERATING AT 100% POWER, A FEEDWATER FLOW TRANSMITTER FOR STEAM GENERATOR 1 WAS FOUND TO HAVE A 1.375% ERROR. THIS EXCEEDED THE LIMIT BY 0.075%. IT WAS DISCOVERED THAT THE TECHNICIAN POSSIBLY HAD AN ERROR IN VALVING OUT THE TRANSMITTER. THE TECHNICIAN WAS INSTRUCTED IN THE PROPER MANIPULATION OF THE VALVING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * COOL 1 (PWR) * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, FLOW

119482

AUXILIARY FEED PUMP FAILS TO START AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
3 PGS, LTR W/NO 50-315/70-67 TO NRC OFFICE OF 1 & E, REGION III, NOV. 4, 1976, DOCKET 50-315, TYPE--PWR, RFG--
WEST, AE--UTILITY

CAUSE - TRIP LINKAGE STICKING. WHILE OPERATING AT 100% POWER, THE TURBINE DRIVEN AUXILIARY FEED PUMP FAILED TO START FROM THE CONTROL ROOM. THE TRIP LINKAGE APPEARED TO BE STICKING (THE PAD THAT ENGAGES THE THROTTLE STOP VALVE). MAINTENANCE REWORKED THE LINKAGE AND THE PAD ENGAGED PROPERLY. ONE OF THE 2 COILS IN THE TRIP SOLENOID WAS FOUND TO BE INSTALLED BACKWARDS. THIS RESULTED IN THE COILS OPPOSING EACH OTHER WHEN ENERGIZED. IN THE PAST THE TRIP SOLENOID WOULD NOT RESET THE TRIP MECHANISM. THE COILS WERE INSTALLED PROPERLY. THE TURBINE WAS TESTED BY STARTING, TRIPPING, AND RESETTING THE TRIP MECHANISM FROM THE CONTROL ROOM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * TURBINE * COOL 1 (PWR) * SOLENOID * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS

120456

TOTAL RESIDUAL CHLORINE EXCEEDS LIMIT AT COOL 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR W/NO 50-315/70-67 TO NRC OFFICE OF 1 & E, REGION III, NOV. 23, 1976, DOCKET 50-315, TYPE--PWR, RFG--WEST, AE--
UTILITY

CAUSE - IMPROPER ADJUSTMENT OF FEED RATE. TOTAL CHLORINE RESIDUAL IN A SAMPLE TAKEN AT THE LAKE DISCHARGE INDICATED 0.15 PPM WHICH EXCEEDS THE 0.1 PPM TECH SPEC LIMIT. AN INSTRUMENT TECHNICIAN, ASSIGNED TO REPLACE A DEFECTIVE SERVO MOTOR IN CHLORINATOR 2, ADJUSTED THE ADDITIVE RATE CONTROLLER TO CHLORINATOR 1 DUE TO PROBLEMS WITH A POTENTIOMETER IN THE CONTROLLER. THIS CHANGED THE FEED RATE FROM 500 TO 3000 LB/DAY RESULTING IN THE VIOLATION. THE FEED RATE WAS READJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COOL 1 (PWR) * CONCENTRATION * CHLORINE * EFFLUENT * CONDENSED COOLING SYSTEM * FAILURE, MAINTENANCE ERROR * SAMPLING * MONITORING PROGRAM, ENVIRONMENTAL

120284
 NRB INJECTION VALVE FAILS TO CYCLE AT COOK 1
 INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
 2 PGS. LTR #/RO 50-315/76-48 TO NRC OFFICE OF I & E, REGION III, NOV. 30, 1976. DOCKET 50-315. TYPE--PWR, RFG--
 WEST., AE--UTILITY

CAUSE - PACKING GLAND TOO TIGHT. DURING TESTING WITH THE REACTOR AT 100% POWER, VALVE IMJ (RHM INJECTION TO COLD LEGS 1 AND 4) WOULD NOT CYCLE. THE LIMITORQUE OPERATOR FAILED TO OPERATE THE VALVE BECAUSE THE VALVE PACKING GLAND WAS TOO TIGHT. THE PACKING GLAND WAS BACKED OFF AND THE STEM GEAR CLEANED TO REDUCE THE AMOUNT OF TORQUE REQUIRED TO OPERATE THE VALVE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COOK 1 (PWR) * VALVES * SHUTDOWN COOLING SYSTEM * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * SEAL

120285
 SET POINT ON AREA RADIATION MONITORS HIGH AT COOK 1
 INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
 3 PGS. LTR #/RO 50-315/76-49 TO NRC OFFICE OF I & E, REGION III, NOV. 30, 1976. DOCKET 50-315. TYPE--PWR, RFG--
 WEST., AE--UTILITY

CAUSE - OPERATOR ERROR. DURING SURVEILLANCE WITH THE REACTOR AT 100% POWER, IT WAS DISCOVERED THAT CONTAINMENT AREA MONITOR RMS-2 SETTING WAS 3.38 TIMES BACKGROUND AND CONTAINMENT ATMOSPHERE PARTICULATE MONITOR RMS-11 SETTING WAS 5.84 TIMES BACKGROUND. TECH SPECS REQUIRE 2 TIMES BACKGROUND. AN AVERAGE VALUE FOR BACKGROUND WAS ESTABLISHED AS REQUIRED BUT THE OPERATOR FAILED TO LOWER THE SET POINT TO 2 TIMES BACKGROUND DUE TO THE METER READING OSCILLATING HIGH WHICH COULD HAVE CAUSED INTERMITTENT HIGH ALARMS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COOK 1 (PWR) * SET POINT * MONITOR, AREA * CONTAINMENT * RADIATION MONITORS * TEST, SYSTEM OPERABILITY * INSTRUMENT CALIBRATION * INSTRUMENT, FLUCTUATION * FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS

120286
 SEISMIC MONITORING SYSTEM TAPE STICKS AT COOK 1
 INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
 3 PGS. LTR #/RO 50-315/76-50 TO NRC OFFICE OF I & E, REGION III, NOV. 30, 1976. DOCKET 50-315. TYPE--PWR, RFG--
 WEST., AE--UTILITY

CAUSE - DEFECTIVE TAPE. DURING TESTING OF THE SEISMIC MONITORING SYSTEM WITH THE REACTOR AT 100% POWER, DURING THE READOUT OF MONITOR A TAPE, THE TAPE WAS STICKING. THE KINEMATICS CASSETTE TAPE WAS REMOVED AND DISPOSED OF. NO EVENT HAD OCCURRED BETWEEN CALIBRATION SEQUENCES, AS VERIFIED BY THE OTHER TAPES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COOK 1 (PWR) * INSTRUMENT, LANTHQUARE * TEST, SYSTEM OPERABILITY * FAILURE, COMPONENT * FAILURE, INHERENT

120297
 CONTAINMENT SPRAY PUMP BREAKER MALFUNCTIONS AT COOK 1
 INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
 2 PGS. LTR #/RO 50-315/76-51 TO NRC OFFICE OF I & E, REGION III, NOV. 30, 1976. DOCKET 50-315. TYPE--PWR, RFG--
 WEST., AE--UTILITY

CAUSE - UNKNOWN. DURING 100% POWER OPERATION, AN ABNORMAL ALARM WAS RECEIVED ON THE EAST CONTAINMENT SPRAY PUMP. AN ATTEMPT TO CLOSE THE BREAKER IN THE TEST POSITION FAILED. THE SPRING WAS DISCHARGED AND RECHARGED AND THE BREAKER FUNCTIONED PROPERLY WITH NO FURTHER ALARMS. THE EXACT CAUSE IS UNKNOWN. THE MOST LIKELY CAUSE IS THAT A CONTACT IN THE CONTROL CIRCUIT DID NOT CLOSE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COOK 1 (PWR) * BREAKER * PUMPS * CONTAINMENT SPRAY * FAILURE, EQUIPMENT * FAILURE, INHERENT

120452
 IODINE SPIKE FOLLOWS POWER TRANSIENT AT COOK 1
 INDIANA & MICHIGAN POWER CO., BRIGGMAN, MI
 17 PGS. LTR #/RO 50-315/76-52 TO NRC OFFICE OF I & E, REGION III, NOV. 30, 1976. DOCKET 50-315. TYPE--PWR, RFG--
 WEST., AE--UTILITY

CAUSE - NORMAL SPIKING PHENOMENA. RESULTS OF A SAMPLE TAKEN 2.25 HOURS FOLLOWING A UNIT TRIP FROM 70% POWER, INDICATED A DOSE EQUIVALENT (1-13) OF 3.33 MICROCURIES/GM EXCEEDING THE TECH SPEC LIMIT OF 1.0 MICROCURIES/GM. DATA FROM OTHER REACTORS INDICATES THAT, FOR POWER TRANSIENTS, THE IODINE

120452 RCN1-4E00

RELEASE RATE PEAKS AT 3.5 TO 5.25 HOURS FOLLOWING THE INITIATING EVENT. THUS, THIS SPIKE IS ATTRIBUTED TO THE NORMAL SPIKING PHENOMENA DURING POWER TRANSIENTS RATHER THAN ADDITIONAL FUEL CLAD FAILURES. HOWEVER, SAMPLES WERE NOT TAKEN AT 4 HOUR INTERVALS DURING THE ENTIRE 10 HOUR TIME THE SPIKE EXCEEDED THE LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COOK 1 (PWR) * CONCENTRATION * DECINE * REACTOR COOLANT * REACTOR TRANSIENT * REACTOR POWER * TRANSIENT * TEST INTERVAL * FAILURE, INHERENT * SAMPLING * FAILURE, OPERATOR ERROR

120600

CONTAINMENT RADIATION MONITOR PUMP FAILS AT COOK 1
INDIANA & MICHIGAN POWER CO., BRIDGMAN, MI
2 PGS, LTR NRC-50-315/76-53 TO NRC OFFICE OF I & E, REGION III, DEC. 16, 1976, DUCLET 50-315, TYPE--PWR, MFG--BEST., AE--UTILITY

CASE - NORMAL DETERIORATION. WHILE AT 100% POWER, THE CONTAINMENT AIR PARTICULATE AND RADIO GAS MONITOR (R-11 AND R-12) PUMP FAILED TO RUN. THE COND. MODEL 55FCB PUMP HAD SEIZED INTERNALLY FROM NORMAL EQUIPMENT DETERIORATION. THE PUMP WAS REPLACED, PAPER ALIGNMENT ENSURED, AND CORRECT FLOW ESTABLISHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COOK 1 (PWR) * PUMPS * RADIATION MONITORS * CONTAINMENT ATMOSPHERE * FAILURE, EQUIPMENT * FAILURE, INHERENT * BEAM * MONITORING SYSTEM, RADIATION

110320

WENT VALVE STEM FOUND ON SAFETY-RELATED VALVE AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
1 PG, RPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, JAN. 9, 1976, DUCLET 50-302, TYPE--PWR, MFG--UGO, AE--GILBERT ASSOC.

CASE - MATERIAL NOT SUITABLE FOR SERVICE. FOUR VALVES IN SAFETY-RELATED SYSTEMS WERE FOUND TO HAVE WENT STEMS. STEMS WERE FABRICATED OF TYPE 316 STAINLESS STEEL. THE MANUFACTURER (BALNORTH/ALDYCO) ADVISED THAT VALVES WITH TYPE 316 STAINLESS STEEL ARE NOT SUITABLE FOR SERVICE WITH QUICK-CLOSING OPERATORS. NEW STEMS OF ASTM-A504 GRADE 300 LUND. M-1150 MATERIAL HAVE BEEN ORDERED FOR ALL VALVES WITH 10 SECONDS OR LESS CLOSING TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MATERIAL * MODIFICATION * FAILURE, DESIGN ERROR * COMPONENTS * CRYSTAL RIVER 3 (PWR) * ENGINEERED SAFETY FEATURE * CONSTRUCTION * VALVES

111745

HYDRAULIC PERFORMANCE OF REACTOR BUILDING SPRAY SYSTEM DEFICIENT AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
1 PG, LTR TO NRC DIRECTORATE OF REGULATORY OPERATIONS, FEB. 16, 1976, DUCLET 50-302, TYPE--PWR, MFG--UGO, AE--GILBERT ASSOC.

CASE - EXCESSIVE PRESSURE DROP IN VALVES. A SERIES OF PERFORMANCE TESTS AND A TRANSIENT ANALYSIS WERE RUN FOR THE BORATED WATER STORAGE TANK DRAW DOWN CONFIRMED THAT A DESIGN DEFICIENCY EXISTED IN THE REACTOR BUILDING SPRAY SYSTEM. FOUR SPRING LOADED STOP CHECK VALVES HAD EXCESSIVE PRESSURE DROP RELATIVE TO REQUIRED SYSTEM OPERATION. THESE VALVES WILL BE REPLACED WITH CONVENTIONAL SWING CHECK VALVES WITH A LESSER DESIGN PRESSURE DROP. WITH THIS MODIFICATION THE SYSTEM WILL PERFORM AS DESIGNED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT SPRAY * HYDRAULIC ANALYSIS * TESTING * MODIFICATION * FAILURE, DESIGN ERROR * PRESSURE DROP * CRYSTAL RIVER 3 (PWR) * FLOW * VALVE, CHECK * CONSTRUCTION

110374

DEFICIENCY FOUND IN REACTOR BUILDING SPRAY SYSTEM AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
1 PG, LTR W/RT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, FEB. 16, 1976, DUCLET 50-302, TYPE--PWR, MFG--UGO, AE--GILBERT ASSOC.

CASE - EXCESSIVE PRESSURE DROP IN CHECK VALVE. PERFORMANCE TESTS AND TRANSIENT ANALYSIS OF THE BORATED WATER STORAGE TANK DRAW DOWN CONFIRMED THAT A DESIGN DEFICIENCY EXISTED IN THE REACTOR BUILDING SPRAY SYSTEM. FOUR SPRING LOADED STOP CHECK VALVES HAD EXCESSIVE PRESSURE DROP RELATIVE TO THE REQUIRED SYSTEM OPERATION. THESE VALVES WILL BE REPLACED WITH CONVENTIONAL SWING CHECK VALVES WITH A LESSER DESIGN PRESSURE DROP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM

110370 *CONTINUED*
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*CONTAINMENT SPRAY * TEST, PNEUMATIONAL * TEST, SYSTEM OPENABILITY * FAILURE, DESIGN ERROR * PRESSURE DROP * CRYSTAL RIVER 3 (PWR) * ACQUISITIVE * SYSTEM CAPABILITY * VALVE, CHECK * CONSTRUCTION

113762
SEPARATION FOUND IN THE CONCRETE OF THE CONTAINMENT DOME AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
8 PGS, LTR W/RPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, APRIL 21, 1976, DOCKET 50-302, TYPE--PWR, NRC--
JER, AE--GILBERT ASSOC.

CAUSE - UNKNOWN. WHILE PLACING CONCRETE ANCHORS IN THE DOME CONCRETE OF THE REACTOR BUILDING, THERE APPEARED TO BE A HOLLOW AREA. INVESTIGATIONS BY SAWING OUT A 1 X 3 FT SECTION AND BY CORE DRILLING DETERMINED THAT THE DEPTH OF THE HOLLOW AREA WENT DEEPER AS IT WENT HIGHER ON THE DOME. THE SEPARATION CONTINUED ACROSS THE DOME AND WENT AS DEEP AS 15 INCHES AND SEPARATED AS MUCH AS 1-3/4 INCHES. BY USING ACUSTIC METHODS, THE LOWER PERIMETER OF THE SEPARATED AREA WAS DETERMINED TO EXTEND ALL AROUND THE DOME IN PLANS G, H, AND J. ENGINEERS ARE EVALUATING THE PRESENT CONDITION OF THE STRUCTURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D.C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*CONCRETE * CONTAINMENT INTEGRITY * FLOW * CONTAINMENT STRUCTURE * FAILURE, INSTALLATION ERROR * CRYSTAL RIVER 3 (PWR) * CONSTRUCTION * CRACK

114194
REACTOR VESSEL SURVEILLANCE CAPSULE HOLDER TUBE DEFICIENCY AT CRYSTAL RIVER 3
JACKSON & HILLCOX, LYNCHBURG, VA
5 PGS, LTR W/ENCLOSURES TO NRC OFFICE OF I & E, APRIL 21, 1976, DOCKETS 50-302/J&H/J&H/J&H, TYPE--PWR, NRC--
JER, AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. WHILE ATTEMPTING TO REMOVE A SURVEILLANCE CAPSULE TRAIN FROM ITS HOLDER TUBE AT THREE MILE ISLAND, WEAR TO THE HOLDER WAS OBSERVED. INSPECTIONS SHOW EVIDENCE OF WEAR ON THE INTERNAL SURFACE OF THE SPECIMEN HOLDER TUBES AT THE AXIAL LOCATIONS OF THE SPRING CANTILEVER, EACH PUSH-ROD SPACER, AT THE SURVEILLANCE CAPSULE RINGS, AND AT LOCATIONS IN THE OGER BEAD AREA. THE PUSH ROD ITSELF MAY CONTACT THE HOLDER TUBE. WEAR OF THE HOLDER TUBE JOINTAL BEARING HAS BEEN OBSERVED. TUBE WEAR IS CAUSED BY FLUID-INDUCED RELATIVE MOTION OF THE SURVEILLANCE CAPSULE HOLDER TRAIN. HOLDER TUBES ARE BEING REDESIGNED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*SAMPLING * FAILURE, DESIGN ERROR * VIBRATION * SUPPORT STRUCTURE * CRYSTAL RIVER 3 (PWR) * SURVEILLANCE PROGRAM * FLOW * CONSTRUCTION * WEAR * FAILURE, COMMON MODE

115481
INTERIM REPORT ON DOME DELAMINATION AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
3 PGS, LTR W/RPT TO U.S. NRC, REGION II, JUNE 11, 1976, DOCKET 50-302, TYPE--PWR, NRC--BLO, AE--GILBERT ASSOC.

CAUSE - UNKNOWN. THE INTERIM REPORT ADDRESSES EACH CONCERN EXPRESSED BY THE NRC STAFF AND ACHS MEMBERS. THE EVALUATION DOES NOT PROVIDE ANY REASONABLE DIRECTION AS TO WHY THE DELAMINATION OF THE CONTAINMENT DOME OCCURRED. THE PROPOSED CORRECTIVE ACTION WILL ASSURE THAT THE CONTAINMENT STRUCTURE, WHEN SO REPAIRED, WILL BE CAPABLE OF MEETING THE ORIGINAL DESIGN CRITERIA. WORK IS SCHEDULED TO START 8/15/76 AND BE COMPLETED BY 11/16/76.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*MAINTENANCE AND REPAIR * CONCRETE, PRESTRESSED * CONTAINMENT STRUCTURE * FAILURE, INSTALLATION ERROR * CRYSTAL RIVER 3 (PWR) * FLOW * CONSTRUCTION * CRACK

115480
FLUID LEAKS FOUND IN HYDRAULIC SNUBBERS AT CRYSTAL RIVER 3
FLORIDA POWER CORP., ST. PETERSBURG, FL
1 PG, LTR W/RPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, JUNE 21, 1976, DOCKET 50-302, TYPE--PWR, NRC--
JER, AE--GILBERT ASSOC.

CAUSE - ASSEMBLY DEFICIENCIES. NUMEROUS POWER PIPING CO. HYDRAULIC SNUBBERS HAVE BEEN IDENTIFIED AS HAVING FLUID LEAKS IN THE AREA OF THE SIGHTGLASS. REASON FOR LEAKAGE IS (1) IMPROPER O-RING AND SEAL MATERIAL IN THE SIGHTGLASS, (2) OVERCOMPRESSION OF THE O-RING OR SEAL, AND/OR (3) POOR WORKMANSHIP AT RESERVOIR CONNECTION. WHEN THE CAUSE IS DETERMINED AND A SUITABLE REPAIR ESTABLISHED, IT WILL BE APPLIED TO ALL PPC SNUBBERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*FAILURE, EQUIPMENT * FAILURE, FABRICATION ERROR * SMOKE ABSORBER * SEAL * SUPPORT STRUCTURE * CRYSTAL RIVER

115400 *CONTINUED*
 J (PWR) * LEAK * CONSTRUCTION * PIPES AND PIPE FITTINGS

120967
 SNUBBERS INSTALLED ON REACTOR COOLANT PRESSURE TRANSMITTERS AT CRYSTAL RIVER J
 FLORIDA POWER CORP., ST. PETERSBURG, FL
 3 PGS. LTR R/PT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, DEC. 21, 1976. DCKET 50-302. TYPE--
 PWR. NRC--060. AE--GILBERT ASSOC.

CAUSE - INSTALLATION ERROR. DURING A REVIEW OF TRANSMITTER SNUBBERING TECHNIQUES AND RESPONSE
 TIMES, IT WAS DISCOVERED THAT SNUBBERS HAD BEEN INSTALLED ON THE REACTOR COOLANT PRESSURE
 TRANSMITTERS. (SNUBBERS ARE DEVICES USED TO DAMPEN OUT SMALL UNDESIRABLE PULSATIIONS IN
 TRANSMITTER SENSING LINES.) INCLUSION OF SNUBBERS INCREASES THE RESPONSE TIME OF THE TRANSMITTER
 ABOVE THAT ASSUMED FOR ACTUATION OF THE RPS AND EAS IN THE ACCIDENT ANALYSIS. THE SNUBBERS WERE
 INADVERTENTLY PROVIDED BY THE VENDOR. THEIR LISTING IN THE INSTRUCTION BOOK WAS OVERLOOKED BY
 THE AE. THE SNUBBERS HAVE BEEN REMOVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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CRYSTAL RIVER J (PWR) * CONSTRUCTION * RESPONSE TIME * SENSORS, PRESSURE * INSTRUMENT, SWITCH * CONTROL
 SYSTEM * REACTOR PROTECTION SYSTEM * ENGINEERED SAFETY FEATURE * UNIFORM * FAILURE, INSTALLATION ERROR *
 QUALITY ASSURANCE

120704
 CRO BREAKERS CLOSED WITH BOTH IRR'S INOPERABLE AT CRYSTAL RIVER J
 FLORIDA POWER CORP., ST. PETERSBURG, FL
 3 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION II, DEC. 27, 1976. DCKET 50-302. TYPE--PWR. NRC--060. AE--
 GILBERT ASSOC.

CAUSE - OPERATOR ERROR. DURING CONTROL ROOM PROGRAMMING VERIFICATION TEST WITH THE REACTOR IN COLD
 SHUTDOWN, CONTROL ROOM CRUISE BREAKERS WERE CLOSED WITH BOTH INTERMEDIATE RANGE DETECTORS
 INOPERABLE. UPON DISCOVERY THAT THIS VIOLATED TECH SPECS, THE BREAKERS WERE TRIPPED OPEN AND THE
 TEST TERMINATED. THE PRIMARY CAUSE WAS THAT OPERATIONS PERSONNEL FAILED TO SEARCH ALL AVAILABLE
 SOURCES FOR LIMITS AND PRECAUTIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CRYSTAL RIVER J (PWR) * REACTOR STARTUP EXPERIENCE * BREAKERS * CONTROL ROD DRIVES * INSTRUMENT,
 INTERMEDIATE RANGE * REACTOR PROTECTION SYSTEM * FAILURE, OPERATOR ERROR * COMMUNICATION * TEST, SYSTEM
 OPERABILITY

111025
 STAINLESS STEEL PLATES IN STORAGE TANK RUACLE AT DAVIS-BESSE 1
 TOLEDO EDISON CO., TOLEDO, OH
 1 PG. LTR R/PT TO NRC OFFICE OF I & E, FEB. 20, 1976. DCKET 50-300. TYPE--PWR. NRC--060. AE--DECMTEL

CAUSE - FROZEN VACUUM RELIEF VALVE. DURING CONSTRUCTION, THE LIQUATED WATER STORAGE TANK IS
 UTILIZED TO STORE CLEAN WATER FOR FLUSHING COMPLETED PORTIONS OF SYSTEMS. INCLING IN THE TOP
 TRIND OF THE TANK OCCURRED DURING DRAIN DOWN. EXCESS VACUUM WAS CREATED BY AN IMPERATIVE VACUUM
 RELIEF VALVE WHICH HAD FROZEN IN A PARTIALLY OPEN POSITION. REPAIRS WILL BE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT * VACUUM RELIEF * STORAGE CONTAINER * CHEMICAL SMIR * DAMAGE * DAVIS-BESSE 1 (PWR) *
 WEATHER, SEVERE * CONSTRUCTION * FAILURE, INHERENT * VALVES

113511
 FINAL REPORT OF APPARENT DEFICIENCY IN REACTOR COOLANT PUMPS AT DAVIS-BESSE 1
 TOLEDO EDISON CO., TOLEDO, OH
 2 PGS. LTR R/PT TO NRC OFFICE OF I & E, APRIL 12, 1976. DCKET 50-300. TYPE--PWR. NRC--060. AE--DECMTEL

CAUSE - FABRICATION ERROR. INDICATIONS PRECEDING THE MANUFACTURER'S ACCEPTANCE STANDARDS WERE
 DISCOVERED DURING BASELINE INSPECTION IN THE CASING WELDS OF 3 BYRON JACKSON-FURNISHED REACTOR
 COOLANT PUMPS. THERE WAS 1 CRACK-TYPE INDICATION AND 2 SLAG INCLUSIONS. INDICATIONS WERE
 REMOVED AND THE CAVITIES REBLED AND RADIOGRAPHED. THE INDICATIONS WERE NOT VISIBLE ON THE
 ORIGINAL RADIOGRAPHS. THE FILM TYPE USED FOR THE BASELINE INSPECTION PROVIDED A HIGHER CONTRAST
 THAN THE ORIGINAL FILM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

WELDS * FLAW * FAILURE, FABRICATION ERROR * TEST, NONDESTRUCTIVE * RADIOGRAPHY * DAVIS-BESSE 1 (PWR) * MAIN
 COOLING SYSTEM * CONSTRUCTION * PUMPS

117676
DEFICIENCY IN WOUNDING UP SFAS ANALOG AMPLIFIERS AND DISTABLES AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
2 PGS. LTR W/HPPT TO NRC OFFICE OF I & E, APRIL 19, 1976. DOCKET 50-300. TYPE--PWR. NRC--B&W. AC--BECHTEL

CAUSE - DESIGN ERROR. THE CONSOLIDATED CONTROLS CORP. DRAWINGS SHOWING THE CONNECTIONS FROM THE SAFETY FEATURES ACTUATION SYSTEM ANALOG AMPLIFIER OUTPUT TO THE INPUT OF THE TRIP DISTABLES DID NOT SHOW IN DETAIL THE METHOD USED FOR GROUNDING AND WOUND CONNECTIONS FOR THIS PORTION OF THE SYSTEM. DISTABLES WERE BENCH TESTED AND CALIBRATED. AFTER INSTALLATION, AN EXTERNAL CURRENT WAS FOUND IN THE COMMON LEADS IN THE COMMON-TU-GROUND CONNECTIONS. DRAWINGS WILL BE MODIFIED TO SHOW SEPARATE CONNECTIONS. APPROPRIATE GROUNDING CHANGES WILL BE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * INSTRUMENT CALIBRATION * FAILURE, DESIGN ERROR * INSTRUMENT, ABNORMAL INDICATION * DAVIS-BESSE 1 (PWR) * ENGINEERED SAFETY FEATURE * CONSTRUCTION * ELECTRONIC FUNCTION UNITS

117680
HYDRAULIC SHOCK SUPPRESSOR CONTROL VALVE DEFICIENCY AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
2 PGS. LTR W/HPPT TO NRC OFFICE OF I & E, JULY 30, 1976. DOCKET 50-300. TYPE--PWR. NRC--B&W. AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. IN NOV. 1974, ITT GRINNELL MADE DESIGN CHANGE ON THE CONTROL VALVE OF THE FIG. 200 HYDRAULIC SHOCK SUPPRESSORS. SHORTLY AFTER THAT, QA DISCOVERED THAT THE VALVES WERE NOT CALIBRATED IN ACCORDANCE WITH THE STANDARD GRINNELL DESIGN SPECIFICATION. GRINNELL HAS VERIFIED THAT THE PARTICULAR SHOCKERS INVOLVED WILL LOCKUP AND FUNCTION AS THEY WERE DESIGNED TO DO SO DURING ANY SEISMIC EVENT. HOWEVER, THEY WILL LOCKUP AT A VALUE LESS THAN SPECS. ALL CONTROL VALVES ARE BEING RECALIBRATED AND REPLACED INTO THE AFFECTED SHOCKERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL * SHOCK ABSORBER * FAILURE, DESIGN ERROR * SUPPORT STRUCTURE * DAVIS-BESSE 1 (PWR) * CONSTRUCTION * CALIBRATION * VALVES * PIPES AND PIPE FITTINGS

117493
POSSIBLE ZENER DIODE FAILURE IN CIRCUIT BREAKERS AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
3 PGS. LTR W/HPPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 6, 1976. DOCKET 50-300. TYPE--PWR. NRC--B&W. AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. RECENT ANALYSIS OF POWER SUPPLIES USED IN THE POWER SENSOR SYSTEM OF AIR CIRCUIT BREAKERS INDICATES THAT A FAILURE OF THE 100 V ZENER MAY OCCUR WHEN 2 INDEPENDENT CONDITIONS EXIST SIMULTANEOUSLY. WHEN BOTH EXIST, THE THERMAL RATING OF THE ZENER IS EXCEEDED, WHICH MAY LEAD TO FAILURE. GE WILL REPLACE ALL POWER SENSOR POWER SUPPLIES AND LOGIC UNITS. ALSO, THE UTILITY WILL AND CONCURRENTLY MAKE SELECTIVE GROUND FAULT COORDINATIONS TO MOTOR CONTROL FEEDER BREAKERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * SOLID STATE DEVICE * ELECTRIC POWER * MODIFICATION * FAILURE, DESIGN ERROR * COMPONENTS * DAVIS-BESSE 1 (PWR) * CONSTRUCTION * CBREAKER

117776
INTERIM REPORT ON STEAM LINE WELD DEFECT AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
1 PG. LTR W/HPPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 11, 1976. DOCKET 50-300. TYPE--PWR. NRC--B&W. AE--BECHTEL

CAUSE - NOT GIVEN. DURING POSTWELD RADIOGRAPHY, A CRACK-LIKE INDICATION WAS FOUND IN THE WELD BETWEEN THE 20 TO 24 INCH REDUCER AND THE 2.6 INCH PORTION OF THE MAIN STEAM LINE OFF STEAM GENERATOR ID. FOLLOWING NUMEROUS UNSUCCESSFUL ATTEMPTS TO CLEAR THE INDICATION, THE WELD AND THE AFFECTED AREA WERE REMOVED AND A SHORT SPOOL PIECE INSERTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PRELUS * PFLAW * TEST, NONDESTRUCTIVE * FAILURE, INSTALLATION ERROR * DAVIS-BESSE 1 (PWR) * STEAM GENERATOR * CONSTRUCTION * COOLING SYSTEM, SECONDARY * PIPES AND PIPE FITTINGS

117777
NON-CODE FILLET WELD APPLIED TO SLEEVE TO PERSONNEL LOCK AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
2 PGS. LTR W/HPPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 24, 1976. DOCKET 50-300. TYPE--PWR. NRC--B&W. AE--BECHTEL

117777 *CONTINUED*

CAUSE - FABRICATION ERROR. A NON-CODE FILLET WELD WAS APPLIED IN THE FIELD TO SEAL BELLY THE EMBEDMENT SLEEVE TO THE PERSONNEL LOCK. THIS SEAL WELD WAS REQUIRED BUT HAD BEEN OVERLOOKED BY CODE PERSONNEL DURING FABRICATION DUE TO A MISINTERPRETATION OF A WELD SYMBOL ON THE DRAWING. DRAWINGS WERE REVISED TO THE PERSONNEL LOCK, EMERGENCY LOCK, AND EQUIPMENT MATCH. THE NON-CODE WELD WAS REMOVED BY ARC GouTING. IT WILL THEN BE MADE USING QUALIFIED BELMENS. SEAL WELDS WILL BE MADE ON THE OTHER 2 PENETRATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SOURCES - CONTAINMENT AIR LOCK - CONTAINMENT INTEGRITY - CONTAINMENT EQUIPMENT MATCH - FAILURE, FABRICATION ERROR - DAVIS-BESSE 1 (PWR) - CONSTRUCTION - COMMUNICATION

117775

FIELD CALIBRATOR IMPROPERLY CALIBRATED AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
1 PG, LTR W/RTPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 27, 1976, DUKRET 50-346, TYPE--
PWR, NPG--BEO, AE--DECMTEL

CAUSE - VENDOR ERROR. DURING CALIBRATION OF AREA MONITORS, IT WAS DISCOVERED THAT THE VICTOREEN FIELD CALIBRATOR BEING USED FOR THIS CALIBRATION HAD BEEN IMPROPERLY CALIBRATED BY VICTOREEN. IT WAS RETURNED TO VICTOREEN, RECALIBRATED, AND RETURNED FOR USE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SOURCES - RADIATION - INSTRUMENT CALIBRATION - FAILURE, INSTRUMENT - FAILURE, FABRICATION ERROR - INSTRUMENT, ABNORMAL INDICATION - DAVIS-BESSE 1 (PWR) - CONSTRUCTION - CALIBRATION

119210

DEFICIENCY FOUND IN INSTRUMENT VALVE MANIFOLD AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
2 PGS, LTR W/RTPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 13, 1976, DUKRET 50-346, TYPE--
PWR, NPG--BEO, AE--DECMTEL

CAUSE - SPRING TOO WEAR. DRAGON VALVES, INC. INSTRUMENT MANIFOLDS ARE USED ON PRESSURE, FLOW, AND LEVEL TRANSMITTER APPLICATIONS. MANY ARE OF THE DIAPHRAGM SEAL TYPE WHICH UTILIZE A DIAPHRAGM SEAL ARRANGEMENT TO SEPARATE AND SEAL THE UPPER STEM FROM THE LOWER STEM AND PLUG AND A SPRING TO ASSIST THE LOWER STEM AND PLUG TO OPEN. CERTAIN VALVES DID NOT OPEN, OTHERS CLOSED OCCASIONALLY. INVESTIGATION FOUND 1 ON 2 INSTEAD OF THE HEAVIER 3 DIAPHRAGMS IN THE SEALING ASSEMBLY. ALSO, NEW, HEAVIER SPRINGS ARE NECESSARY TO OPEN THE VALVES. NEW SPRINGS WILL BE INSTALLED IN ALL THE VALVES AND THE CORRECT NUMBER OF DIAPHRAGMS VERIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MODIFICATION - FAILURE, FABRICATION ERROR - DAVIS-BESSE 1 (PWR) - CONSTRUCTION - VALVES - INSTRUMENTS, PISC.

119700

GE AR 400 VOLT AC CIRCUIT BREAKERS DEFICIENT AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
5 PGS, LTR W/RTPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 19, 1976, DUKRET 50-346, TYPE--
PWR, NPG--BEO, AE--DECMTEL

CAUSE - DESIGN DEFICIENCY. GE IDENTIFIED A FAILURE MODE OF THE ZENER DIODE IN TYPE AR-3-25 AND AR-3-50 400 VOLT AC CIRCUIT BREAKERS, POWER SENSORS, AND SUPPLIES. DIODE FAILURE COULD OCCUR WHEN SIMULTANEOUSLY THE BREAKER LOAD CURRENT WAS LESS THAN 100 PERCENT RATING AND THE WASTE CURRENT OF THE SHUNTING SCRAP WAS IN THE MEDIUM TO UPPER RANGE OF THE SPEC LIMIT. THEN, THE THERMAL RATING OF THE DIODE IS EXCEEDED. GE REDESIGNED THE POWER SUPPLY CIRCUIT TO ELIMINATE THE STATED FAILURE MODE. ALL SUBJECT POWER SUPPLIES AND POWER SENSORS WILL BE REPLACED AND BREAKERS REWORKED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DAVIS-BESSE 1 (PWR) - CONSTRUCTION - BREAKER - ELECTRIC POWER - FAILURE, DESIGN ERROR - FAILURE, COMPONENT - ELECTRONIC FUNCTION UNITS

119705

TORE ON RC PLMP SEAL INJECTION VALVE FAILS AT DAVIS-BESSE 1
TOLEDO EDISON CO., TOLEDO, OH
2 PGS, LTR W/RTPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 25, 1976, DUKRET 50-346, TYPE--
PWR, NPG--BEO, AE--DECMTEL

CAUSE - POSSIBLE MISALIGNMENT, DURING CONTAINMENT VESSEL INTEGRATED LEAK RATE TESTS, PRESSURIZATION AIR WAS LEAKING BACKWARDS THROUGH THE REACTOR COOLANT PUMP SEAL INJECTION ISOLATION VALVE RW-14008. THIS IS A 1.5 INCH VLLAN GLOBE VALVE WITH A RIELEY & MULLER INC. DOUBLE ACTING AIR CYLINDER OPERATOR. WHEN 100 PSIG CONTROL AIR WAS CONNECTED TO THE OPERATOR TO

110706 (CONTINUED)

SINCE THE VALVE CLOSED, THE VALVE TUBE FAILED. INSPECTION FOUND THE VALVE TO OPERATE FREELY AND PROPERLY. THERE MAY HAVE BEEN A MISALIGNMENT PROBLEM BETWEEN THE VALVE AND VALVE ACTUATOR ASSEMBLY. THIS WILL BE CHECKED WHEN THE NEW OPERATOR IS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

DAVIS-BESSE I (PWR) • CONSTRUCTION • VALVES • CONTAINMENT ISOLATION • SEAL • PUMPS • VALVE OPERATORS • FAILURE, EQUIPMENT • FAILURE, INSTALLATION ERROR

110760

DIESEL GENERATOR HEAT EXCHANGER TUBES CORRODED AT DAVIS-BESSE I

TOLEDO EDISON CO., TOLEDO, OH

2 PGS. LTR W/PT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 20, 1970. DOCKET 50-300, TYPE-- PWR, NRC-860, AE--RECMTEL

CAUSE - IMPROPER TESTING BY VENDOR. THE EMERGENCY DIESEL GENERATOR JACKET COOLING WATER HEAT EXCHANGERS WERE RECEIVED ON SITE 4/25/70 FROM BRUCE GM IN A CONDITION FOR LONG-TERM STORAGE. RECEIPT INSPECTION REVEALED RED LEAD PRIMER ON THE INSIDE NOZZLES WHICH WAS NOT ACCEPTABLE. WHEN THE CHANNEL HEADS WERE REMOVED TO REMOVE THE PRIMER, THE TUBE SHEET AND TUBES OF EACH UNIT WERE FOUND IN POOR CONDITION. INSPECTION REVEALED OVERALL CORROSION AND GROSS FOULING OF THE TUBES AND CHANNEL HEADS DUE TO DIRT, SCALE, BROKEN GLASS AND OTHER FOREIGN MATTER. THE CAUSE IS BELIEVED TO BE SOME UNIDENTIFIED SUBSTANCE IN WATER DURING VENDOR TESTING. BOTH TUBE BUNDLES HAD TO BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

DAVIS-BESSE I (PWR) • CONSTRUCTION • HEAT EXCHANGERS • GENERATOR, DIESEL • FAILURE, TUBING • CORROSION • FAILURE, FABRICATION ERROR • TESTING • FABRICATION FACILITY

114791

MEDIUM VOLTAGE SWITCHGEAR NOT SEISMICALLY QUALIFIED AT DAVIS-BESSE I

TOLEDO EDISON CO., TOLEDO, OH

2 PGS. LTR W/PT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 27, 1970. DOCKET 50-300, TYPE-- PWR, NRC-860, AE--RECMTEL

CAUSE - VENDOR ERROR. IN RESPONSE TO AN INQUIRY, IT WAS DETERMINED THAT THE GE TYPE WFA RELAY FOR TESTINGHOUSE MEDIUM VOLTAGE, TYPE DMP 4-10 KV SWITCHGEAR WAS NOT SEISMICALLY QUALIFIED CLASS I.E. SEISMIC QUALIFICATION WAS BASED ON A GENERIC TEST WHICH INCLUDED RELAYS SPECIFICALLY CHOSEN TO REPRESENT THE VARIOUS AVAILABLE TYPES OF MOVEMENT. TYPE WFA RELAYS WERE NOT INCLUDED IN THE PROTOTYPE TEST. RECENT INFORMATION RECEIVED FROM GE HAS CONFIRMED THE SEISMIC QUALIFICATION OF THE TYPE WFA RELAYS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

DAVIS-BESSE I (PWR) • CONSTRUCTION • RELAYS • SEISMIC DESIGN • QUALIFICATION • MODEL TESTING • TEST, PROOF • FAILURE, DESIGN ERROR • ELECTRIC POWER

110792

YRKE MATERIAL FOR RC PUMP SEAL INJECTION VALVE IMPROPER AT DAVIS-BESSE I

TOLEDO EDISON CO., TOLEDO, OH

2 PGS. LTR W/PT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 27, 1970. DOCKET 50-300, TYPE-- PWR, NRC-860, AE--RECMTEL

CAUSE - INCORRECT SPECIFICATION. DURING THE INVESTIGATION OF POSSIBLE REASONS FOR THE FAILURE OF THE YRKE ON A REACTOR COOLANT PUMP SEAL INJECTION ISOLATION VALVE, IT WAS FOUND THAT THE VALVE VENDOR, YELAN, REQUESTED A STANDARD KIELEY & MUELLEN ACTUATOR ASSEMBLY FOR 7 VALVES. THIS IS A CAST IRON YRKE. WHEN AN APPLICATION HAS SEISMIC REQUIREMENTS, STEEL YRKEs ARE NORMALLY USED. YRKE FAILURE PROBABLY RESULTED FROM USING A CAST IRON YRKE INSTEAD OF A STEEL YRKE. STEEL YRKEs WILL BE INSTALLED ON ALL 7 VALVES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

DAVIS-BESSE I (PWR) • CONSTRUCTION • VALVE OPERATORS • COMPONENTS • FAILURE, EQUIPMENT • OPERATIONAL • SEISMIC DESIGN • FAILURE, DESIGN ERROR

110702

FINAL REPORT ON INSTRUMENT MOUNTING BRACKET DEFICIENCY AT DAVIS-BESSE I

TOLEDO EDISON CO., TOLEDO, OH

2 PGS. LTR W/PT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 1, 1970. DOCKET 50-300, TYPE-- PWR, NRC-860, AE--RECMTEL

CAUSE - INSTALLATION ERROR. INSTRUMENTATION ASSOCIATED WITH THE PDSs HAS BEEN SUPPLIED BY B&W BUT HAS BEEN INSTALLED BY THE UTILITY INSTRUMENT CONTRACTOR. MUCH OF IT MUST BE SEISMICALLY INSTALLED. SOME TRANSMITTERS WERE SUPPLIED WITH STANDARD MOUNTING BRACKETS AND WERE INSTALLED

110702 (CONTINUED)

USING THESE BRACKETS ON SEISMICALLY QUALIFIED INSTRUMENT MOUNTS. ANALYSIS OF THE MOUNTING BRACKET DESIGN FOUND THEM TO BE ADEQUATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DAVIS-BESSE 1 (PWR) * CONSTRUCTION * SUPPORT STRUCTURE * SEISMIC DESIGN * INSTRUMENTS, WISC - * SENSORS, PRESSURE * FAILURE, INSTALLATION ERROR

120730

NRC PUMP SEAL INJECTION VALVE ACTUATOR YOKE FAILS AT DAVIS-BESSE 1

TOLEDO EDISON CO., TOLEDO, OH

3 PGS. LTR W/RYPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 3, 1976, DOCKET 50-300, TYPE--PWR, NRC--REG. AF--BECHTEL

CAUSE - FIELD INSTALLED SEISMIC SUPPORT. REACTOR COOLANT PUMP SEAL INJECTION ISOLATION VALVE HORIZONTAL ACTUATOR YOKE FAILED. THIS IS A WELAN GLOBE VALVE WITH A KELLEY & MUELLER OPERATOR. YOKE BREAKAGE PROBABLY WAS CAUSED BY A COMBINATION OF 2 OR 3 CAUSES. (1) ACTUATOR YOKE STRAIN DIRECTLY RELATED TO FIELD INSTALLED SEISMIC SUPPORT ON THE ACTUATOR. (2) APPLYING 100 PSIG AIR TO THE PNEUMATIC ACTUATOR. (3) HANDWHEEL ACTUATOR NOT PLACED IN NEUTRAL POSITION WHEN APPLYING AIR TO THE PNEUMATIC ACTUATOR. THE BROKEN YOKE WAS REPLACED. THE ACTUATOR SEISMIC RESTRAINT HAS BEEN MODIFIED TO RELIEVE STRAIN ON THE ACTUATOR YOKE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DAVIS-BESSE 1 (PWR) * CONSTRUCTION * VALVE OPERATIONS * COMPONENTS * STRESS * FAILURE, EQUIPMENT * FAILURE, INSTALLATION ERROR * SHOCK ABSORBER * PNEUMATIC SYSTEM

112203

SPENT FUEL POOL WATER LEVEL BELOW LIMIT AT DIABLO CANYON 1

PACIFIC GAS & ELECTRIC CO., SAN FRANCISCO, CA

2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION V, FEB. 10, 1976, DOCKET 50-475, TYPE--PWR, NRC--WEST, AC--PUBLIC SERVICE

CAUSE - IMPROPER VALVE LINEUP. THE SAN LICENSE REQUIRES THAT THE SPENT FUEL POOL BE FILLED WITH DEDIATED WATER FOR STORAGE OF NEW FUEL ELEMENTS. WHILE 6 ELEMENTS WERE PRESENT, THE POOL WATER LEVEL WAS REDUCED 7 INCHES BELOW THE LIMIT DUE TO AN IMPROPER VALVE LINEUP WHEN THE SPENT FUEL POOL DEMINERALIZED WAS RETURNED TO SERVICE. THE LINEUP ALLOWED WATER TO BE PUMPED TO A DEDICATED WATER STORAGE TANK. VALVE LINEUP WAS CORRECTED AND DEDICATED WATER ADDED TO THE POOL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * POISON, SOLUBLE * FUEL STORAGE * STORAGE CONTAINER * DIABLO CANYON 1 (PWR) * SYSTEM CAPACITY * CONSTRUCTION

113218

TRIAXIAL CABLE FOUND TO BE DEFECTIVE AT FANLEY 1

ALABAMA POWER CO., BIRMINGHAM, AL

2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, APRIL 10, 1976, DOCKET 50-300, TYPE--PWR, NRC--WEST, AC--SOUTHERN SERVICE

CAUSE - FABRICATION DEFICIENCY. DURING PRE-INSTALLATION CABLE CHECKS, LOW RESISTANCE READING WERE FOUND BETWEEN THE CENTER-WIRE TO INNER-SHIELD ON A RAYCHEN CORP. NO. Y-21 TRIAXIAL CABLE. A CLOSER EXAMINATION REVEALED THAT THE CENTER CONDUCTOR HAD AN UNAUTHORIZED SPICE WHICH WAS TWISTED TOGETHER CREATING A LOOSE ELECTRICAL CONNECTION. IT WAS WRAPPED WITH BLACK ELECTRICAL TAPE INSTEAD OF THE REQUIRED INSULATION MATERIAL. THE CABLE WILL BE REPLACED WITH SPICE-FREE CABLE. A TEST TO DETECT SPICES IS UNDERWAY FOR TESTING ALL PREVIOUSLY DELIVERED CABLE; IN THE EVENT THAT THE PLAN FAILS, ALL CABLE WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * FAILURE, FABRICATION ERROR * INSTRUMENT, PURGE RANGE * CONSTRUCTION * FANLEY 1 (PWR) * CABLES AND CONNECTORS

11620F

GE TYPE 50N SWITCHES FAIL TO MAKE POSITIVE CONTACT AT FANLEY 1

ALABAMA POWER CO., BIRMINGHAM, AL

3 PGS. LTR W/RYPT TO U.S. NRC, REGION II, JULY 22, 1976, DOCKET 50-300, TYPE--PWR, NRC--WEST, AF--BECHTEL 6 521

CAUSE - CAM FOLLOWERS EXPOSED TO HYDROCARBONS. TESTING SHOWED THAT GE TYPE 50N SWITCHES LOCATED ON THE HOT SHUTDOWN PANELS WERE NOT MAKING POSITIVE CONTACT. THE POSITIONING CAM WAS NOT SEATING PROPERLY ON THE ROCKER ARM AND THE CONTACT SPRING WAS NOT POSITIONING THE CONTACTS FOR POSITIVE SWITCH ACTION. SOME CAM FOLLOWERS HAD BEEN EXPOSED TO HYDROCARBONS. THIS DECONTAMINATED MATERIAL IN THE CAM FOLLOWERS. THERE ALSO WERE DEFECTIVE SWITCHES OF THIS TYPE MANUFACTURED BETWEEN JULY 1972 AND MAY 1975. DEFECTIVE SWITCHES WILL BE REPLACED WITH ADDITIONAL GE TYPE 50N SWITCHES.

11620c CONTINUED
 AVAILABILITY - NRC PUBLIC DOCUMENT PCDP, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00

CONTROL SYSTEM • INSTRUMENT, SWITCH • FAILURE, FABRICATION ERROR • TEST, SYSTEM OPERABILITY • ENGINEERED
 SAFETY FEATURE • CONSTRUCTION • FANLEY 1 (PWR) • FAILURE, COMMON MODE

11777c
 LOCAL MGT SPLITDOWN PANEL BEING FOUND DEFECTIVE AT FANLEY 1
 ALABAMA POWER CO., BIRMINGHAM, AL
 4 PGS, LTR R/WPT TO U.S. NRC, REGION II, AUG. 12, 1976, DUCRET 50-367, TYPE--PWR, NRC--BEST., AE--BECHTEL & SSI

CAUSE - BREAKDOWN IN VERON'S CA/MC PROGRAM. DURING REPLACEMENT OF DEFECTIVE SWITCHES LOCATED ON
 THE LOCAL MGT SPLITDOWN PANELS, PROBLEMS WERE DISCOVERED WITH THE INTERNAL FACTORY WIRING.
 PROBLEMS INCLUDE THE FOLLOWING: (1) TWO WIRES WERE LOOSELY SPLICED TOGETHER. (2) ONE WIRE WAS
 PREPARED FOR SPLICING BUT THE ENDS WERE JUST BUTTED TOGETHER. (SPLICING IS NOT ACCEPTABLE.) (3)
 SEVERAL WIRES WERE LEFT FREE ON SWITCHES. (4) SEVERAL JUMPER WERE MISSING AND SEVERAL WIRES
 WERE CONNECTED TO THE WRONG PLACES. THERE WAS A BREAKDOWN IN THE MANUFACTURER'S CA/MC PROGRAM.
 THE DEFECTIVE WIRING WAS REMOVED AND REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT PCDP, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00

CONTROL SYSTEM • FAILURE, FABRICATION ERROR • QUALITY ASSURANCE • EMERGENCY COOLING • CONTROL PANEL/ROOM •
 ENGINEERED SAFETY FEATURE • CONSTRUCTION • FANLEY 1 (PWR) • CABLES AND CONNECTORS

11933c
 PROBLEM WITH HYDRAULIC SHOCK SUPPRESSORS AT FANLEY 1
 ALABAMA POWER CO., BIRMINGHAM, AL
 3 PGS, LTR R/WPT TO U.S. NRC, REGION II, SEPT. 30, 1976, DUCRET 50-368, TYPE--PWR, NRC--BEST., AE--BECHTEL &
 SSI

CAUSE - DESIGN DEFICIENCY. IN NOVEMBER 1974, GRINNELL MADE A DESIGN CHANGE ON THE VALUE OF THE IN
 HYDRAULIC SHOCK SUPPRESSOR, FIG. 200, CAT PN 76. SHORTLY AFTER THAT TIME, GRINNELL DISCOVERED
 THAT THE VALVES WERE NOT CALIBRATED ACCORDING TO DESIGN SPECIFICATIONS. THE CONCERN INVOLVED THE
 HYPOTHETICAL OCCURRENCE OF AN EARTHQUAKE WHICH CAUSED SHOCKER LOCKUP COINCIDENT WITH A SYSTEM
 THERMAL TRANSIENT CAUSING THERMAL MOVEMENT. AFFECTED SHOCK SUPPRESSOR VALVES AND ASSOCIATED
 EQUIPMENT WILL BE REPLACED BY NEW VALVES AND ASSOCIATED EQUIPMENT THAT MEET DESIGN SPECIFICATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT PCDP, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00

DESIGN CRITERIA • RESPONSE TIME • NOIFICATION • SHOCK ABSORBER • FAILURE, DESIGN ERROR • SUPPORT STRUCTURE •
 CONSTRUCTION • FANLEY 1 (PWR) • PIPES AND PIPE FITTINGS

11921c
 REACTOR MAKEUP WATER STORAGE TANK DAMAGED AT FANLEY 1
 ALABAMA POWER CO., BIRMINGHAM, AL
 4 PGS, LTR R/WPT TO U.S. NRC, REGION II, NOV. 5, 1976, DUCRET 50-368, TYPE--PWR, NRC--BEST., AE--BECHTEL & SSI

CAUSE - OVERFLOW LINE BLOCKED. THE REACTOR MAKEUP WATER STORAGE TANK WAS DAMAGED BY SIGNIFICANT
 OVERPRESSURIZATION WHICH RESULTED WHEN THE DIAPHRAGM MEMBRANE BLOCKED THE OVERFLOW LINE. THE
 TANK HEAD BURST AT 2 LOCATIONS, THE ROOF AND TOP SHELL RING WERE DEFORMED, AND THE DIAPHRAGM
 MEMBRANE INSIDE THE TANK WAS PUNCTURED. THE TOP RING AND DOME WILL BE REPLACED. THE DIAPHRAGM
 WILL BE REPLACED OR REPAIRED. THE OVERFLOW WILL BE MODIFIED TO PREVENT BLOCKAGE BY THE DIAPHRAGM

AVAILABILITY - NRC PUBLIC DOCUMENT PCDP, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00

FANLEY 1 (PWR) • CONSTRUCTION • STORAGE CONTAINER • WATER • DAMAGE • STRUCTURAL INTEGRITY • PRESSURE
 TRANSIENT • FAILURE, DESIGN ERROR • NOIFICATION

12057c
 DEFICIENCY FOUND IN OVERLOAD HEATER RELAYS AT FANLEY 1
 ALABAMA POWER CO., BIRMINGHAM, AL
 4 PGS, LTR R/WPT TO U.S. NRC, REGION II, NOV. 18, 1976, DUCRET 50-369, TYPE--PWR, NRC--BEST., AE--BECHTEL & SSI

CAUSE - DEVIATION FROM PERFORMANCE SPECS. DURING FIELD TESTING, 12 OF 42 ITH OVERLOAD HEATER
 RELAYS TRIPPED WHEN TESTED FOR 100% HEATED CURRENT. THEY SHOULD NOT HAVE TRIPPED UNTIL CURRENT
 EXCEEDED 125%. ALSO, 7 TRIPPED WHEN TESTED FOR VIBRATION EFFECT WHEN THE CONTACT WAS CYCLED
 AFTER EXTENDED PERIOD OF OPERATION AT 100% CURRENT. THESE FAILURES INDICATE A DEVIATION FROM
 PERFORMANCE SPECIFICATIONS AS DOCUMENTED BY THE MANUFACTURER. ALL ITH UL RELAYS WILL BE REPLACED
 WITH UNITS OF IMPROVED DESIGN. SOME WILL BE TESTED AT 100% POWER. ALL WILL BE TESTED AT 300%
 POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT PCDP, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00

FANLEY 1 (PWR) • CONSTRUCTION • RELAYS • INSTRUMENT, PROTECTIVE • OPERABLE • ENGINEERED SAFETY FEATURE •

120557 *CONTINUED*
ELECTRIC POWER * TEST, PROOF * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * MODIFICATION

115924
GEMCO SWITCHES WITH SLIP CONTACTS FAIL TO REMAIN OPEN AT FARLEY 1 AND 2
ALABAMA POWER CO., BIRMINGHAM, AL
3 PGS, LTR W/PT TO U.S. NRC, REGION II, JULY 6, 1976, DUCKETT 50-240/304, TYPE--PNR, RPU--BEST, AL--MELTTEL
& SSI

CAUSE - POSSIBLE MANUFACTURING ERROR. GEMCO SWITCHES ARE 3-POSITIONS SWITCHES. IN NORMAL OPERATION, THE SLIP CONTACTS OPEN WHEN THE SWITCH IS TURNED TO THE LEFT AND REMAIN OPEN WHEN THE SWITCH RETURNS TO THE CENTER. TURNING TO THE RIGHT CLOSES THE SWITCH WHICH REMAIN CLOSED WHEN SWITCH RETURNS TO CENTER. THESE SWITCHES OPERATED PROPERLY BUT RECLOSED WHEN THE SWITCH RETURNED TO CENTER. THE CAUSE WAS POSSIBLE COMBINATION OF MANUFACTURING TOLERANCE AND INTERNAL FRICTION. THE VENDOR DEVELOPED NEW SLIP MAINTAINED CONTACT SWITCHES. ALL OF THE INSTALLED SWITCHES WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * ELECTRIC POWER * INSTRUMENT, SWITCH * MODIFICATION * FAILURE, FABRICATION ERROR * CONSTRUCTION * FARLEY 1 (PNR) * FARLEY 2 (PNR)

110294
RC PUMP CONTROLLED BLEED OFF LINE LEAKS TO CONTAINMENT AT FT. CALHOUN
IOWA PUBLIC POWER DISTRICT, GRAMA, IA
7 PGS, LTR W/PT TO U.S. NRC, REGION IV, JAN. 7, 1976, DUCKETT 50-285, TYPE--PNR, RPU--LURD, AL--GIBBS & HILL

CAUSE - BEAR FILLET WELD FAILS. WHILE OPERATING AT 90% POWER, A SEAL LEAKAGE LOW FLOW ALARM WAS RECEIVED ON REACTOR COOLING PUMP 3C. THE REACTOR WAS SHUTDOWN. A 3/4 INCH VENT LINE HAD FAILED DUE TO A BEAR FILLET WELD. THE SEVERED LINE WAS DISCONNECTED AND THE VENT LINE CAPPED. ABOUT 1700 GALLONS OF REACTOR COOLANT WAS RELEASED TO THE CONTAINMENT BUILDING. A TOTAL OF 26.0 CI OF AIRBORNE ACTIVITY WAS RELEASED TO THE ENVIRONMENT DURING CONTAINMENT PURGE. THREE BURNERS WENT INTO THE CONTAINMENT FOR SAMPLING AND REPAIR USING PROTECTIVE CLOTHING AND PROPER RESPIRATORY EQUIPMENT. THEY RECEIVED A WHOLE BODY EXPOSURE OF 0.018 RAD-HEU.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WELDS * REACTOR COOLANT * RADIOACTIVITY RELEASE * SEAL * FT. CALHOUN 1 (PNR) * FAILURE, INSTALLATION ERROR * DRAIN COOLING SYSTEM * PIPES AND PIPE FITTINGS

110295
CONDENSER EVACUATION PUMP DISCHARGE DIRECTED TO ATMOSPHERE AT FT. CALHOUN
IOWA PUBLIC POWER DISTRICT, GRAMA, IA
4 PGS, LTR W/PT TO U.S. NRC, REGION IV, JAN. 8, 1976, DUCKETT 50-285, TYPE--PNR, RPU--LURD, AL--GIBBS & HILL

CAUSE - HIGH DP ON FILTER. THE CONDENSER OFF GAS SHOULD BE ROUTED TO THE STACK. IN THE INITIAL DESIGN, THE 2 INCH LINE PROVIDED WAS INADEQUATE TO CARRY THE REQUIRED VOLUME. A 4 INCH LINE WAS INSTALLED DURING THE 1975 SPRING REFUELING OUTAGE. MOISTURE CONTENT OF THE OFF GAS CAUSED AN ABNORMALLY HIGH DP ACROSS THE HYDROGEN PURGE FILTER UNIT IN ONE MONTH. THE OFF GAS WAS AGAIN ROUTED DIRECTLY TO THE MOGGING VENT WHICH IS MONITORED BY A NUCLEAR GAS MONITOR. A BYPASS AROUND THE FILTER UNIT TO ROUTE THE OFF GAS TO THE STACK IS BEING EVALUATED. REPLACEMENT HEPA AND CARTRIDGE FILTERS HAVE BEEN OBTAINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN CRITERIA * WASTE DISPOSAL, GAS * MODIFICATION * FAILURE, DESIGN ERROR * PUFF GAS * FT. CALHOUN 1 (PNR) * CONDENSER * SYSTEM CAPABILITY

110339
RIVER TEMPERATURE DIFFERENTIAL EXCEEDS LIMIT AT FT. CALHOUN
IOWA PUBLIC POWER DISTRICT, GRAMA, IA
6 PGS, LTR W/PT TO U.S. NRC, REGION IV, FEB. 2, 1976, DUCKETT 50-285, TYPE--PNR, RPU--LURD, AL--GIBBS & HILL

CAUSE - ICE BLOCKING INTAKE. WHILE OPERATING AT 80% POWER, THE RIVER TEMPERATURE DIFFERENTIAL EXCEEDED THE 20 F LIMIT FOR 9 MINUTES. A PEAK OF 30 F EXISTED FOR 1 MINUTE. ICE BLOCKAGE LOWERED THE RIVER LEVEL. ICE ACCUMULATED ON THE GRID OF THE INTAKE STRUCTURE, CAUSING HIGH DIFFERENTIAL PRESSURE AND HEAVY CARRY-OVER OF FRAZIL ICE ON THE TRAVELLING SCREENS. THE MAIN CONDENSER CIRCULATING WATER FLOW HAD TO BE REDUCED UNTIL THE ICE BLOCKAGE WAS CLEARED. THIS THROTTLING RESULTED IN THE HIGH DELTA-T.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

11033 CONTINUED

EFFLUENT + HEATER + TEMPERATURE GRADIENT + FLOW BLOCKAGE + FT. CALHOUN 1 (PWR) + WEATHER, SEVERE + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

11104

SEQUENCER FOR NPSI PUMP FAILS TO RETURN TO AUTO STANDBY AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 5 PGS, LTR D/LEP 50-205/70-2 TO U.S. NRC, REGION IV, FEB. 13, 1970, DOCKET 50-205, TYPE--PWR, NRC--COMB., AE--
 GIBBS & HILL

CAUSE - WIRY CONTACT. ON COMPLETION OF TESTING WITH THE REACTOR AT 80% POWER, SEQUENCER S2-2 FOR NPSI PUMPS S1-20 FAILED TO RETURN TO AUTO STANDBY. THE PUMP CONTROL SWITCH WAS CYCLED FROM PULLOUT TO AFTER STOP POSITION TO RIPE CLEAN THE SWITCHES CONTACTS. AFTER CYCLING, THE SEQUENCER RETURNED TO AUTO STANDBY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM + FAILURE, INSTRUMENT + PWR + TEST, SYSTEM OPERABILITY + FT. CALHOUN 1 (PWR) + NPSI + FAILURE, INHERENT + RELAYS

11194

SET POINT DRIFT IN PRESSURE SWITCH AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 5 PGS, LTR D/LEP 50-205/70-0 TO U.S. NRC, REGION IV, MARCH 15, 1970, DOCKET 50-205, TYPE--PWR, NRC--COMB., AE--
 GIBBS & HILL

CAUSE - DEFECTIVE AMPLIFIER CARD. DURING CALIBRATION CHECKS OF THE STEAM GENERATOR PRESSURE CHANNELS WHILE THE UNIT SHUT DOWN FOR REFUELING, A PRESSURE TRANSMITTER WAS FOUND TO BE OUT OF LIMITS. THE FORWARD E-11GM 0 TO 1000 POUND PRESSURE TRANSMITTER HAD A DEFECTIVE AMPLIFIER CARD. THE FAILED CARD WAS REPLACED AND THE TRANSMITTER RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + REFUELING + TEST, SYSTEM OPERABILITY + FT. CALHOUN 1 (PWR) + SET POINT + DRIFT + SENSORS, PRESSURE + ELECTRONIC FUNCTION UNITS

11195

STEAM GENERATOR LOW LEVEL TRIP FAILS TO ACTUATE AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 5 PGS, LTR D/LEP 50-205/70-3 TO U.S. NRC, REGION IV, MARCH 15, 1970, DOCKET 50-205, TYPE--PWR, NRC--COMB., AE--
 GIBBS & HILL

CAUSE - DRIFT IN RESISTOR. WHILE PLACING THE REACTOR IN A REFUELING SHUT-DOWN, NPS CHANNEL A STEAM GENERATOR LOW LEVEL TRIP DID NOT ACTUATE AT THE TRIP POINT DURING DRAINING OF SG D. THE HIGH-OM-103 100 OHM RESISTOR USED AS A CURRENT TO VOLTAGE CONVERTER FOR THE INPUT TO THE NPS DISTANCE TRIP UNIT HAD DRIFTED OUT OF SPECIFICATION. THE RESISTOR WAS REPLACED WITH ONE HAVING A LARGER BODY SIZE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + REFUELING + FT. CALHOUN 1 (PWR) + COMPONENTS + STEAM GENERATOR + SET POINT + DRIFT + SENSORS, LEVEL

11204

SET POINT DRIFT IN PRESSURE SWITCH AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 5 PGS, LTR D/LEP 50-205/70-3 TO U.S. NRC, REGION IV, MARCH 25, 1970, DOCKET 50-205, TYPE--PWR, NRC--COMB., AE--
 GIBBS & HILL

CAUSE - INSTRUMENT DRIFT. DURING THE ANNUAL CALIBRATION OF THE SHUT RECIRCULATION ACTUATION SIGNAL PRESSURE CHANNELS WITH THE REACTOR SHUT DOWN, ONE SWITCH TRIPPED AT 3.5 INCHES. THE LOWER LIMIT IS 0.0 INCHES. THE CAUSE WAS INSTRUMENT DRIFT. THE BARRSDALE, MODEL NO. D25-11055, SWITCH WAS RECALIBRATED. IT WILL BE CHECKED MONTHLY FOR PROPER OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + FT. CALHOUN 1 (PWR) + SET POINT + EMERGENCY COOLING SYSTEM + DRIFT + SENSORS, PRESSURE

11257

ENOUSIVE BEAN FOUND ON RAW WATER PUMPS AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE

112092 *CONTINUED*
 5 PGS. LTR #/LEN 50-205/70-9 TO U.S. NRC, REGION IV, APRIL 9, 1970. DOC#ET 50-205, TYPE--PDR, RFG--CJMB.. AE--
 GIBBS & HILL

CAUSE - EROSION NATURE OF RIVER WATER. DURING AN INSPECTION OF THE RAW WATER PUMPS, EROSION WEAR WAS FOUND ON THE PUMP IMPELLERS AND GALVANIC CORROSION WITHIN THE CONNECTING THREADS OF THE TOP CASE BEARING. EROSION AND WEAR WAS CAUSED BY THE EROSION NATURE OF MISSOURI RIVER WATER WHICH IS BEING PUMPED. GALVANIC CORROSION RESULTED FROM THE POTENTIAL DIFFERENCE BETWEEN THE GALV BRONZE BEARING AND THE STEEL CASE. A STAINLESS STEEL BEARING WITH A BRONZE BEARING LINER WAS INSTALLED. CARAGED THREADS WERE REPLACED WITH A MORE PASSIVE MATERIAL. AREAS WITH EROSION WERE BUILT UP BY A WELDING PROCESS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CORROSION * MODIFICATION * FAILURE, DESIGN ERROR * EROSION * FT. CALHOUN 1 (PDR) * BREAKING * FAILURE, IMMERSED * PUMPS * INSERVICE INSPECTION

113194
 SET POINT DRIFT IN APD POSITIVE LIMIT AT FT. CALHOUN 1
 OHAMA PUBLIC POWER DISTRICT, OHAMA, NE
 5 PGS. LTR #/LEN 50-205/70-7 TO U.S. NRC, REGION IV, APRIL 13, 1970. DOC#ET 50-205, TYPE--PDR, RFG--LUMB.. AE--
 GIBBS & HILL

CAUSE - ADDER-SUBTRACTOR MODULE FAILURE. DURING OPERATION AT 002 POWER, CHANNEL A APD POSITIVE LIMIT WAS NOTED TO BE READING 12.1 WHICH EXCEEDED THE 4.00 LIMIT AT 002 POWER. THE BELL AND HOWELL 19-301A ADDER-SUBTRACTOR MODULE USED TO GENERATE THE UPPER LIMIT HAD WENT INTO OSCILLATION AND SATURATED. THE MODULE WAS REPLACED AND THE CALCULATOR RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * FT. CALHOUN 1 (PDR) * INSTRUMENT, ABNORMAL INDICATION * INSTRUMENT, POWER RANGE * SET POINT * DRIFT * ELECTRONIC FUNCTION UNITS

113195
 SET POINT DRIFT IN APD LIMITS AT FT. CALHOUN 1
 OHAMA PUBLIC POWER DISTRICT, OHAMA, NE
 5 PGS. LTR #/LEN 50-205/70-8 TO U.S. NRC, REGION IV, APRIL 13, 1970. DOC#ET 50-205, TYPE--PDR, RFG--LUMB.. AE--
 GIBBS & HILL

CAUSE - LIMIT MODULE FAILURE. DURING A UNIT STARTUP WITH THE REACTOR AT 03 POWER, CHANNEL B APD POSITIVE AND NEGATIVE LIMITS WERE READING 12.1 AND -5.4 WHICH EXCEED THE LIMITS OF 4.000 AND -4.000 AT 03 POWER. THE 2 BELL AND HOWELL 19-301A ADDER-SUBTRACTOR MODULES WHICH ARE USED TO GENERATE THE POSITIVE AND NEGATIVE HAD GONE INTO OSCILLATION AND SATURATED. THE POSITIVE LIMIT MODULE WAS REPLACED. THE APD CALCULATOR FUNCTIONED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * FT. CALHOUN 1 (PDR) * INSTRUMENT, ABNORMAL INDICATION * INSTRUMENT, POWER RANGE * SET POINT * DRIFT * FAILURE, IMMERSED * ELECTRONIC FUNCTION UNITS * INSTRUMENTS, MISC.

113191
 SET POINT DRIFT IN APD POSITIVE LIMIT AT FT. CALHOUN 1
 OHAMA PUBLIC POWER DISTRICT, OHAMA, NE
 5 PGS. LTR #/LEN 50-205/70-12 TO U.S. NRC, REGION IV, APRIL 14, 1970. DOC#ET 50-205, TYPE--PDR, RFG--LUMB.. AE--
 GIBBS & HILL

CAUSE - ADDER-SUBTRACTOR MODULE FAILS. DURING A POWER REDUCTION AT 703 POWER, CHANNEL B APD POSITIVE LIMIT WAS NOTED TO BE READING 12.1 WHICH EXCEEDS THE UPPER LIMIT OF 4.0000. THE BELL AND HOWELL 19-301A ADDER-SUBTRACTOR MODULE USED TO GENERATE THE UPPER LIMIT WAS FOUND TO HAVE GONE INTO OSCILLATION AND SATURATED. THE MODULE WAS REPLACED AND THE CALCULATOR RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FT. CALHOUN 1 (PDR) * INSTRUMENT, POWER RANGE * SET POINT * DRIFT * ELECTRONIC FUNCTION UNITS

113192
 LOSS OF POWER OCCURS TO 101 KV TRANSFORMERS AT FT. CALHOUN 1
 OHAMA PUBLIC POWER DISTRICT, OHAMA, NE
 4 PGS. LTR #/LEN 50-205/70-8 TO U.S. NRC, REGION IV, APRIL 21, 1970. DOC#ET 50-205, TYPE--PDR, RFG--LUMB.. AE--
 GIBBS & HILL

CAUSE OFF-SITE 101 KV FAULT. WHILE OPERATING AT 002 POWER, A LOSS OF POWER OCCURRED TO 2 101

112192 CONTINUED

REVISION W/OUT HOUSE SERVICE TRANSFORMERS. AN AUTOMATIC PAST TRANSFER TO THE AUXILIARY POWER TRANSFORMERS MAINTAINED OPERATION. THE LOSS WAS DUE TO AN OFF-SITE 101 KV FAULT. POWER WAS RESTORED IN 6 HOURS & MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT, LOSS OF POWER & ELECTRIC POWER & FT. CALHOUN 1 (PWR) & FAULT & OFF SITE & FAILURE, INCIDENT

112212

SAFETY INJECTION SYSTEM VALVE FAILS TO CLOSE AT FT. CALHOUN 1
 UHANA PUBLIC POWER DISTRICT, CRAMA, NE

3 PGS. LTR D/LEAD 50-285/76-14 TO U.S. NRC, REGION IV, APRIL 22, 1976. DUCRET 50-285, TYPE--PWR, RFG--CUMB., AE--GIBBS & HILL

CASE - BINDING CONTACTS IN BREAKER. DURING A TEST OF THE SAFETY INJECTION SYSTEM WHILE OPERATING AT 100% POWER, THE VALVE WHICH ISOLATES THE CONTAINMENT DUMP FROM A SI PUMP FAILED TO CLOSE BY THE CONTROL SWITCH. THIS IS A NORMALLY CLOSED VALVE. THE GE TYPE 7700, SIZE 1, COMBINATION BREAKER/REVERSING STARTER FAILED TO OPERATE THE VALVE DUE TO A BINDING CONTACT. THE CONTACT WAS LUBRICATED, ADJUSTED, AND REOPERATED. THE VALVE WAS SATISFACTORILY TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT & CONTAINMENT ISOLATION & SAFETY INJECTION & TEST, SYSTEM OPERABILITY & FAILURE, MAINTENANCE ERROR & FT. CALHOUN 1 (PWR) & LUBRICATION & BREAKER & VALVES

112192

JET POINT DRIFT IN VARIABLE HIGH POWER RANGE TO TRIP METER AT FT. CALHOUN 1
 UHANA PUBLIC POWER DISTRICT, CRAMA, NE

3 PGS. LTR D/LEAD 50-285/76-10 TO U.S. NRC, REGION IV, APRIL 28, 1976. DUCRET 50-285, TYPE--PWR, RFG--CUMB., AE--GIBBS & HILL

CASE - FEEDBACK LIMITER MODULE FAILS. DURING A CHECK OF THE VARIABLE HIGH POWER RANGE TO TRIP METER WITH THE REACTOR AT 100% POWER, THE TRIP WAS FOUND TO HAVE DRIFTED FROM 62% TO 68% POWER. THE DELL AND MUELLER 19-307-24 PERO BACK LIMITER MODULE USED TO GENERATE THE HIGH POWER TRIP SET POINT HAD DRIFTED. THE MODULE WAS CALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM & INSTRUMENT CALIBRATION & FAILURE, INCIDENT & INSTRUMENT, SWITCH & TEST, SYSTEM OPERABILITY & FT. CALHOUN 1 (PWR) & INSTRUMENT, POWER RANGE & SET POINT & DRIFT & ELECTRONIC FUNCTION UNITS

112212

INADVERTENT NUCLEONIC RELEASE OCCURS AT FT. CALHOUN 1
 UHANA PUBLIC POWER DISTRICT, CRAMA, NE

3 PGS. LTR D/LEAD 50-285/76-13 TO U.S. NRC, REGION IV, APRIL 29, 1976. DUCRET 50-285, TYPE--PWR, RFG--CUMB., AE--GIBBS & HILL

CASE - VALVE LEAKAGE. DURING OPERATION AT 99% POWER, INADVERTENT NUCLEONIC RELEASES TO THE AUXILIARY BUILDING OCCURRED ON 2 DAYS. LEAKAGE BY STANBY ION EXCHANGER ISOLATION VALVES (WHICH WERE CLOSED) AND THROUGH AN UREA ION EXCHANGER VENT VALVE CAUSED THE RELEASES. THE VENT VALVE WAS CLOSED. THE ISOLATION VALVES WILL BE INSPECTED AT THE EARLIEST OPPORTUNITY. TOTAL RELEASE WAS 4.1E CI OF AE-133.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

AT-BURNER RELEASE & FAILURE, EQUIPMENT & NUCLEONIC GAS & FLOW & COOLANT PURIFICATION SYSTEM & FT. CALHOUN 1 (PWR) & LEAK & VALVES

112770

SELF-POWERED IN-CORE DETECTORS CONTINUE TO FAIL AT FT. CALHOUN
 UHANA PUBLIC POWER DISTRICT, CRAMA, NE

3 PGS. LTR D/SUPPL. TO 50-285/75-5 TO U.S. NRC, REGION IV, APRIL 29, 1976. DUCRET 50-285, TYPE--PWR, RFG--CUMB., AE--GIBBS & HILL

CASE - FABRICATION DEFICIENCIES. DURING THE 1975 REFUELING OUTAGE, 14 OF THE 24 SELF-POWERED IN-CORE DETECTOR STRINGS WERE REPLACED BECAUSE 1 ON 2 OF THE 6 AMODIUM DETECTORS IN EACH STRING HAD FAILED. BY JUNE 25, 1975 ALL 56 OF THE REPLACED IN-CORE DETECTORS HAD FAILED. ON JAN. 16, 1976 THERE WERE ONLY 21 OPERABLE DETECTORS REMAINING. REPLACEMENT DETECTORS FAILED FROM (1) SWEAT FAILURE ALLOWING INLEAKAGE OF REACTOR COOLANT, (2) OVERAGE OF LEAD WIRE WITHIN THE DETECTOR ASSEMBLY PROBABLY AT A BELEEN JOINT, AND (3) SEPARATION OF LEAD WIRE WITHIN THE ASSEMBLY DUE TO INADEQUATE CURING OF CONNECTOR MATERIALS. POWER LEVEL HAD BEEN REDUCED TO 60% UNTIL 14 STRINGS ARE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

113770 *CONTINUED*
CHARGE \$2.00

INSTRUMENT, IN CORE * FAILURE, INSTRUMENT * FAILURE, FABRICATION ERROR * FAILURE, DESIGN ERROR * PSEAL
POWERED FLUX DETECTOR * FT. CALHOUN 1 (PWR) * POWER DERATING * FAILURE, COMMON MODE

113520

DIESEL RESPONSE TIME EXCEEDS LIMIT AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE

2 PGS. LTR W/LEN 50-205/70-11 TO U.S. NRC, REGION IV, MAY 4, 1976, DUCRET 50-205, TYPE--PWR, RW--LUMB., AL--
GIBBS & HILL

CAUSE - PROCEDURAL DEFICIENCY. DURING A DIESEL TEST WITH THE REACTOR AT 100% POWER, THE START ON
SECONDARY AIR REQUIRED 10.6 SECONDS. THE LIMIT IS 10 SECONDS. PRIMARY AIR START WAS IMMEDIATELY
TESTED REQUIRING 0.2 SEC. A RETEST OF SECONDARY AIR REQUIRED 0.1 SEC. PROBLEMS WAS INADEQUATE
IN THAT IT DID NOT REQUIRE SPECIFICALLY THAT THE AIR MOTOR UTILIZED FOR STARTING BE CONSISTENTLY
ALTERNATED FROM PRIMARY TO SECONDARY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

PROCEDURES AND MANUALS * RESPONSE TIME * TEST, SYSTEM OPERABILITY * FAILURE, ADMINISTRATIVE CONTROL * FT.
CALHOUN 1 (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATION, DIESEL

113527

SET POINT DRIFT IN AXIAL POWER DISTRIBUTION CALCULATOR AT FT. CALHOUN 1

OMAHA PUBLIC POWER DISTRICT, OMAHA, NE

5 PGS. LTR W/LEN 50-205/70-13 TO U.S. NRC, REGION IV, MAY 5, 1976, DUCRET 50-205, TYPE--PWR, RW--LUMB., AL--
GIBBS & HILL

CAUSE - RANDOM NOISE SIGNALS. WHILE OPERATING AT 90% POWER, POSITIVE AND LIMIT SET POINT WENT OUT
OF SPECIFICATION IN THE NON-CONSERVATIVE DIRECT ON CHANNEL A ONE DAY AND ON CHANNEL B 2 DAYS
DURING A 2 WEEK PERIOD. RANDOM NOISE SIGNALS CAUSED THE BELL & HOWELL 19-201-A MODULE TO
OSCILLATE. A MINOR CIRCUIT MODIFICATION HAS BEEN IMPLEMENTED TO PREVENT THIS OSCILLATION FROM
RECURRING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

NOISE * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST,
SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * FT. CALHOUN 1 (PWR) * INSTRUMENT, POWER RANGE * SET POINT * UNIFI

113777

DIESEL GENERATOR AIR START MOTOR FAILS TO DISENGAGE AT FT. CALHOUN 1

OMAHA PUBLIC POWER DISTRICT, OMAHA, NE

5 PGS. LTR W/LEN 50-205/70-10 TO U.S. NRC, REGION IV, MAY 10, 1976, DUCRET 50-205, TYPE--PWR, RW--LUMB., AL--
GIBBS & HILL

CAUSE - SWITCHING TACHMETER OUT OF ADJUSTMENT. DURING TESTING WITH THE REACTOR AT 90% POWER, THE
PRIMARY AIR START MOTOR FOR DG2 FAILED TO DISENGAGE AFTER A SUCCESSFUL START TO 100 RPM. THE
AIRGAP SETTING FOR THE MAGNETIC PICKUP UNIT FOR THE AIRGAP ELECTRONICS SWITCHING TACHMETER WAS
NOT SET CORRECTLY. THE AIR GAP WAS ADJUSTED. PROCEDURES WERE REVISED TO INCLUDE CHECKING THE
GAP WHENEVER THE UNIT IS RE-INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

MAINTENANCE AND REPAIR * PROCEDURES AND MANUALS * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE,
ADMINISTRATIVE CONTROL * FT. CALHOUN 1 (PWR) * GENERATION, DIESEL

114184

NO FLUX CONDITION ON STEAM GENERATOR BLOODFLOW MONITOR AT FT. CALHOUN 1

OMAHA PUBLIC POWER DISTRICT, OMAHA, NE

7 PGS. LTR W/LEN 50-205/70-17 TO U.S. NRC, REGION IV, MAY 19, 1976, DUCRET 50-205, TYPE--PWR, RW--LUMB., AL--
GIBBS & HILL

CAUSE - SAMPLE VALVE CLOSED. DURING AN OPERATOR TOUR WHILE OPERATING AT 90% POWER, A NO FLUX
CONDITION WAS DISCOVERED ON 2 STEAM GENERATOR BLOODFLOW RADIATION MONITORS. PERIODIC STEAM
GENERATOR SAMPLES WERE CONFIRMED NO PRIMARY-TO-SECONDARY LEAKAGE. A VALVE IN THE BLOODFLOW SAMPLE
LINE WAS FOUND TO BE CLOSED. IT WAS IMMEDIATELY OPENED TO RESTORE FLUX. THE VALVE HAD BEEN
VERIFIED TO BE OPEN 0.5 HOURS EARLIER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, OPERATOR ERROR * SAMPLING * CALHOUN 1 (PWR) * FT. CALHOUN 1 (PWR) * STEAM GENERATION * PRESS * RADIATION
MONITORS

114028
 POSSIBLE VIOLATION OF RELEASE RATE FOR CONTAINMENT PURGE AT FT. CALHOUN 1
 WYOMING PUBLIC POWER DISTRICT, CHAMPA, NE
 7 PGS. LTR #/LER 50-205/70-18 TO U.S. NRC, REGION IV, MAY 26, 1970. DOCKET 50-205, TYPE--PUR, RFG--CONB., AE--
 GIBBS & HILL

CASE - CONSERVATIVE CALCULATIONAL MODEL, DURING PREPARATION OF THE SEMIANNUAL WASTE SUMMARY REPORT, A POSSIBLE VIOLATION OF RELEASE RATE FOR ONE CONTAINMENT PURGE WAS DISCOVERED. A COMPLETE REVIEW OF CALCULATIONS AND DATA INDICATED THAT A VIOLATION DID NOT OCCUR. THE MATHEMATICAL MODEL WHICH IS THE BASIS FOR CONTAINMENT ANALYSIS AND RELEASE COMPUTATIONS ALWAYS ASSUMES THE MOST CONSERVATIVE ALTERNATES. RADIATION MONITORS INDICATED NO LIMITS WERE EXCEEDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AMBIENT RELEASE * CONTAINMENT PURGE * RELEASE RATE * ANALYTICAL MODEL * FAILURE, ADMINISTRATIVE CONTROL * FT. CALHOUN 1 (PUR)

114019
 SET POINT DRIFT IN SAFETY VALVES AT FT. CALHOUN 1
 WYOMING PUBLIC POWER DISTRICT, CHAMPA, NE
 5 PGS. LTR #/LER 50-205/70-19 TO U.S. NRC, REGION IV, JUNE 8, 1970. DOCKET 50-205, TYPE--PUR, RFG--CONB., AE--
 GIBBS & HILL

CASE - AMBIENT TEMPERATURE EFFECT. AS A RESULT OF A PLANT TRIP, 2 MAIN STEAM SAFETY VALVES RELIEVED. A REVIEW OF ACTUAL PLANT PARAMETERS DURING THE TRIP INDICATED THAT THE PRESSURE DID NOT REACH THE VALVE SET PRESSURE. A CHECK OF ALL RELIEF SET POINTS REVEALED THAT 6 OF THE 10 VALVES HAD DRIFTED BELOW TECH SPEC TOLERANCES. THE DRESSER 8-INCH MANIFOLD TYPE 3707 MAXI-RT SAFETY VALVES WERE RESET. VALVES POPPED LIGHT DUE TO POSSIBLE ENVIRONMENTAL TEMPERATURE CONDITIONS WHICH WERE HIGHER THAN ORIGINAL TEMPERATURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * STEAM * OPRESSURE RELIEF * FT. CALHOUN 1 (PUR) * SET POINT * TEMPERATURE * DRIFT * COOLING SYSTEM, SECONDARY * FAILURE, COMMON MODE * VALVES

115044
 ERROR FOUND IN STRIKIN II COMPUTER CODE FOR LINEAR HEAT RATE AT FT. CALHOUN 1
 WYOMING PUBLIC POWER DISTRICT, CHAMPA, NE
 5 PGS. LTR #/LER 50-205/70-20 TO U.S. NRC, REGION IV, JUNE 18, 1970. DOCKET 50-205, TYPE--PUR, RFG--CONB., AE--
 GIBBS & HILL

CASE - CEA GUIDE TUBE MODEL ERROR. THE UTILITY WAS NOTIFIED OF AN ERROR IN THE STRIKIN II COMPUTER CODE WHICH COULD RESULT IN A REDUCTION OF 0.7 KW/FT IN THE ALLOWABLE PEAK LINEAR HEAT RATE. THE ERROR WAS CAUSED IN PART BY REPRESENTING IN THE COMPUTER CODE CEA GUIDE TUBES BY SOLID RODS RATHER THAN USING WATER CAPS. THE INCORE DETECTOR ALARMS WERE REDUCED FROM 14.0 KW/FT TO 13.3 KW/FT TO REFLECT THE NEW ALLOWABLE PEAK LINEAR HEAT RATE. A WEEK LATER LIMITS WERE REDUCED BY AN ADDITIONAL 0.3 KW/FT IN RESPONSE TO A NRC TELECON ORDER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER PROGRAM * ANALYTICAL MODEL * HOT SPOT FACTOR ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * FT. CALHOUN 1 (PUR) * TUBING * CONTROL RODS

115711
 TIMER RELAYS FAIL TO TIME OUT IN SET TIMES AT FT. CALHOUN 1
 WYOMING PUBLIC POWER DISTRICT, CHAMPA, NE
 5 PGS. LTR #/LER 50-205/70-21 TO U.S. NRC, REGION IV, JULY 13, 1970. DOCKET 50-205, TYPE--PUR, RFG--CONB., AE--
 GIBBS & HILL

CASE - BINDING OPERATING MECHANISMS. DURING TESTING WITH THE REACTOR AT 80% POWER, TIMER RELAYS FOR 2 PUMPS ON SEQUENCER S1-2 AND FOR 2 PUMPS ON SEQUENCER S2-2 FAILED TO TIME OUT AT THEIR SET TIMES. THE BLISS EAGLE SIGNAL TIMER RELAYS MODEL NO. HA-0140-L-08 HAD BINDING OPERATING MECHANISMS WHICH RETARDED THE TIMER RELAY AFTER IT HAD RECEIVED ITS INITIATING SIGNAL. THEY WERE SATISFACTORILY RETESTED. REPLACEMENT TIMERS ARE ON ORDER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * RESPONSE TIME * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * FT. CALHOUN 1 (PUR) * EMERGENCY COOLING SYSTEM * RELAYS

115856
 TEMPERATURE GRADIENT ACROSS PLANT EXCEEDS LIMIT AT FT. CALHOUN 1
 WYOMING PUBLIC POWER DISTRICT, CHAMPA, NE
 5 PGS. LTR #/LER 50-205/70-22 TO U.S. NRC, REGION IV, JULY 20, 1970. DOCKET 50-205, TYPE--PUR, RFG--CONB., AE--

115884 *CONTINUED*
GIBBS & HILL

CAUSE - FAILURE OF BACKWASH VALVE. DURING 90% POWER OPERATION, REVER TEMPERATURE GRADIENT LIMIT OF 20 F WAS EXCEEDED FOR 10 MINUTES. A PEAK DIFFERENTIAL OF 24 F WAS REACHED MOMENTARILY. FAILURE OF A CONDENSER BACKWASH VALVE TO OPEN ELECTRICALLY AFTER BACKWASHING THE CONDENSER CAUSED THE VIOLATION. THE VALVE WAS MANUALLY OPENED. THE VALVE OPERATOR BORN AND BORN GEAR WERE REPLACED AND TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * FAILURE, EQUIPMENT * TEMPERATURE GRADIENT * FT. CALHOUN 1 (PWR) * CONDENSER COOLING SYSTEM * FAILURE, INHERENT * BORN * VALVE OPERATORS

115912

WASTE LIQUID RELEASE CONDUCTED WITH RADIATION MONITOR INOPERABLE AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
3 PGS, LTR D/LER 50-285/76-74 TO U.S. NRC, REGION IV, AUG. 6, 1976, DOCKET 50-285, TYPE--PWR, NRG--CMB,, AL--
GIBBS & HILL

CAUSE - OPERATOR ERROR. WHILE OPERATING AT 97% POWER, A LIQUID WASTE RELEASE WAS CONDUCTED WITH THE WASTE LIQUID PROCESS RADIATION MONITOR INOPERABLE FOR A 1.5 HOUR PERIOD. THE OPERATOR CONDUCTING THE RELEASE FAILED TO RETURN THE MONITOR TO AN OPERABLE STATUS AFTER TESTING. HE WAS ORALLY REPRIMANDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * WASTE DISPOSAL * WASTE HANDLING * WASTE DISPOSAL, LIQUID * FT. CALHOUN 1 (PWR) * RADIATION MONITORS

116314

BORON CONCENTRATION IN SAFETY INJECTION TANK BELOW LIMIT AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
3 PGS, LTR D/LER 50-285/76-23 TO U.S. NRC, REGION IV, AUG. 6, 1976, DOCKET 50-285, TYPE--PWR, NRG--CMB,, AL--
GIBBS & HILL

CAUSE - VALVE LEAK-BY. AS A RESULT OF AN UNPLANNED INCREASE IN SAFETY INJECTION REFUELING WATER STORAGE TANK LEVEL DURING OPERATION AT 90% POWER, THE BORON CONCENTRATION WAS REDUCED TO 1825 PPM WHICH IS BELOW THE TECH SPEC LIMIT OF 1900 PPM. DILUTION RESULTED FROM LEAKAGE BY A VALVE. TIGHTENING DOWN ON THE VALVE STOPPED THE LEAK-BY. A PURGE REDUCTION WAS COMMENCED AND CONTINUED UNTIL THE TANK CONCENTRATION WAS BROUGHT ABOVE 1900 PPM BY DIRECT ADDITION OF BUNIC ACID.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

BORON * DILUTION * FAILURE, EQUIPMENT * POISON, SOLUBLE * SAFETY INJECTION * STORAGE CONTAINERS * CHEMICAL SKIN * FT. CALHOUN 1 (PWR) * CONCENTRATION * FAILURE, INHERENT

116785

SEQUENCER TIMER DELAYS FAIL TO TIME CUT WITHIN LIMIT AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
6 PGS, LTR D/LER 50-285/76-21 TO U.S. NRC, REGION IV, AUG. 10, 1976, DOCKET 50-285, TYPE--PWR, NRG--CMB,, AL--
GIBBS & HILL

CAUSE - OPERATING MECHANISM BINDING. DURING TESTING OF THE SEQUENCER TIME RELAYS WITH THE REACTOR AT 100% POWER, 3 RELAYS FAILED TO TIME CUT AT THEIR SET TIMES. THE BLISS RAGLE TIME RELAYS HAD BINDING OPERATING MECHANISMS WHICH RETARDED THE TIME RELAYS AFTER THEY HAD RECEIVED THEIR INITIATING SIGNAL. THIS IS THE FOURTH EVENT INVOLVING THESE RELAYS. THEY ARE BEING TESTED TWICE WEEKLY UNTIL REPLACEMENT TIMERS ARE RECEIVED AND INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * RESPONSE TIME * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * FT. CALHOUN 1 (PWR) * EMERGENCY COOLING SYSTEM * PRELAYS

117486

4100/400 VOLT TRANSFORMER FAILS AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
3 PGS, LTR D/LER 50-285/76-25 TO U.S. NRC, REGION IV, AUG. 31, 1976, DOCKET 50-285, TYPE--PWR, NRG--CMB,, AL--
GIBBS & HILL

CAUSE - INTERNAL FAULT. DURING NORMAL OPERATION AT 90% POWER, A 4100 VOLT BREAKER TRIPPED ON INSTANTANEOUS OVERCURRENT RELAYING DE-ENERGIZING A 4100/400 VOLT TRANSFORMER AND A 400 VOLT BUS. TESTS REVEALED 2 OF THE 3 PHASES OF THE GE 4100/400 VOLT, 3 PHASE, DELTA-DELTA 1000/1333 KVA, TRANSFORMER TO BE INTERNALLY FAULTED. THE REACTOR WAS PLACED IN MUT SHUTDOWN WHILE AN EQUIVALENT TRANSFORMER WAS BEING INSTALLED. THE FAULTED TRANSFORMER HAS BEEN RETURNED TO THE FACTORY FOR

117002 *CONTINUED*

REFRAIN. IT WILL BE INSTALLED DURING THE 1976 REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * ELECTRIC POWER * FT. CALHOUN 1 (PHN) * FAULT * REACTOR SHUTDOWN * FAILURE, INHERENT * ON SITE * TRANSFORMERS

117007

DIESEL GENERATOR GOVERNOR MOTOR FAILS AT FT. CALHOUN 1

OHAMA PUBLIC POWER DISTRICT, CRANF, NE

5 PGS. LTR N/LEP 50-205/76-26 TO U.S. NRC, REGION IV, AUG. 31, 1976, DOCKET 50-205, TYPE--PWR, NPG--CORR., AE--GIBBS & HILL

CAUSE - INTERNAL FAULT. DURING A NORMAL SHUTDOWN OF DIESEL GENERATOR 2 WITH THE REACTOR AT 90% POWER, A DC BUS 2 GROUND ALARM ANNUNCIATED AND SMOKE WAS OBSERVED COMING FROM THE GOVERNOR MOTOR ENCLOSURE. THE BODINE ELECTRIC CO., TYPE NSE-11R, 115 VAC-DC, 1/80 HP, 3000 RPM, GOVERNOR MOTOR ARMATURE INTERNALLY FAULTED RESULTING IN AN OPEN ARMATURE WINDING. IT WAS REPLACED. THE PIN AND SOCKET CONNECTOR FOR THE GOVERNOR MOTOR WAS DAMAGED DUE TO THE MOTOR FAULT AND WAS REMOVED. THE WIRING WAS SPLICED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * FT. CALHOUN 1 (PWR) * FAILURE, INHERENT * MOTORS * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

117008

HIGH ALARM SET POINT OF RADIATION MONITORS ABOVE LIMIT AT FT. CALHOUN 1

OHAMA PUBLIC POWER DISTRICT, CRANF, NE

5 PGS. LTR N/LEP 50-205/76-30 TO U.S. NRC, REGION IV, SEPT. 3, 1976, DOCKET 50-205, TYPE--PWR, NPG--CORR., AE--GIBBS & HILL

CAUSE - IMPROPER PROCEDURES USED. DURING PROCESS MONITOR CHECKS WITH THE REACTOR AT 67% POWER, THE HIGH ALARM (CONTROL FUNCTION) SET POINT ON 2 STEAM GENERATOR BLOWDOWN MONITORS WAS FOUND TO BE SET AT 600000 CPM WHICH IS HIGHER THAN THE PHUPEL SET POINTS OF 6000 CPM AND 6000 LPM. THE SET POINTS WERE RESET TO THE PROPER LEVEL. DURING THE CHECK ON 8-9-76, AN UNOFFICIAL COPY OF PROCESS MONITOR SET POINTS WAS USED. SET POINTS FOR THESE 2 MONITORS WERE IN ERROR ON THIS UNOFFICIAL COPY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * TEST, SYSTEM OPERABILITY * BLOWDOWN * FT. CALHOUN 1 (PHN) * STEAM GENERATOR * RESET POINT * RADIATION MONITORS

117955

PRIMARY AIR START MOTOR FAILS TO DISENGAGE AFTER DG-2 STARTED AT FT. CALHOUN 1

OHAMA PUBLIC POWER DISTRICT, CRANF, NE

5 PGS. LTR N/LEP 50-205/76-27 TO U.S. NRC, REGION IV, SEPT. 15, 1976, DOCKET 50-205, TYPE--PWR, NPG--CORR., AE--GIBBS & HILL

CAUSE - IMPROPER SETTING OF PICKUP UNIT. WITH THE REACTOR OPERATING AT 70% POWER, THE PRIMARY AIR START MOTOR FOR DG-2 FAILED TO DISENGAGE AFTER THE DG-2 WAS SUCCESSFULLY STARTED. THE AIR GAP SETTING FOR THE MAGNETIC PICKUP UNIT FOR THE AIRPAC ELECTRONICS SWITCHING TACHOMETER HAD DRIFTED FROM .005-.010 TO .013 SETTING. AS A RESULT OF FAILURE TO DISENGAGE, SOME BURNING ON THE STARTER MOTOR GEAR TEETH OCCURRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * INSTRUMENT, SWITCH * FT. CALHOUN 1 (PWR) * DRIFT * FAILURE, INHERENT * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110225

SPENT FUEL POOL RACK MOVED OVER SPENT FUEL AT FT. CALHOUN 1

OHAMA PUBLIC POWER DISTRICT, CRANF, NE

5 PGS. LTR N/LEP 50-205/76-31 TO U.S. NRC, REGION IV, SEPT. 21, 1976, DOCKET 50-205, TYPE--PWR, NPG--CORR., AE--GIBBS & HILL

CAUSE - MISINTERPRETATION OF TECH SPECS. WHILE OPERATING AT 90% POWER, A SPENT FUEL POOL RACK WAS TRANSFERRED FROM THE CASE DECK AREA TO A LOCATION JUST NORTH OF THE SPENT FUEL POOL TO PROVIDE ADDITIONAL ROOM FOR RACK DISPOSAL. CONTRARY TO TECH SPECS, A PORTION OF THE RACK PASSED OVER THE SPENT FUEL. THE SUPERVISOR IN CHARGE OF OPERATION MISINTERPRETED THE INTENT OF THE TECH SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

110220 (CONTINUED)
TRANSPORTATION AND HANDLING • FAILURE, ADMINISTRATIVE CONTROL • FT. CALHOUN 1 (PWR) • SUPPORT STRUCTURE •
COMMUNICATION • SPENT FUEL Pools

110220
IODINE-131 EQUIVALENT EXCEEDS LIMIT AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS. LTR #/LER 50-205/70-29 TO U.S. NRC, REGION IV, SEPT. 23, 1970. DOCKET 50-403, TYPE--PWR, NFG--COMB., AE--
GIBBS & HILL

CAUSE - POWER TRANSIENT. DURING POWER ASCENSION, REACTOR COOLANT WAS SAMPLED AND ANALYSES
INDICATED IODINE-131 EQUIVALENT OF 2.073 MICROCURIES PER GRAM, EXCEEDING THE 2.0 MICROCURIES/GRAM
LIMIT. A RESAMPLE 3.3 HOURS LATER INDICATED A DECREASE TO 1.032. THE INCREASE WAS A RESULT OF A
POWER TRANSIENT WHICH OCCURRED 12 HOURS EARLIER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, FUEL ELEMENT • IODINE • REACTOR TRANSIENT • REACTOR COOLANT • SAMPLING • TEST, SYSTEM OPERABILITY •
FT. CALHOUN 1 (PWR) • CONCENTRATION • FAILURE, IMMINENT

110733
WELDS ON REACTOR COOLANT PUMP BLEED-OFF LINE LEAK AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS. LTR #/LER 50-205/70-32 TO U.S. NRC, REGION IV, OCT. 12, 1970. DOCKET 50-205, TYPE--PWR, NFG--COMB., AE--
GIBBS & HILL

CAUSE - VIBRATION INDUCED FATIGUE. DURING A ROUTINE POST SHUTDOWN INSPECTION OF THE CONTAINMENT,
WELD LEAKS WERE DISCOVERED ON THE CONTROLLED BLEED-OFF LINE ON A REACTOR COOLANT PUMP. THE LEAK
RATE WAS LESS THAN 0.2 GPM. WELD LEAKS OCCURRED DUE TO VIBRATION INDUCED FATIGUE IN TWO
LOCATIONS. PRIOR TO PLANT STARTUP THE LEAKING WELDS WILL BE REPAIRED AND THE NEED FOR PIPE
SUPPORTS WILL BE EVALUATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, PIPE • WELDS • REACTOR COOLANT • FAILURE, FATIGUE • FAILURE, DESIGN ERROR • FT. CALHOUN 1 (PWR) •
VIBRATION • LEAK • PIPES AND PIPE FITTINGS

115301
SET POINT DRIFT IN PRESSURE RELIEF VALVES AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS. LTR #/LER 50-205/70-19 SUPPLEMENT 1 TO U.S. NRC, REGION IV, OCT. 20, 1970. DOCKET 50-205, TYPE--PWR,
NFG--COMB., AE--GIBBS & HILL

CAUSE - UNKNOWN. DURING UNIT SHUTDOWN FOR REFUELING, RELIEF PRESSURE TESTING FOUND THAT THE SET
POINT OF 5 OF THE 10 MAIN STEAM SAFETY VALVES HAD DRIFTED FROM THE TECH SPEC TOLERANCE OF +/- 1%.
DRIFT WAS DUE TO POSSIBLE CHANGE IN ENVIRONMENTAL CONDITION FROM THE SETTING TEMPERATURE. THE
PROBLEM IS BEING INVESTIGATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT • PRESSURE RELIEF • REFUELING • TEST, SYSTEM OPERABILITY • FT. CALHOUN 1 (PWR) • SET
POINT • DRIFT • COOLING SYSTEM, SECONDARY • VALVES

119302
CONTAINMENT PURGE VALVES HAVE EXCESSIVE LEAKAGE AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
0 PGS. LTR #/LER 50-205/70-33 TO U.S. NRC, REGION IV, OCT. 21, 1970. DOCKET 50-205, TYPE--PWR, NFG--COMB., AE--
GIBBS & HILL

CAUSE - PACKING AND SEALS OUT OF ADJUSTMENT. DURING THE REFUELING OUTAGE, TESTING OF THE
CONTAINMENT SUPPLY LINE PURGE ISOLATION VALVE SHOWED LEAKAGE IN EXCESS OF TECH SPEC LIMITS. THE
VALVE PACKING AND SEALS WERE FOUND TO BE OUT OF ADJUSTMENT. THEY WERE ADJUSTED TO BRING LEAKAGE
WITHIN ACCEPTABLE LIMITS. THESE ARE ALLIS-CHALMERS 42 INCH SOFRA STEAMSEAL BUTTERFLY VALVES.
CALCULATED RADIOACTIVITY RELEASED THROUGH THESE VALVES WAS 0.00 CURIES OF NOBLE GASES OVER A 2
MONTH PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT • CONTAINMENT PURGE • CONTAINMENT ISOLATION • REFUELING • TEST, SYSTEM OPERABILITY •
RADIOACTIVITY RELEASE • FAILURE, MAINTENANCE ERROR • SEAL • FT. CALHOUN 1 (PWR) • LEAK RATE • VALVES

119770
EXPLOSION AND FIRE OCCURS IN GLOVE BOX AT FT. CALHOUN 1

119778 (CONTINUED)
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 3 PGS. LTR N/LEP 50-205/76-34 TO L.S. REC. REGION IV. NOV. 5, 1976. DOCKET 50-205. TYPE--PWR. NPG--COMB.. AE--
 GIBBS & HILL

CAUSE - ALCOHOL VAPOR IGNITED BY SPARK. DURING THE REFUELING OUTAGE, AN EXPLOSION AND FIRE OCCURRED IN A GLOVE BOX ON THE 1005 FOOT LEVEL OF THE CONTAINMENT BUILDING. ONE OF THE MACHINISTS WORKING IN THE GLOVE BOX, ASSISTED BY THE FOREMAN, EXTINGUISHED THE FIRE WITHIN ONE MINUTE OF IGNITION. THE MACHINISTS WERE CLEANING REACTOR VESSEL STUD PLUGS USING ALCOHOL AND A PIPE BRUSH DRIVEN BY AN ELECTRIC DRILL MOTOR. SUFFICIENT ALCOHOL VAPORIZED TO FORM AN EXPLOSIVE MIXTURE AND WAS IGNITED BY SPARKS FROM THE ELECTRIC MOTOR. NO ONE WAS CONTAMINATED OR INJURED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FT. CALHOUN 1 (PWR) * W/PIPE * DEFLOSICA * GLOVE BOX * MAINTENANCE AND REPAIR * FAILURE, INHERENT * REFUELING

119767
 SET POINT DRIFT IN PRESSURIZER PRESSURE SWITCH AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 3 PGS. LTR N/LEP 50-205/76-36 TO L.S. REC. REGION IV. NOV. 10, 1976. DOCKET 50-205. TYPE--PWR. NPG--COMB.. AE--
 GIBBS & HILL

CAUSE - INSTRUMENT DRIFT. DURING THE REFUELING SHUTDOWN CALIBRATION OF PRESSURIZER PRESSURE LOW CHANNELS, CHANNEL B WAS FOUND TO BE 5 PSI OUT OF SPECIFICATION IN THE NONCONSERVATIVE DIRECTION. THE LOWER ALARM SET POINT OF THE SIGMA INDICATOR CONTROLLER HAD DRIFTED. THE CHANNEL WAS RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FT. CALHOUN 1 (PWR) * INSTRUMENT * SWITCH * INSTRUMENT CALIBRATION * SENSORS, PRESSURE * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * REFUELING * PRESSURIZER * FAILURE, INHERENT * PROTECTION SYSTEM

119765
 FLOW RATE OF CONTROL ROOM FILTER UNIT LESS THAN LIMIT AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 3 PGS. LTR N/LEP 50-205/76-35 TO L.S. REC. REGION IV. NOV. 10, 1976. DOCKET 50-205. TYPE--PWR. NPG--COMB.. AE--
 GIBBS & HILL

CAUSE - PARTIALLY COLLAPSED FLEXIBLE DUCT. DURING THE REFUELING OUTAGE, SURVEILLANCE OF CONTROL ROOM CHARCOAL/HEPA FILTER UNIT VA-04 REVEALED A VOLUME FLOW RATE OF ABOUT 800 CFM. TECH SPECS SPECIFIES 820 CFM. THE FILTER UNIT WAS INSTALLED WITH A FLEXIBLE DUCT BETWEEN THE FILTER HOUSING AND THE DUCTING SIDE OF THE FAN. OPERATION OF THE FAN CAUSED THE DUCT TO PARTIALLY COLLAPSE RESTRICTING FLOW. THE FAN WAS REPOSITIONED SUCH THAT THE FLEXIBLE DUCT CROSS SECTION WAS INCREASED. A MORE RIGID FLEXIBLE DUCT WILL BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FT. CALHOUN 1 (PWR) * FLOW * RATE * FILTERS * CONTROL PANEL/ROOM * TEST, SYSTEM OPERABILITY * FILTER, HIGH EFFICIENCY * CHARCOAL ASSEMBLY * REFUELING * PIPES AND PIPE FITTINGS * FAILURE, DESIGN ERROR

119764
 PRESSURIZER RELIEF VALVE SET POINTS FOUND TO BE OUT OF LIMITS AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 3 PGS. LTR N/LEP 50-205/76-38 TO L.S. REC. REGION IV. NOV. 23, 1976. DOCKET 50-205. TYPE--PWR. NPG--COMB.. AE--
 GIBBS & HILL

CAUSE - SET WITH NITROGEN PREVIOUSLY. DURING THE REFUELING OUTAGE, THE PRESSURIZER RELIEF VALVES WERE SENT TO AN OUTSIDE LABORATORY FOR A CHECK OF SET PRESSURE WITH STEAM. AC-141 LIFTED AT 2500 PSIG AND ITS NAMEPLATE SET POINT IS 2530 PSIG. AC-142 LIFTED AT 2310 PSIG AND ITS NAMEPLATE SET POINT IS 2405 PSIG. TECH SPEC DEVIATION LIMIT IS 1%. THE SAFETY VALVES HAD BEEN SET WITH NITROGEN PER PROCEDURE AT THE PREVIOUS OUTAGE. VARIATION OF SET POINT BETWEEN NITROGEN AND STEAM SEEMS TO EXIST. THE VALVES WERE RESET USING STEAM. USING NITROGEN, THE AS FOUND VALVES WERE THE SAME AS THE NAMEPLATE VALUES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FT. CALHOUN 1 (PWR) * VALVES * PRESSURE RELIEF * SET POINT * PRESSURIZER * MAIN COOLING SYSTEM * TEST, SYSTEM OPERABILITY * REFUELING * FAILURE, ADMINISTRATIVE CONTROL

120442
 FUEL ELEMENT HAS SMALL PIN AT FT. CALHOUN 1
 OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
 3 PGS. LTR N/LEP 50-205/76-37 TO L.S. REC. REGION IV. DEC. 2, 1976. DOCKET 50-205. TYPE--PWR. NPG--COMB.. AE--
 GIBBS & HILL

120445 *CONTINUED*

CAUSE - ZIRCONIUM HYDRIDING. DURING THE REFUELING OUTAGE, FUEL BUNDLE C009 WAS INSPECTED IN ACCORDANCE WITH SP-FE-5. PIN 6 ON THE NORTH FACE APPEARED TO BE SMALLER ABOVE THE UPPER RETENTION GRID. THE PROBABLE CAUSE HAS BEEN ATTRIBUTED TO ZIRCONIUM HYDRIDING WITHIN THE FUEL PIN. COMBUSTION ENGINEERING HAS EVALUATED THE DISCREPANCY AND INDICATED THAT C009 CAN BE RETURNED TO THE REACTOR FOR CONTINUED OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FT. CALHOUN 1 (PWR) * FUEL ROD * CLADDING * HYDROGEN * ZIRCONIUM * FAILURE, FUEL ELEMENT * FUEL ELEMENTS * REFUELING

120446

SAFETY INJECTION PUMP FLOWRATE LESS THAN ASSUMED IN ANALYSIS AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS, LTR D/LER 50-285/76-39 TO U.S. NRC, REGION IV, DEC. 2, 1976, DCKET 50-285, TYPE--PWR, RFG--CORP., AE--
GIBBS & HILL

CAUSE - ACTUAL VALUES LOWER THAN EXPECTED. DURING THE REFUELING OUTAGE, IT WAS DETERMINED THAT THE MPSI PUMP FLOWRATE ASSUMED IN CYCLE I, II, AND III ECCS PERFORMANCE ANALYSIS (412 GPM) EXCEEDED THE FLOWRATE DETERMINED DURING TESTING. IN PLUM DEPENDENT CASES WHERE AVAILABLE FLOW WAS LESS THAN PREVIOUSLY EXPECTED SAFETY INJECTION FLOWRATES, THE ANALYSES WERE REPEATED USING FLOWRATES LESS THAN MEASURED FLOWRATES. THE PLANT IS BEING MAINTAINED AT A REFUELING BEGON CONCENTRATION UNTIL THE RESULTS OF THE ANALYSES ARE APPROVED BY NRC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FT. CALHOUN 1 (PWR) * FLOW * RATE * PUMPS * MPSI * SAFETY ANALYSIS * SYSTEM CAPABILITY * TESTING * REFUELING * ACCIDENT ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * MATHEMATICAL TREATMENT

120447

HYDRAULIC SHOCK SUPPRESSOR FOUND TO BE EMPTY OF FLUID AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS, LTR D/LER 50-285/76-42 TO U.S. NRC, REGION IV, DEC. 3, 1976, DCKET 50-285, TYPE--PWR, RFG--CORP., AE--
GIBBS & HILL

CAUSE - MINOR SEAL LEAKS. DURING THE REFUELING OUTAGE, ALL BENGAN PATENSON HYDRAULIC SHOCK SUPPRESSORS WITHIN THE CONTAINMENT WERE INSPECTED. ONE OF 81 UNITS WITHIN THE BIOLOGICAL SHIELD WAS FOUND EMPTY OF HYDRAULIC FLUID. TWO ADDITIONAL UNITS WERE LOW IN FLUID. OUTSIDE THE BIOLOGICAL SHIELD, 9 OF 99 WERE FOUND EMPTY. THESE WERE MODELS HSSA-3 AND HSSA-10. ALL HAD PREVIOUSLY BEEN REPAIRED WITH PROPER E-P MATERIAL. MATERIAL WAS STILL VIABLE AND GOOD. LEAKS WERE SAID MOSTLY CAUSED BY NICKS ON O-RINGS ON LEAKING ZEHRS. ALL WERE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FT. CALHOUN 1 (PWR) * SUPPORT STRUCTURE * PIPES AND PIPE FITTINGS * SURVEILLANCE PROGRAM * FAILURE, EQUIPMENT * SEAL * PLEAK * FAILURE, INHERENT * REFUELING * SMOCK ABSORBER

120448

HAD WATER/COMPONENT COOLING INTERFACE VALVE FAILS TO OPEN AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS, LTR D/LER 50-285/76-40 TO U.S. NRC, REGION IV, DEC. 14, 1976, DCKET 50-285, TYPE--PWR, RFG--CORP., AE--
GIBBS & HILL

CAUSE - ELECTRIC-TO-PNEUMATIC CONVERTER STICKING. DURING TESTING OF THE HAD WATER/COMPONENT COOLING SYSTEM INTERFACE VALVES WITH THE UNIT SHUT DOWN FOR REFUELING, MEV-001E WOULD NOT OPEN ON A LOSS OF ELECTRICAL POWER. THE FISHER CONTROL COMPANY ELECTRIC TO PNEUMATIC CONVERTER WAS STICKING. IT WAS CLEANED AND THE TEST COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FT. CALHOUN 1 (PWR) * VALVES * COMPONENT COOLING SYSTEM * WATER * VALVE OPERATORS * CONTROL SYSTEM * TEST, SYSTEM OPERABILITY * REFUELING * COLO * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * INSTRUMENT, CONTROL

120449

FOREIGN MATERIAL FOUND IN A FUEL BUNDLE AT FT. CALHOUN 1
OMAHA PUBLIC POWER DISTRICT, OMAHA, NE
5 PGS, LTR D/LER 50-285/76-41 TO U.S. NRC, REGION IV, DEC. 15, 1976, DCKET 50-285, TYPE--PWR, RFG--CORP., AE--
GIBBS & HILL

CAUSE - BREAKDOWN OF FLEXITALLIC GASKET. DURING SPENT FUEL INSPECTION CONDUCTED DURING THE REFUELING OUTAGE, A SMALL FRAGMENT OF FOREIGN MATERIAL WAS FOUND IN FUEL BUNDLE C115. IT WAS RECOVERED AND IDENTIFIED AS A PIECE OF FLEXITALLIC VALVE GASKET. VALVE CAVITATION MAY HAVE RESULTED IN THE BREAKDOWN OF THE GASKET MATERIAL.

110002 *CONTINUED*
 AVAILABILITY - MRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FT. CALMCLA I (PWR) * * * * * CHAUD * * * * * FUEL ELEMENTS * * * * * INSERVICE INSPECTION * * * * * SEAL * * * * * MATERIAL * * * * * REFUELING

110452
 PENHOLE LEAK FOUND IN CHARGING PUMP DISCHARGE DRAIN LINE AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 75-12 TO NRC OFFICE OF I & E, REGION I, JAN. 8, 1976, DOCKET 50-244, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CASE - FAULTY WELD. DURING AN INSPECTION WHILE OPERATING AT 100% POWER, A PENHOLE LEAK WAS NOTED IN A 1/2-IN SOCKET WELD ON CHARGING PUMP DISCHARGE DRAIN LINE. THE LEAK WAS THROUGH A FAULTY WELD. THIS PIPING SECTION INCLUDED A REPAIRED LEAK (REPORTED 11/13/75). THE AFFECTED PIPING SECTION WAS REMOVED AND REFABRICATED USING NEW PIPING. ALL NEW WELDS WERE LIQUID PENETRANT INSPECTED.

AVAILABILITY - MRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * * * * * WELDS * * * * * FAILURE, INSTALLATION ERROR * * * * * MAIN COOLING SYSTEM * * * * * LEAK * * * * * GINNA (PWR) * * * * * FEEDWATER * * * * * PIPES AND PIPE FITTINGS

110220
 STEAM GENERATOR TUBE DEGRADATION OCCURS AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 75-13 TO NRC OFFICE OF I & E, REGION I, JAN. 26, 1976, DOCKET 50-244, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CASE - UNKNOWN. DURING FULL POWER OPERATION, SHUTDOWN ISOLATION OCCURRED. IODINE ACTIVITY WAS DETECTED IN STEAM GENERATOR D DRAINDOWN. EDDY CURRENT TESTING LOCATED A DEFECT BELOW THE TOP OF THE TUBE SHEET IN THE LEAKING TUBE. TESTS OF 57 TUBES IN THIS AREA SHOWED 1 OTHER TUBE WITH A 50% DEFECT AT THE TOP OF THE TUBE SHEET. BOTH TUBES WERE PLUGGED. DEFECTS WERE LOCATED ON THE DCT LEG PERIPHERY, AN AREA OF NO PREVIOUS PROBLEMS AND IS CONSIDERED A RANDOM FAILURE. EXAMINATION OF SIMILAR AREAS IS SCHEDULED IN MARCH 1976.

AVAILABILITY - MRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT INTEGRITY * * * * * PLAN * * * * * FAILURE, TUBING * * * * * STEAM GENERATOR * * * * * TUBING * * * * * LEAK * * * * * ULTRASONICS * * * * * GINNA (PWR) * * * * * REACTOR SHUTDOWN

111419
 UNDERVOLTAGE RELAY FAILS TO DE-ENERGIZE AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 50-244/76-06 TO NRC OFFICE OF I & E, REGION I, FEB. 19, 1976, DOCKET 50-244, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CASE - DEPOSIT ON PLUNGER SHAFT. DURING TESTING WITH THE UNIT IN A REFUELING OUTAGE, AN UNDERVOLTAGE RELAY FAILED TO DRIP TO THE DE-ENERGIZED POSITION. THE MALFUNCTION WAS DUE TO A BUILDUP OF BUSHING DEPOSITS ON THE PLUNGER SHAFT. ALL 4 WESTINGHOUSE TYPE 5V 75-150V AC UNDERVOLTAGE RELAYS WERE FIELD STRIPPED TO CLEAN THE PLUNGERS. THEY WERE RETESTED SATISFACTORILY. THREE PREVIOUS FAILURES HAVE OCCURRED. NEW TYPE RELAYS WILL BE INSTALLED DURING THIS OUTAGE.

AVAILABILITY - MRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * * * * * FAILURE, INSTRUMENT * * * * * CHAUD * * * * * MODIFICATION * * * * * REFUELING * * * * * TEST, SYSTEM OPERABILITY * * * * * FAILURE, DESIGN ERROR * * * * * GINNA (PWR) * * * * * DELAYS

110250
 RHM SYSTEM LOW PRESSURE PIPING LEAKS EXCESSIVELY AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 76-03 TO NRC OFFICE OF I & E, REGION I, FEB. 8, 1976, DOCKET 50-244, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CASE - FLANGE BOLTS TIGHTENED IMPROPERLY. DURING ROUTINE 105 PSIG HYDRO TESTING OF RHM SUCTION PIPING FROM CV SUMP TO REACTOR COOLANT DRAIN TANK PUMPS, A LEAK (2.85 GPM) WAS FOUND AT PUMP A Suction FLANGE. AFTER MAINTENANCE, FLANGE BOLTS WERE TIGHTENED PROPERLY FOR NORMAL OPERATING PRESSURE BUT NOT SUFFICIENTLY FOR TEST PRESSURE. BOLTS WERE TIGHTENED AND LEAKAGE WAS REDUCED TO ZERO. MAINTENANCE PROCEDURES WILL BE MODIFIED.

AVAILABILITY - MRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TEST, SYSTEM OPERABILITY * * * * * FAILURE, MAINTENANCE ERROR * * * * * FLANGE * * * * * SHUTDOWN COOLING SYSTEM * * * * * LEAK RATE * * * * * GINNA (PWR) * * * * * PIPES AND PIPE FITTINGS

11038C

COMPONENT COOLING PUMP COUPLING FAILS AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 70-02 TO NRC OFFICE OF I & E, REGION I, FEB. 6, 1976, DOCKET 50-240, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CAUSE - TWO COUPLING BOLTS BECAME LOOSE DURING NORMAL RUNS WITH THE REACTOR AT COLD SHUTDOWN. THE OPERATOR NOTICED THAT COMPONENT COOLING PUMP B WAS NOISY. THE COUPLING BEGAN TO FAIL AFTER 2 COUPLING BOLTS BECAME LOOSE. THE DAMAGED COUPLING WAS REPAIRED, MOTOR REALIGNED, AND THE PUMP RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * FASTENER * PRIMARY COOLING * GINNA (PWR) * FAILURE, INHERENT * PUMPS

11039C

CV PURGE SUPPLY AND EXHAUST VALVES LEAK EXCESSIVELY AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 70-01 TO NRC OFFICE OF I & E, REGION I, FEB. 6, 1976, DOCKET 50-240, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CAUSE - LOW AMBIENT TEMPERATURE. DURING TESTING PRIOR TO HEATUP, CV PURGE SUPPLY AND EXHAUST VALVES LEAKED EXCESSIVELY. A POSSIBLE CAUSE IS LOW AMBIENT TEMPERATURE DURING SHUTDOWN. LEAKAGE CHECKS AND ADJUSTMENTS HAVE BEEN NECESSARY AFTER EXTENDED OPERATION OF THE PURGE SYSTEM. VALVES HAVE PERFORMED SATISFACTORILY DURING POWER OPERATION. RUBBER SEAT ADJUSTMENT SHOES WERE REALIGNED. LEAK RATES RETURNED TO ACCEPTABLE LEVELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT PURGE * TEST, SYSTEM OPERABILITY * LEAK RATE * GINNA (PWR) * FAILURE, INHERENT * VALVES

11170S

SUMP DISCHARGE VALVE FAILS TO CLOSE AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 2 PGS, LTR D/NO 70-07 TO NRC OFFICE OF I & E, REGION I, MARCH 1, 1976, DOCKET 50-240, TYPE--PWR, NRC--WEST., AE--GILBERT ASSOC.

CAUSE - IMPROPERLY ADJUSTED RELAY. DURING VALVE ALIGNMENT VERIFICATION FOLLOWING MANUAL CONTAINMENT ISOLATION AND CONTAINMENT VENTILATION ISOLATION IN PREPARATION FOR SHUT, SUMP A DISCHARGE VALVE HAD NOT CLOSED. RELAYS IN TRIN A WOULD NOT LATCH AND WOULD DROP BACK ON RELEASE OF THE PUSHBUTTON. THE TESTINGHOUSE, TYPE NC-6 RELAYS, STYLE 28V0303A11, 125 VDC, WERE FOUND WITH IMPROPER LATCH SCREW FACTORY ADJUSTMENT. IDENTICAL RELAYS FROM THE ORIGINAL SPARE PARTS WERE ADJUSTED AND INSTALLED. REMOVED RELAYS WERE ADJUSTED AND STORED AS SPARES. REMAINING NC-6 RELAYS WILL BE CHECKED DURING THE REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * CONTAINMENT ISOLATION * FAILURE, INSTRUMENT * FAILURE, FABRICATION ERROR * REFUELING * TEST, SYSTEM OPERABILITY * GINNA (PWR) * VALVES * RELAYS

11217

ABNORMAL DEGRADATION OF STEAM GENERATOR TUBES AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 20 PGS, LTR D/NO 70-08 TO NRC OFFICE OF I & E, REGION I, MARCH 11, 1976, DOCKET 50-219, TYPE--BWR, NRC--G.E., AE--BURRS & PCE

CAUSE - CORROSION BY RESIDUAL PHOSPHATES. A PLANNED 100% BODY CURRENT EXAMINATION OF BOTH STEAM GENERATORS WAS CONDUCTED DURING THE REFUELING/TURBINE MAINTENANCE OUTAGE. DEFECTS ABOVE THE 475 BAGGAGE LIMIT WERE FOUND IN 39 TUBES IN SG A INLET AND 2 TUBES IN SG B INLET. THESE WERE EXPLOSIVELY PLUGGED. LOCAL CORROSION OF TUBE SURFACE WAS CAUSED BY CONCENTRATIONS OF RESIDUAL PHOSPHATES. AN ALL VOLATILE TREATMENT WATER CHEMISTRY CONTROL WAS STARTED NOVEMBER 1975 AND ADHERENCE TO THIS HAS BEEN GOOD. A COMPLETE BODY CURRENT PROGRAM DESCRIPTION AND REPORT IS ATTACHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PCORROSION * REFUELING * TEST, SYSTEM OPERABILITY * TEST, NONDESTRUCTIVE * WATER TREATMENT * FAILURE, DESIGN ERROR * FAILURE, TUBING * STEAM GENERATOR * TUBING * GINNA (PWR)

11213B

CONTROL ROOM CHARCOAL FILTER DAMPER ORIENTED IMPROPERLY AT GINNA
 ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
 3 PGS, LTR D/NO 70-11 TO NRC OFFICE OF I & E, REGION I, MARCH 10, 1976, DOCKET 50-240, TYPE--PWR, NRC--WEST.,

112120 (CONTINUED)
AE--GILBERT ASSOC.

CAUSE - FAILURE TO CORRECT DEFICIENCY. JUNING PLOD TEST OF THE CONTROL ROOM VENTILATION SYSTEM IN PREPARATION FOR CHANGING FILTER EFFICIENCY TEST WITH THE UNIT SHUT DOWN FOR REFUELING. THERE WAS ZERO FLOW INDICATED FOR CLEANER FILTERING PATH, DESIGNED FOR 25% TOTAL SYSTEM FLOW. THE FILTER INLET WARMER STAGED CLOSE OPEN SYSTEM WAS TRANSFERRED TO ACCORDING ROOM OPERATION. THE DRIVE PISTON WAS IMPROPERLY MOUNTED DURING CONSTRUCTION. DEFICIENCY WAS IDENTIFIED BY THE COMMERCIAL TESTER IN PREOPERATIONAL TESTING. CORRECTIVE ACTION WAS NOT TAKEN. TESTS FAILED TO IDENTIFY THE ERROR. THE DRIVE PISTON HAS NOW BEEN REORIENTED FOR CORRECT ORIENTATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HAZARD CLEANING * FAILURE, EQUIPMENT * VENTILATION SYSTEM * MODIFICATION * REFUELING * TEST, SYSTEM OPERABILITY * FAILURE, ADMINISTRATIVE CONTROL * FAILURE, INSTALLATION ERROR * CONTROL PANEL/ROOM * GINNA (PWR)

112124
CONTAINMENT PURGE VALVE LEAKS EXCESSIVELY AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR W/NU 78-10 TO NRC OFFICE OF I & E, REGION 1, MARCH 22, 1978, DOCKET 50-244, TYPE--PWR, NRC--BEST., AE--GILBERT ASSOC.

CAUSE - EXCESSIVE FRICTION IN OPERATOR. DURING TESTING WITH THE REACTOR IN REFUELING MODE, EXCESSIVE LEAKAGE WAS OBSERVED FROM THE INSIDE CONTAINMENT PURGE SUPPLY VALVE. VALVE MOTION WAS ERATIC AND THE VALVE DID NOT CLOSE FULLY EACH TIME. EXCESSIVE FRICTION BETWEEN THE SPRING CYLINDER ASSEMBLY PISTON SHAFT AND ITS GUIDE BUSHING RESULTED FROM THE SHAFT BEING HEAVILY SCORED. THE SHAFT WAS SMOOTHED, POLISHED, AND OILY LUBRICATED. A LEAK RETEST WAS SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT PURGE * TEST, LEAK RATE * REFUELING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * LEAK RATE * GINNA (PWR) * VALVE OPERATORS * OVALS

112125
EMERGENCY GENERATOR OVERCURRENT RELAY TRIPS PREMATURELY AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR W/NU 78-05 TO NRC OFFICE OF I & E, REGION 1, MARCH 22, 1978, DOCKET 50-244, TYPE--PWR, NRC--BEST., AE--GILBERT ASSOC.

CAUSE - RELAY FAILURE. DURING PREVENTIVE MAINTENANCE CIRCUIT BREAKER TESTING WITH THE PLANT IN REFUELING MODE, A BREAKER FROM EMERGENCY GENERATOR A TRIPPED PREMATURELY. PHASE C OVERCURRENT TRIP RELAY ACTUATED 6 SECONDS EARLIER THAN DESIRED. IT WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * INSTANTANT, PROTECTIVE * FAILURE, INSTANTANT * REFUELING * TEST, SYSTEM OPERABILITY * GINNA (PWR) * FAILURE, INHERENT * BREAKER * RELAYS

112127
CONTAINMENT AIR LOCK HANDWHEEL SHAFT SEAL LEAKS AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR W/NU 78-12 TO NRC OFFICE OF I & E, REGION 1, APRIL 23, 1978, DOCKET 50-244, TYPE--PWR, NRC--BEST., AE--GILBERT ASSOC.

CAUSE - PACKING NUT BACK OFF. DURING ROUTINE 60 PSIG PRESSURE DECAY TEST OF THE PERSONNEL MATCH AIR LOCK, EXCESSIVE LEAKAGE WAS OBSERVED FROM AN OUTER DOOR HANDWHEEL SHAFT PACKING. THE SHAFT PACKING NUT HAD BACKED OFF DUE TO REPEATED DOOR OPERATION DURING REFUELING OUTAGE MAINTENANCE ACTIVITIES. THE NUT WAS TIGHTENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TEST, LEAK RATE * CONTAINMENT AIR LOCK * REFUELING * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * SEAL * LEAK RATE * GINNA (PWR)

112128
POWER RANGE DETECTOR HIGH VOLTAGE POWER SUPPLY FAILS AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
4 PGS, LTR W/NU 78-14 TO NRC OFFICE OF I & E, REGION 1, MAY 10, 1978, DOCKET 50-244, TYPE--PWR, NRC--BEST., AE--GILBERT ASSOC.

CAUSE - UNKNOWN. WHILE OPERATING AT 40% POWER, A POWER RANGE HIGH VOLTAGE POWER SUPPLY FAILED TO THE 57V DC INITIATING A FALSE DROPPED ROD INSTABLE ACTUATION, RESULTING IN A TURBINE HUNBACK. THE POWER SUPPLY WAS REPLACED WITH A SPARE. DURING TROUBLE SHOOTING IN THE SHOP, THE REMOVED UNIT STARTED FUNCTIONING WITHOUT REPAIR. IT HAS BEEN RETURNED TO THE MANUFACTURER FOR INVESTIGATION.

113704 CONTINUED

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * ELECTRIC POWER * FAILURE, INSTRUMENT * INSTRUMENT, POWER RANGE * GINNA (PWR) * ELECTRONIC FUNCTION UNITS

113702

TWO CONTROL ROOMS DROP AT GINNA

ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY

2 PGS, LTR W/NO 70-13 TO NRC OFFICE OF I & E, REGION I, MAY 11, 1976, DOCKET 50-244, TYPE--PWR, NRG--WEST., AE--GILBERT ASSOC.

CASE - UNKNOWN. DURING POWER ESCALATION TO 70% POWER, TURBINE RUNBACK OCCURRED WHEN BANK B GROUP 3 MCC'S G8 AND G9 DROPPED. THESE ROOMS HAD DROPPED ON 2 PREVIOUS OCCASIONS INVOLVING WATER LEAKS OVER THE CABINETS. WITH THE UNIT IN HOT SHUTDOWN, AN INVESTIGATION FOUND THAT FAILURE MAY HAVE BEEN CAUSED BY P.C. CARDS. THE 4 CARDS WERE REPLACED AND THE UNES REMOVED SENT TO WESTINGHOUSE FOR INVESTIGATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * FAILURE, INSTRUMENT * GINNA (PWR) * REACTOR SHUTDOWN * CONTROL ROOMS * ELECTRONIC FUNCTION UNITS

113772

RELAYS FOR CONTAINMENT ISOLATION TRAIN TESTED AT GINNA

ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY

2 PGS, LTR W/SUPPLEMENTAL RPT ON SO 70-07 TO NRC OFFICE OF I & E, REGION I, MAY 14, 1976, DOCKET 50-244, TYPE--PWR, NRG--WEST., AE--GILBERT ASSOC.

CASE - MISADJUSTMENT. AS REPORTED EARLIER, A RELAY FOR TRAIN A CONTAINMENT ISOLATION AND CONTAINMENT VENTILATION ISOLATION FAILED TO LATCH DUE TO IMPROPER CLEARANCE BETWEEN THE ELECTROMAGNET POLE FACE AND THE RAISED SECTION OF THE ARMATURE WHICH STRIKES THE POLE FACE. WESTINGHOUSE MANUAL STATES THAT THE CLEARANCE SHOULD BE BETWEEN .005 AND .015 INCH. DURING REFUELING OUTAGE TESTING, 14 REMAINING RELAYS WERE CHECKED. NINE HAD .012 INCH CLEARANCE, 2 HAD .006 INCH, 2 HAD .005 AND 1 HAD LESS THAN .005 INCH. ALL WERE ADJUSTED TO .012 INCH. THEY WILL BE CHECKED AGAIN NO LATER THAN THE NEXT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * MAINTENANCE AND REPAIR * CONTAINMENT ISOLATION * VENTILATION SYSTEM * REFUELING * TEST, SYSTEM OPERABILITY * GINNA (PWR) * RELAYS

114204

STEAM GENERATOR TUBE LEAKS AT GINNA

ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY

3 PGS, LTR W/NO 70-15 TO NRC OFFICE OF I & E, REGION I, MAY 24, 1976, DOCKET 50-244, TYPE--PWR, NRG--WEST., AE--GILBERT ASSOC.

CASE - UNDER INVESTIGATION. DURING 99% POWER OPERATION, AIN EJECTION AND BLUEBOOK RADIATION MONITORS ALARMED. ANALYSIS OF SG B BLOWDOWN SHOWED IODINE ACTIVITY PPM = CALCULATED LEAK RATE OF 0.06 GPM. EDDY CURRENT TESTING VERIFIED THE LEAKING TUBE, TWELVE OTHERS IN THE ADJACENT ANF, WHICH APPEARED TO HAVE SIMILAR IC TYPE INDICATIONS AT ABOUT 3 INCHES ABOVE THE TUBE SHEET WERE ALSO PLUGGED. ADDITIONAL TESTING OF 1000 TUBES FOUND 1 OTHER TUBE, NOT IN THE PERIPHERY, WHICH REQUIRED PLUGGING. THE INVESTIGATION OF STEAM GENERATOR TUBE FAILURES IS CONTINUING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TEST, NONDESTRUCTIVE * FAILURE, TUBING * STEAM GENERATOR * TUBING * PLEAK * GINNA (PWR) * REACTOR SHUTDOWN * FAILURE, COMMON MODE

114202

SUPPLEMENTAL REPORT ON AIRLOCK HANDWHEEL SHAFT LEAKAGE AT GINNA

ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY

1 PG, LTR W/SUPPLEMENTAL RPT ON RC 70-12 TO NRC OFFICE OF I & E, REGION I, MAY 25, 1976, DOCKET 50-244, TYPE--PWR, NRG--WEST., AE--GILBERT ASSOC.

CASE - DESIGN DEFICIENCY. EXCESSIVE LEAKAGE THROUGH THE CONTAINMENT PERSONNEL AIRLOCK HANDWHEEL SHAFT SEAL DURING TESTING WAS REPORTED ON APRIL 23. PLANNED CORRECTIVE ACTION IS TO PLACE KEYPERS ON THE PACKING GLAND NUTS TO PREVENT THEM FROM ROTATING WITH THE SHAFT. THESE WILL BE INSTALLED AT A FUTURE OUTAGE WHEN THE DOOR ASSEMBLIES CAN BE DISMANTLED. PROCEDURES WERE MODIFIED TO REQUIRE A MECHANIC TO VERIFY PROPER SEATING OF THE PACKING GLAND NUT PRIOR TO TESTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

114202 (CONTINUED)
CONTAINMENT AIR LOCK * MODIFICATION * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * OSEAL * LEAK RATE *
GINNA (PWR)

115001
SUPPLEMENTAL REPORT ON CONTAINMENT PURGE VALVE LEAKAGE AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
1 PGS. LTR D/W/NO 76-18 TO NRC OFFICE OF I & E, REGION I, JUNE 21, 1976. DCKET 50-244. TYPE--PWR. NRC--WEST.,
AE--GILBERT ASSOC.

CAUSE - SEAT OUT-OF-ADJUSTMENT. ON 3/22/76 EXCESSIVE LEAKAGE THROUGH A CONTAINMENT PURGE VALVE
WAS REPORTED. A VENDOR REPRESENTATIVE INSPECTED THE HEAVY PART 40 INCH VALVE. HE MADE VALVE
SEAT RETAINING SEGMENT ADJUSTMENTS AND APPLIED LUBRICANT TO THE VALVE SEAT AND THE OPERATOR
SPRING. THE VALVE SEAT WAS IN GOOD CONDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT PURGE * MAINTENANCE AND REPAIR * EXAMINATION * LEAK RATE * GINNA (PWR) *
FAILURE, INHERENT * VALVES

115725
ACCUMULATOR LEVEL DROPS BELOW LIMIT AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS. LTR W/NO 76-17 TO NRC OFFICE OF I & E, REGION I, JULY 15, 1976. DCKET 50-244. TYPE--PWR. NRC--WEST.,
AE--GILBERT ASSOC.

CAUSE - PROCEDURAL DEFICIENCY. DURING TESTING WITH THE REACTOR AT 100% POWER, ACCUMULATOR A DRAIN
VALVE WAS OPENED WITH CONTROLS AT THE REAR OF THE CONTROL BOARD. THE OPERATOR THEN PROCEEDED TO
THE FRONT OF THE CONTROL BOARD TO MONITOR LEVEL INDICATOR. READING MORE CONSERVATIVE THAN THOSE
AT THE REAR AND NOTED LEVEL LOWERED TO 40%. PROCEDURES DID NOT PROVIDE PRECAUTION RELATIVE TO
OPERATOR REMAINING AT VALVE CONTROLS WHILE LOWERING LEVEL. PROPER LEVEL WAS RESTORED IN 11
MINUTES. PROCEDURES WERE REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

PROCEDURES AND MANUALS * TEST, SYSTEM OPERABILITY * FAILURE, ADMINISTRATIVE CONTROL * SYSTEM CAPACITY * GINNA
(PWR) * ACCUMULATORS

115727
BUS BREAKER FROM EMERGENCY GENERATOR FAILS AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
3 PGS. LTR W/NO 76-20 TO NRC OFFICE OF I & E, REGION I, JULY 16, 1976. DCKET 50-244. TYPE--PWR. NRC--WEST.,
AE--GILBERT ASSOC.

CAUSE - SWITCH LINKAGE WEAR. ON COMPLETION OF A TEST OF EMERGENCY GENERATOR 1A WITH THE REACTOR
AT 100% POWER, THE OPERATOR OPENED BUS 10 BREAKER FROM EG AND RECEIVED A DIESEL GENERATOR SUPPLY
BREAKER OVERCURRENT TRIP ALARM. KNOWING THIS WAS INVALID, HE ATTEMPTED TO RESET THE BREAKER
ELECTRICALLY BUT THE ALARM DID NOT CLEAR. THE BREAKER WAS MANUALLY RESET. WEAR IN THE SHUNT
TRIP ALARM SWITCH LINKAGE PREVENTED THE BREAKER FROM RESETTING ELECTRICALLY. WITH THE EG
RUNNING, SHUNT TRIP ASSEMBLY SPRING TENSION WAS INCREASED AND THE BREAKER OPERATED. WHEN THIS
INCIDENT OCCURRED, THE OPERATOR DID NOT START EG 1B. ALARM RESPONSE CARDS WERE UPDATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * GINNA (PWR) * FAILURE, INHERENT *
WEAR * BREAKER * ENGINE, INTERNAL COMBUSTION * GENERATOR, DIESEL

115740
LIQUID RADIOACTIVITY RELEASED WITHOUT CONTINUOUS MONITOR AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
3 PGS. LTR W/NO 76-19 TO NRC OFFICE OF I & E, REGION I, JULY 16, 1976. DCKET 50-244. TYPE--PWR. NRC--WEST.,
AE--GILBERT ASSOC.

CAUSE - DESIGN MODIFICATION OMISSION. DURING RECLAIMING OF STEAM GENERATOR BLOWDOWN WATER BY
PROCESSING IN RAW WATER TREATMENT PLANT DEMINERALIZERS, IT WAS DETERMINED THAT 11 LOW LEVEL
RELEASES WERE MADE FROM THE NEUTRALIZING TANK. ALTHOUGH ACTIVITY WAS DETERMINED BY SAMPLING
PRIOR TO EACH RELEASE, RELEASES WERE MADE WITHOUT CONTINUOUS USE OF A GROSS ACTIVITY MONITOR. THE
BLOWDOWN RECOVERY SYSTEM WAS RECENTLY INSTALLED. THE DISCHARGE LINE FROM THE NEUTRALIZING TANK
DOES NOT HAVE A MONITOR. A TEMPORARY LINE HAS BEEN INSTALLED TO A WASTE MONITOR. A PERMANENT
SCHEMATIC IS BEING STUDIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

EQUIPMENT * WASTE DISPOSAL, LIQUID * MODIFICATION * RADIOACTIVITY RELEASE * FAILURE, DESIGN ERROR * MONITORING
SYSTEM, MAGNETIC * GINNA (PWR) * RADIATION MONITORS

11565

CONTROL RODS GROUP AT GENNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
3 PGS, LTR D/RD 70-10 TO NRC OFFICE OF I & E, REGION 1, JULY 19, 1970. Docket 50-244, TYPE--PWR, NRC--BEST.,
AE--GILBERT ASSOC.

CAUSE - UNKNOWN. DURING OPERATION AT 100% POWER, A TURBINE RUNBACK OCCURRED WHEN 2 BANK B GROUP 4
RCC'S DROPPED. THESE 2 MAC DROPPED ON 3 PREVIOUS OCCASIONS, 2 OF WHICH INVOLVED WATER LEAKS UNDER
THE CABINET. ALARM CARD INDICATED A STATIONARY A REGULATION FAILURE. THE UNIT WAS BROUGHT TO
HOT SHUTDOWN. BASED ON SIMILAR EXPERIENCE AT OTHER PLANTS, WESTINGHOUSE RECOMMENDS REPLACEMENT OF
CERTAIN FUSES, CAPACITORS, AND RESISTORS IN BANK B GROUP 2 STATIONARY CIRCUITRY AND REQUESTS THE
PLACES BE RETURNED FOR X-RAY EXAMINATION. PARTS WILL BE ORDERED AND INSTALLED AT THE EARLIEST
CONVENIENT TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, COMPONENT * CONTROL SYSTEM * REACTOR CONTROL * GENNA (PWR) * REACTOR SHUTDOWN * FAILURE, COMMON MODE
* CONTROL RODS

11600

ERROR FOUND IN WESTINGHOUSE SAFETY ANALYSIS METHODS AT GENNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR D/RD 70-22 TO NRC OFFICE OF I & E, REGION 1, AUG. 19, 1970. Docket 50-244, TYPE--PWR, NRC--BEST.,
AE--GILBERT ASSOC.

CAUSE - INCORRECT ASSUMPTION. WESTINGHOUSE NOTIFIED BUREAU OF A CHANGE IN THE ASSUMPTIONS TO BE
USED BY WESTINGHOUSE IN THE SAFETY ANALYSIS METHODS FOR THE LOCA. THE ORIGINAL ANALYSIS ASSUMED
THAT LOWER HEAD REGION FLUID TEMPERATURE WAS AT T-COLD. IT HAS BEEN SHOWN THAT THE ACTUAL UPPER
HEAD FLUID TEMPERATURE WAS SOMEWHAT GREATER. REANALYSIS WITH T-COLD EQUAL TO T-HOT ON A GENERIC
BASIS FOUND THAT THE PEAK CLADDING TEMPERATURE FOR LOCA INCREASES BY 40 F. OTHER ACCIDENT
CALCULATIONS ARE NOT AFFECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * ACCIDENT, LOSS OF COOLANT * FAILURE, DESIGN ERROR * MATHEMATICAL TREATMENT *
FUEL ROD * GENNA (PWR) * TEMPERATURE

11705

INCORRECT PIPING INSTALLED FOR RECIFICATION AT GENNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR D/RD 70-23 TO NRC OFFICE OF I & E, REGION 1, SEPT. 10, 1970. Docket 50-244, TYPE--PWR, NRC--BEST.,
AE--GILBERT ASSOC.

CAUSE - INADEQUATE ADMINISTRATIVE CONTROLS. DURING REVIEW BY CONTRACTOR QC PERSONNEL OF WORK
DOCUMENTATION PACKAGE, IT WAS DETERMINED THAT PIPING INSTALLED IN S1 TEST LINE DURING SPRING 1970
REFUELING SHUTDOWN WAS 3/4 INCH SCH 40 STAINLESS STEEL RATHER THAN THE 3/4 INCH SCH 80 STAINLESS
STEEL SPECIFIED. IT WOULD HAVE BEEN CAPABLE OF FULFILLING ITS INTENDED FUNCTION. ADMINISTRATIVE
CONTROLS WERE INADEQUATE TO ASSURE PROPER INSTALLATION OF MATERIALS. WITH THE UNIT SHUT DOWN,
THE CONTRACTOR IMMEDIATELY REPLACED THE PIPING WITH CORRECT MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

TESTING * MATERIAL * MODIFICATION * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * GENNA (PWR) *
INSTALLATION * PIPES AND PIPE FITTINGS

11805

LEAKS FOUND IN BORIC ACID PIPING AT GENNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
3 PGS, LTR D/RD 70-24 TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1970. Docket 50-244, TYPE--PWR, NRC--BEST.,
AE--GILBERT ASSOC.

CAUSE - CHLORINE STRESS CORROSION CRACKING. DURING 100% POWER OPERATION, AN AUXILIARY OPERATION
FOUND AN ACCUMULATION OF DEBRATEE WATER NEAR A VALVE IN THE SAFETY INJECTION SYSTEM PIPING BETWEEN
THE BORIC ACID TANKS AND SAFETY INJECTION PUMPS. A LEAK WAS FOUND IN THE 0-INCH SCH 10 STAINLESS
STEEL PIPE. THE UNIT WAS PLACED IN COLD SHUTDOWN. LEAKS WERE FOUND IN 2 PIPE SECTIONS AND 3
OTHER SECTIONS HAD INDICATIONS. ALL 7 SECTIONS WERE REPLACED. METALLURGICAL ANALYSIS INDICATE
CHLORIDE STRESS CORROSION CRACKING AS THE CAUSE OF THE LEAKS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, PIPE * POISON, SOLUBLE * SAFETY INJECTION * STEEL, STAINLESS * STRESS CORROSION * LEAK * GENNA
(PWR) * REACTOR SHUTDOWN * CRACK * PIPES AND PIPE FITTINGS

11978

11575E *CONTINUED*
LEAK FOUND IN RHR SYSTEM RETURN PIPE VENT AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
2 PGS, LTR W/RO 76-23 TO NRC OFFICE OF I & E, REGION 1, NOV. 7, 1976, DOCKET 50-244, TYPE--PUR, NRC--WEST., AE--
-GILBERT ASSOC.

CAUSE - IMPROPER FITUP. DURING OPERATION OF THE RHR SYSTEM WHILE THE REACTOR WAS SHUT DOWN, AN OPERATOR NOTED A SMALL PUDDLE ON THE FLOOR AND DISCOVERED A LEAK AT THE WELDOLET TO NIPPLE WELD ON THE 3/4 INCH VENT ON THE RHR RETURN LINE. STRESSES WERE INDUCED DUE TO IMPROPER FITUP OF THE NIPPLE TO THE SOCKET WELDED CONSTRUCTION. THE NIPPLE APPEARED BOTTOMED IN THE SOCKET. A NEW NIPPLE WAS PROPERLY INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

GINNA (PWR) * PIPES AND PIPE FITTINGS * WELDS * SHUTDOWN COOLING SYSTEM * FAILURE, PIPE * LEAK * FAILURE, INSTALLATION ERROR

120427
CONTAINMENT SPRAY ADDITIVE CONTROLLER FAILS AT GINNA
ROCHESTER GAS & ELECTRIC CORP., ROCHESTER, NY
3 PGS, LTR W/RO 76-26 TO NRC OFFICE OF I & E, REGION 1, DEC. 8, 1976, DOCKET 50-244, TYPE--PUR, NRC--WEST., AE--
-GILBERT ASSOC.

CAUSE - CAPACITOR FAILURE/PCCR SOLDER JOINT. DURING ROUTINE CONTROL BOARD SURVEILLANCE WHILE OPERATING AT 100% POWER, IT WAS NOTICED THAT CONTROLLER OUTPUT FOR CV SPRAY NAHM VALVE 820A WAS LESS THAN 10 MA. TWO CAPACITORS CONSISTING OF 2 BANKS OF 3 CAPACITORS HAD BROKEN DOWN AND A RESISTOR HAD OPENED DUE TO ACID LEAKAGE FROM THE FAILED CAPACITORS. THE CONTROLLER IS A FORNARD MODEL 82M-2E (SPECIAL), 110V, 60 HZ, 10W, 10-50 MA OUTPUT PROPORTIONAL CONTROLLER. WITH A NEW BIAS BOARD INSTALLED, THE CONTROLLER WAS REINSTALLED. NEXT DAY, THE CONTROLLER FAILED AGAIN DUE TO A POOR COLD SOLDERED JOINT. THE JOINT WAS RESOLDERED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

GINNA (PWR) * CONTROL * VALVES * ADDITIVE * CONTAINMENT SPRAY * FAILURE, INSTRUMENT * FAILURE, INHERENT * TEST, SYSTEM OPERABILITY

115100
NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES ISSUED TO CONSOLIDATED EDISON
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
10 PGS, LTR W/ATTACH. TO CONSOLIDATED EDISON CO. OF NEW YORK, INC., JUNE 21, 1976, DOCKETS 50-3/247, TYPE--
PUR, NRC--BEG, AE--CON ED

A SPECIAL INSPECTION OF THE HEALTH PHYSICS PROGRAM WAS CONDUCTED AS A RESULT OF A 10.00 REM WHOLE BODY EXPOSURE TO A WORKER ON 5/9/76. BASED ON THE RESULTS OF THE INSPECTION, SEVERAL ACTIVITIES DO NOT APPEAR TO HAVE BEEN CONDUCTED IN FULL COMPLIANCE WITH NRC REQUIREMENTS. NRC PROPOSES TO IMPOSE CIVIL PENALTIES OF \$23000. ITEMS INCLUDE IMPROPER RADIATION SURVEYS AND PROPER POSTING OF HIGH RADIATION AREAS. UNIDENTIFIED RADIATION LEVELS AS HIGH AS 646 M/RM EXISTED IN AREAS ACCESSIBLE TO PERSONNEL IN THE REACTOR VESSEL SUMP ROOM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ECONOMICS * INDIAN POINT 1 (PWR) * MAINTENANCE AND REPAIR * COMPLIANCE * SURVEY, RADIATION * PERSONNEL EXPOSURE, RADIATION * RADIATION SAFETY AND CONTROL * FAILURE, ADMINISTRATIVE CONTROL * INDIAN POINT 2 (PWR) * LEGALISTIC * AGENCY, NRC

118657
ORDER IMPOSING CIVIL MONETARY PENALTIES UP TO \$20,050 AT INDIAN POINT 1 AND 2
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
50 PGS, LTR W/ATTACHMENTS TO CONSOLIDATED EDISON CO. OF NEW YORK, INC., AUG. 23, 1976, DOCKETS 50-3/247, TYPE--
PUR, NRC--BEG, AE--CON ED

CAUSE - INSUFFICIENT RADIATION CONTROL. BASED ON THE UTILITY'S RESPONSE TO A NOTICE OF VIOLATION CONCERNING ACTIVITIES RELATING TO IMPLEMENTATION OF THE HEALTH PHYSICS PROGRAM, PENALTIES ON 3 OF THE 7 ITEMS WERE MITIGATED FROM \$11,000 TO \$8,050. ENCLOSES AN ORDER IMPOSING CIVIL PENALTIES TOTALING \$20,050.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ECONOMICS * INDIAN POINT 1 (PWR) * COMPLIANCE * PERSONNEL EXPOSURE, RADIATION * RADIATION SAFETY AND CONTROL * FAILURE, ADMINISTRATIVE CONTROL * INDIAN POINT 2 (PWR) * LEGALISTIC

120308
FISH IMPINGED ON INTAKE SCREENS AT INDIAN POINT 1, 2, AND 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RPT TO NRC OFFICE OF I & E, REGION 1, NOV. 15, 1976, DOCKETS 50-003/247/286, TYPE--PUR, NRC--BEG,

120305 *CONTINUED*
AR--CON. ED.

CAUSE - HEAVY RAIN FALL. BEGINNING ON 10/11/76 AND CONTINUING UNTIL 10/26/76, UNITS 2 AND 3 EXPERIENCED HIGHER LEVELS OF FISH COLLECTIONS THAN HAD BEEN ENCOUNTERED DURING SIMILAR TIME PERIODS IN PREVIOUS YEARS. CORRECTIVE ACTION INCLUDED REMOVING CIRCULATORS FROM SERVICE, REMOVAL OF OBSTRUCTIONS WHICH CREATED OPENINGS AT THE BOTTOM OF THE FINE MESH SCREENS, AND REDUCTION IN POWER LEVEL. THE FISH WERE PRECIPITALLY YOUNG OF THE YEAR BLUEBACK MEASURING 2 INCHES LONG. HEAVY RAIN FALL FOR THE FIRST HALF OF OCTOBER CAUSED THE SALT FRONT IN THE HUDSON RIVER TO MOVE DOWNSTREAM. FISH WERE AT THE INTERFACE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 1 (PWR) + INDIAN POINT 2 (PWR) + INDIAN POINT 3 (PWR) + ANIMAL, FISH + MORTALITY + CONDENSED COOLING SYSTEM + FILTER, SCREEN + FAILURE, INHERENT + WEATHER, SEVERE

110327
FAN COOLER UNIT FAILS TO START AT INDIAN POINT 2
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/AD-75-2-28(B) TO NRC OFFICE OF I & E, REGION 1, JAN. 16, 1976, DOCKET 50-247, TYPE--PWR, RFG--WEST.. AR--UNITD ENGR

CAUSE - MECHANICAL TRIP BAR MISALIGNED. DURING FULL POWER OPERATION, AN ATTEMPT TO START FAN COOLER UNIT 22 RESULTED IN A BREAKER TRIP. DURING A SECOND ATTEMPT, A FLASH WAS OBSERVED IN THE BREAKER. THE MECHANICAL TRIP BAR IN THE 00V TESTINGHOUSE 20-50 CIRCUIT BREAKER WAS MISALIGNED. THE BREAKER WAS REPAIRED AND CHECKED TO BE SATISFACTORY. THE PCV WAS RETURNED TO SERVICE WITHIN THE REQUIRED TIME INTERVAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + *CONTAINMENT AIR COOLING + FAILURE, MAINTENANCE ERROR + INDIAN POINT 2 (PWR) + *RESEARCH + *BLOGGERS

110328
PINHOLE LEAK OCCURS IN THE FLUID HEAD OF CHARGING PUMPS AT INDIAN POINT 2
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/AD-75-2-29(B) TO NRC OFFICE OF I & E, REGION 1, JAN. 16, 1976, DOCKET 50-247, TYPE--PWR, RFG--WEST.. AR--UNITD ENGR

CAUSE - NOT STATED. DURING FULL POWER OPERATION, A PINHOLE LEAK WAS OBSERVED IN THE FLUID HEAD OF CHARGING PUMP 21. SHORTLY THEREAFTER A SIMILAR BUT LARGER LEAK PATH WAS OBSERVED IN CHARGING PUMP 23. PUMP 23 WAS RECOVERED FROM SERVICE AND THE HEAD REPLACED. PUMP 22 HEAD WAS REPLACED 3 DAYS LATER. THESE ARE VARIABLE SPEED, POSITIVE DISPLACEMENT, 98 GPM TYPE 0X-300 QUINTUPLEX PUMPS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + INDIAN POINT 2 (PWR) + MAIN COOLING SYSTEM + LEAK + FLEEWATER + *PUMPS

110329
PINHOLE LEAK OCCURS IN THE FLUID HEAD OF ANOTHER CHARGING PUMP AT INDIAN POINT 2
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/AD-75-2-30(B) TO NRC OFFICE OF I & E, REGION 1, JAN. 16, 1976, DOCKET 50-247, TYPE--PWR, RFG--WEST.. AR--UNITD ENGR

CAUSE - NOT STATED. DURING FULL POWER OPERATION, EXCESSIVE LEAKAGE WAS OBSERVED FROM THE FLUID HEAD OF CHARGING PUMP 23. A VERY SLIGHT SIMILAR LEAK HAD BEEN FOUND IN PUMP 22. NEW FLUID HEADS WERE INSTALLED ON PUMP 23 AND THEN ON PUMP 22 3 DAYS LATER. THESE ARE VARIABLE SPEED, POSITIVE DISPLACEMENT, 98 GPM TYPE 0X-300 QUINTUPLEX PUMPS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + INDIAN POINT 2 (PWR) + MAIN COOLING SYSTEM + LEAK + FLEEWATER + *PUMPS

110330
LEAK OCCURS INSIDE CONTAINMENT AT INDIAN POINT 2
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR W/AD-76-2-11(B) TO NRC OFFICE OF I & E, REGION 1, FEB. 2, 1976, DOCKET 50-247, TYPE--PWR, RFG--WEST.. AR--UNITD ENGR

CAUSE - VALVE PACKING GLAND LEAK. WHILE OPERATING AT 75% POWER, AN INCREASE IN CONTAINMENT HUMIDITY AND ACTIVITY WAS OBSERVED DURING INSTRUMENT SURVEILLANCE. DURING A CONTAINMENT ENTRY, STEAM WAS OBSERVED NEAR THE MOVABLE INCOME DETECTOR TRIMBLE SEAL TABLE. THE REACTOR WAS SHUTDOWN. LEAKAGE WAS FROM THE PACKING GLAND OF A VULCAN 16 INCH ROTON OPERATED GATE VALVE IN THE AMR SYSTEM. THE VALVE WAS REPLACED. THE MOVABLE INCOME DEFLECTOR SYSTEM DRAIN LINE WAS DISCONNECTED FROM THE VALVE LEAK OFF PIPING AND RUN SEPARATELY TO THE CONTAINMENT SUMP.

110920 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * FAILURE, EQUIPMENT * *SEAL * INDIAN POINT 2 (PWR) * SHUTDOWN COOLING SYSTEM * *LEAK * *REACTOR SHUTDOWN * FAILURE, INHERENT * *VALVES

110942
 SET POINT IN LEVEL BISTABLE LCD AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
 2 PGS, LTR W/NO-70-2-210) TO NRC OFFICE OF I & E, REGION 1, FEB. 13, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 TEST., AE--LIMIT ENGR

CAUSE - DEFECTIVE POWER SUPPLY. DURING TESTING WITH THE REACTOR AT 100% POWER, 1 OF THE 3 LOW STEAM GENERATOR LEVEL BISTABLES HAD A TRIP SETTING BELOW THE LIMIT. THE FORWARD R/63 ALARM UNIT OF THE LEVEL CONTROLLER HAD A DEFECTIVE POWER SUPPLY. THE DEFECTIVE BOARD WAS REPLACED AND THE TRIP SETTING ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * INDIAN POINT 2 (PWR) * STEAM GENERATOR * *SET POINT * ELECTRONIC FUNCTION UNITS * SENSORS, LEVEL

110944
 CONTAINMENT BISTABLE FAILS TO OPERATE AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
 2 PGS, LTR W/NO-70-2-310) TO NRC OFFICE OF I & E, REGION 1, FEB. 13, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 TEST., AE--LIMIT ENGR

CAUSE - DEFECTIVE ALARM CIRCUIT BOARD. DURING A SURVEILLANCE TEST WHILE OPERATING AT 100% POWER, 1 OF THE 8 HIGH CONTAINMENT PRESSURE BISTABLES FAILED TO OPERATE. THESE BISTABLES INITIATE CONTAINMENT SPRAY AND MAIN STEAM LINE ISOLATION ON HIGH CONTAINMENT PRESSURE. THE FORWARD R/63 ALARM UNIT HAD A DEFECTIVE ALARM CIRCUIT BOARD AND LOOSE FUSE CLIPS. THE DEFECTIVE BOARD WAS REPLACED AND THE FUSE CLIPS TIGHTENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * INDIAN POINT 2 (PWR) * SENSORS, PRESSURE * ELECTRONIC FUNCTION UNITS

111444
 CONTAINMENT PURGE VALVE LEAKS EXCESSIVELY AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
 2 PGS, LTR W/NO-70-2-410) TO NRC OFFICE OF I & E, REGION 1, FEB. 17, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 TEST., AE--LIMIT ENGR

CAUSE - FAILURE TO SEAT PROPERLY. WHILE OPERATING AT 100% POWER, WELD CHANNEL AND CONTAINMENT PENETRATION PRESSURIZATION SYSTEM LEAK RATE INDICATED GREATER THAN 10 SCFM. LEAKAGE WAS THROUGH A CONTAINMENT PURGE SUPPLY ISOLATION VALVE THAT DID NOT SEAT PROPERLY. A SEALANT APPLIED TO THE GLISSIDE EDGE OF THE FACE OF PITTSBURG, PA., 30-INCH WAFER-TYPE BUTTERFLY VALVE, TYPE CDE. REDUCED THE LEAK RATE TO LESS THAN 10 SCFM. THESE VALVES WILL BE REPLACED DURING THE FORTHCOMING REPUDDLING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT PURGE * CONTAINMENT ISOLATION * MODIFICATION * FAILURE, DESIGN ERROR * INDIAN POINT 2 (PWR) * *LEAK RATE * *VALVES

111448
 HYDRAULIC SHOCKER FOUND INOPERABLE AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
 2 PGS, LTR W/NO-70-2-510) TO NRC OFFICE OF I & E, REGION 1, FEB. 17, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 TEST., AE--LIMIT ENGR

CAUSE - LEAK THROUGH TIE ROD NUTS. DURING A COLD SHUTDOWN, AN INSPECTION FOUND AN HYDRAULIC SHOCKER ON THE DISCHARGE OF ACCUMULATOR 22 TO HAVE INSUFFICIENT FLUID. FLUID HAD LEAKED THROUGH LCCSE CYLINDER TIE ROD NUTS. THE BERGEN-PATERSON SHOCKER, MODEL HSSA-3-8, WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * *SHOCK ABSORBER * INDIAN POINT 2 (PWR) * SUPPORT STRUCTURE * SURVEILLANCE PROGRAM * *LEAK * *FAILURE, INHERENT * PIPES AND PIPE FITTINGS * ACCUMULATORS

111905

PROCESS RADIATION MONITOR FOUND INOPERABLE AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR NYRO-70-2-040) TO NRC OFFICE OF I & E, REGION 1, MARCH 10, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 WEST., AE--UNITD ENGR

CAUSE - SEIZED SAMPLE PUMP. DURING OPERATION AT 93% POWER, PROCESS RADIATION MONITOR 412 AND
 ASSOCIATED MONITOR #11 BECAME INOPERABLE DUE TO A SEIZED DRY AIR SAMPLE PUMP. THE CONDENSED DRY AIR
 PUMP, MODEL 6SPC0, WAS RESTORED TO SERVICE WITHIN THE REQUIRED TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT * SAMPLING * INDIAN POINT 2 (PWR) * MONITORING SYSTEM, RADIATION * FAILURE, INHERENT *
 PUMPS * RADIATION MONITORS

111910

CONCENTRATION IN BORIC ACID STORAGE TANK EXCEEDS LIMIT AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR NYRO-70-2-700) TO NRC OFFICE OF I & E, REGION 1, MARCH 10, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 WEST., AE--UNITD ENGR

CAUSE - IMPROPER SAMPLING. DURING OPERATION AT 93% POWER, ROUTINE CHEMICAL ANALYSIS OF BORIC ACID
 STORAGE TANK 21 SHOWED THE BORON CONCENTRATION TO BE 13.15. THE UPPER LIMIT IS 13.02. A HIGHLY
 CONCENTRATED BATCH HAD BEEN TRANSFERRED FROM THE BORIC ACID EVAPORATOR VIA THE CONCENTRATES TANKS
 TO STORAGE TANK 21. IN THE FUTURE, THE CONCENTRATES TANK WILL BE SAMPLED PRIOR TO TRANSFER. THE
 CONCENTRATION WAS RETURNED TO WITHIN LIMITS WITHIN THE SPECIFIED TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, OPERATOR ERROR * SAMPLING * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * CHEMICAL SMIR * INDIAN
 POINT 2 (PWR) * CONCENTRATION

113745

PROCESS RADIATION MONITOR FAILS AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR NYRO-70-2-1140) TO NRC OFFICE OF I & E, REGION 1, APRIL 9, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 WEST., AE--UNITD ENGR

CAUSE - SEIZED SAMPLE PUMP. WHILE THE REACTOR WAS OPERATING AT 100% POWER, PROCESS RADIATION
 MONITOR #12 AND ASSOCIATED MONITOR #11 BECAME INOPERABLE DUE TO A SEIZED SAMPLE PUMP. THE
 CONDENSED DRY AIR PUMP MODEL 6SPC0, WAS RESTORED TO SERVICE WITHIN THE TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT * SAMPLING * INDIAN POINT 2 (PWR) * FAILURE, INHERENT * PUMPS * RADIATION MONITORS

113746

BORIC ACID TRANSFER PUMP REMOVED FROM SERVICE AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR NYRO-70-2-1140) TO NRC OFFICE OF I & E, REGION 1, APRIL 9, 1976, DOCKET 50-247, TYPE--PWR, NRC--
 WEST., AE--UNITD ENGR

CAUSE - LEAKING SEAL. WITH THE UNIT OPERATING AT 90% POWER, BORIC ACID TRANSFER PUMP 21 WAS
 REMOVED FROM SERVICE TO REPAIR A LEAKING SEAL. THE JOHN CRANE, TYPE 1, BELLOWS SHAFT SEAL (06G.F-
 SP-10443) HAD A CRACKED ROTATING SEAL FACE. A NEW SEAL WAS INSTALLED AND THE PUMP RETURNED TO
 SERVICE WITHIN 24 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT * POISON, SOLUBLE * CHEMICAL SMIR * SEAL * INDIAN POINT 2 (PWR) * PLAK * FAILURE,
 INHERENT * CRACK * PUMPS

115514

OPERATOR RECEIVES OVEREXPOSURE AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS. LTR NYRPT TO NRC OFFICE OF I & E, APRIL 29, 1976, DOCKET 50-247, TYPE--PWR, NRC--WEST., AE--UNITD ENGR

CAUSE - FAILURE TO SURVEY. THE UNIT HAD BEEN SHUT DOWN FOR 5 DAYS FOR REFUELING. GAMMA FIELD
 MEASUREMENTS MADE SEVERAL HOURS AFTER SHUT DOWN AND ON THE FOLLOWING DAY SHOWED LEVELS IN THE
 SLUMP AREA BENEATH THE REACTOR VESSEL RANGING FROM 30 TO 150 R/HR. THIMBLES FOR IN-LINE
 DETECTORS WERE THEN REMOVED. AN INDIVIDUAL THEN ENTERED THE AREA TO DETERMINE LIGHTING
 REQUIREMENTS FOR SCHEDULED WORK. HE NOTED BOTH DOSIMETER OFF SCALE AND LEFT IMMEDIATELY. THE
 FIELD WAS ABOUT 600 R/HR. CALCULATED EXPOSURE WAS 10.06 REM FOR THE QUARTER. SOME THIMBLES WERE
 REINSERTED. ACCESS TO THE AREA WAS POSTED AND LOCKED.

115914 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + MAINTENANCE AND REPAIR + SURVEY, RADIATION + HIGH RADIATION + OPERATIONAL EXPOSURE, RADIATION + REFUELING + INDIAN POINT 2 (PWR) + CONTAINMENT: SUMP

110041
 PRESSURE DROP ACROSS DEMISTER AND HEPA FILTER EXCEEDS LIMIT AT INDIAN POINT 2
 CONSOLIDATED Edison CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS. LTR W/NO-70-2-121A) TO NRC OFFICE OF I & E, REGION 1, JUNE 3, 1970, DOCKET 50-207, TYPE--PWR, NRC--WEST.. AE--UNITS ENGR

CAUSE - DUST ACCUMULATION. DURING TESTING WITH THE REACTOR IN A REFUELING OUTAGE, THE PRESSURE DROP ACROSS THE DEMISTER AND HEPA FILTER FOR FAN COOLER UNIT 23 WAS FOUND TO BE 5.12 INCHES. THIS EXCEEDS THE 5.0 INCH LIMIT. THE CAUSE WAS DUST ACCUMULATION. THE DEMISTERS WILL BE WASHED PRIOR TO THE UNIT BEING RETURNED TO SERVICE. DUE TO CONTINUING NATURE OF THIS PROBLEM, THE DEMISTER SECTIONS WILL BE REPLACED WITH MODIFIED SECTIONS WHICH ARE ON ORDER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TEST, FILTER + CONTAINMENT AIR COOLING + CRUD + MODIFICATION + REFUELING + TEST, SYSTEM OPERABILITY + FAILURE, DESIGN ERROR + OVERPRESSURE UNOP + INDIAN POINT 2 (PWR) + FILTERS

110428
 ALL THREE SAFETY INJECTION PUMPS INOPERABLE AT INDIAN POINT 2
 CONSOLIDATED Edison CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO-70-2-1 TO NRC OFFICE OF I & E, REGION 1, SEPT. 15, 1970, DOCKET 50-207, TYPE--PWR, NRC--WEST.. AE--LECC

CAUSE - SUCTION VALVES CLOSED. DURING A REFUELING OUTAGE TEST OF SAFETY INJECTION EQUIPMENT, WHICH INCLUDES A BLACKOUT WITH A SIMULATED LOSS OF COOLANT, A NO-FLOW CONDITION WAS OBSERVED ON ALL 3 SAFETY INJECTION PUMPS ALTHOUGH THEY WERE RUNNING AS REQUIRED BY THE TEST. ATTEMPTS TO SHUT THEM DOWN WERE DELAYED BY THE PRESENCE OF THE SIMULATED SAFETY INJECTION SIGNAL. AS A RESULT, ALL 3 PUMPS WERE RUN FOR 10 MINUTES WITHOUT WATER TO THE SUCTION OF THE PUMPS WELDING ALL 3 PUMPS INOPERABLE. THE CORONA PUMP SUCTION VALVE AT THE REFUELING WATER STORAGE TANK WAS NOT OPENED AS REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + FAILURE, OPERATOR ERROR + PROCEDURES AND MANUALS + SAFETY INJECTION + REFUELING + TEST, SYSTEM OPERABILITY + INDIAN POINT 2 (PWR) + FLOW METERAGE + FAILURE, SIMULTANEOUS + PUMPS + VALVES

110191
 PRESSURE TRANSIENT OCCURS IN MAIN COOLING SYSTEM AT INDIAN POINT 2
 CONSOLIDATED Edison CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS. LTR W/NO-70-2-1511) TO NRC OFFICE OF I & E, REGION 1, SEPT. 20, 1970, DOCKET 50-207, TYPE--PWR, NRC--WEST.. AE--LECC

CAUSE - LOSS OF INSTRUMENT AIR. WHILE OPERATING WITH THE REACTOR COOLANT SYSTEM SOLID PREPARATORY TO PLACING A REACTOR COOLANT PUMP IN SERVICE, A PRESSURE TRANSIENT TO 515 PSIG WAS EXPERIENCED UPON INSTRUMENT AIR HEADER PRESSURE WAS LOST RESULTING IN CLOSURE OF LETDOWN VALVES AND OPENING OF BOTH CHARGING PATH VALVES WITH ONE CHARGE PUMP RUNNING. THE TRANSIENT WAS LIMITED BY AUTOMATIC OPERATION OF A BWR LETDOWN SYSTEM RELIEF VALVE. THE ROCKWELL 4-WAY INLET SWITCHING VALVE TO THE INSTRUMENT AIR DESSICANT DRYER MALFUNCTIONED. THE DRYER BYPASS VALVE WAS MANUALLY CLOSED BECAUSE OF A FAILED SOLENOID. BOTH VALVES WERE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 2 (PWR) + OVERPRESSURE TRANSIENT + MAIN COOLING SYSTEM + FAILURE, EQUIPMENT + VALVES + PNEUMATIC SYSTEM + INSTRUMENTS, RESC. + FAILURE, INHERENT + SOLENOID + REFUELING

110790
 CHLORIDE CONCENTRATION IN REACTOR EXCEEDS LIMIT AT INDIAN POINT 2
 CONSOLIDATED Edison CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO-70-2-101B) TO NRC OFFICE OF I & E, REGION 1, SEPT. 30, 1970, DOCKET 50-207, TYPE--PWR, NRC--WEST.. AE--LECC

CAUSE - UNKNOWN. DURING OPERATION OF THE RESIDUAL HEAT REMOVAL SYSTEM WITH THE REACTOR IN COLD SHUTDOWN FOR REFUELING, ROUTINE CHEMICAL ANALYSIS INDICATED A MAXIMUM CHLORIDE CONCENTRATION OF 0.5 PPM, WHICH EXCEEDS THE 0.15 PPM LIMIT. THE PURIFICATION SYSTEM WAS EMPLOYED TO RETURN THE CHLORIDE CONCENTRATION TO WITHIN SPECS IN ABOUT 4 HOURS. INVESTIGATION FAILED TO FIND THE SOURCE OF THE CHLORIDES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

110790 CONTINUED
 SAMPLING + CHEMICAL ANALYSIS + REFUELING + TEST, SYSTEM OPERABILITY + MAIN COOLING SYSTEM + CHLORINE + INDIAN POINT 2 (PWR) + CONCENTRATION + FAILURE, INHERENT

110770
 VOLUME OF WATER IN CONDENSATE STORAGE TANK LOW AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO 76-2-1610) TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1976. DOCKET 50-247, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - BLEED AND FEED OPERATION. DURING STARTUP PHYSICS TESTING WITH THE REACTOR AT 25 POWER, THE AMOUNT OF WATER IN THE CONDENSATE STORAGE TANK WAS REDUCED 60000 GALLONS BELOW THE MINIMUM OF 300000 GALLONS REQUIRED WHEN THE REACTOR IS ABOVE 350 F. THIS RESULTED FROM A BLEED AND FEED OPERATION TO LIMIT AND CONTROL THE CHLORIDE CONCENTRATION IN THE SECONDARY SIDE. THE CHLORIDE WAS DUE TO MAIN CONDENSER TUBE LEAKAGE. THE TANK WAS FILLED TO ABOVE THE MINIMUM WITHIN THE TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DILUTION + FAILURE, OPERATOR ERROR + CONDENSATION + STORAGE CONTAINER + INDIAN POINT 2 (PWR) + FAILURE, TUBING + CHLORIDE + CONDENSER + SYSTEM CAPACITY + COOLING SYSTEM, SECONDARY

110771
 WATER VOLUME IN CONDENSATE STORAGE TANK LOW AGAIN AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO 76-2-1710) TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1976. DOCKET 50-247, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - BLEED AND FEED OPERATION. DURING STARTUP PHYSICS TESTING WITH THE REACTOR AT 25 POWER, THE AMOUNT OF WATER IN THE CONDENSATE STORAGE TANK WAS REDUCED 60000 GALLONS BELOW THE MINIMUM OF 300000 GALLONS AS A RESULT OF A CONTINUING PROBLEM WITH EXCESS CHLORIDE IN THE SECONDARY SIDE OF THE STEAM GENERATORS. THE CHLORIDE WAS DUE TO MAIN CONDENSER TUBE LEAKAGE. A BLEED AND FEED OPERATION TO CONTROL CHLORIDE CONCENTRATION RESULTED IN THE LOW LEVEL. THE TANK WAS FILLED TO ABOVE THE MINIMUM WITHIN THE TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DILUTION + FAILURE, OPERATOR ERROR + CONDENSATION + STORAGE CONTAINER + INDIAN POINT 2 (PWR) + FAILURE, TUBING + CHLORIDE + CONDENSER + SYSTEM CAPACITY + COOLING SYSTEM, SECONDARY

110788
 FLOW OF AUXILIARY BOILER FEED PUMP COULD NOT BE MEASURED AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO 76-2-1810) TO NRC OFFICE OF I & E, REGION 1, OCT. 20, 1976. DOCKET 50-247, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - FLOW TRANSMITTER FAILURE. DURING TESTING OF THE MOTOR DRIVEN AUXILIARY BOILER FEED PUMPS WHILE THE REACTOR WAS SHUT DOWN, IT COULD NOT BE SUBSTANTIATED THAT THE PUMPS WERE ABLE TO DEVELOP FULL FLOW CONDITIONS DUE TO FAILURE OF THE BRISTOL FLOW TRANSMITTERS NO. GE7002A-18M-L3. SPECIAL TEST FLOW INDICATORS WERE CONNECTED TO THE SYSTEM AND FULL FLOW WAS VERIFIED FROM BOTH PUMPS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT + TEST, SYSTEM OPERABILITY + INDIAN POINT 2 (PWR) + AUXILIARY + PUMPS + PERSONNEL, FLOW + METERS

110789
 RWV VALVE LEAKS EXCESSIVELY AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/NO 76-2-1910) TO NRC OFFICE OF I & E, REGION 1, OCT. 20, 1976. DOCKET 50-247, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - EXCESSIVE PACKING GLAND LEAKAGE. DURING NORMAL STARTUP OPERATIONS, THE CONTROL ROOM OPERATOR NOTED A HIGH AMOUNT OF MAKEUP REQUIRED FOR OPERATION. A CONTAINMENT ENTRY WAS MADE AND AN RWV ISOLATION VALVE WAS OBSERVED TO BE LEAKING THROUGH THE PACKING AT A RATE OF 11.2 GPM. THE PLANT WAS COOLED DOWN TO 300 F AND THE GLAND REPACKED WITH 3/8 INCH CARPUL PACKING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + SEAL + INDIAN POINT 2 (PWR) + SHUTDOWN COOLING SYSTEM + CLEAR RATE + REACTOR SHUTDOWN + FAILURE, INHERENT + VALVES

119312
 REFUELING WATER STORAGE TANK LEVEL MELTD LIMITS AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-70-2-201A) TO NRC OFFICE OF I & E, REGION I, NOV. 6, 1976. DOCKET 50-247. TYPE--PUR. NRC--
 WEST., AE--LEEC

CAUSE - SYSTEM LEAK. UPON COMPLETION OF A FILLING OPERATION OF THE REFUELING WATER STORAGE TANK WHILE OPERATING AT 100% POWER, IT WAS DISCOVERED THAT THE VOLUME HAD BEEN ABOUT 800 GALLONS BELOW THE MINIMUM 350000 GALLON LIMIT PRIOR TO FILLING. THE APPARENT CAUSE WAS AN OVERALL SYSTEM LEAKAGE OF 0.75 GPM. TO PREVENT A RECURRENCE, THE FREQUENCY OF FILLING HAS BEEN INCREASED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + REACTOR COOLANT + STORAGE CONTAINERS + INDIAN POINT 2 (PUR) + LEAK + SYSTEM CAPACITY

119721
 DELTA-T SET POINT FOUND NONCONSERVATIVE FOR ONE LOOP AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-70-2-21(B) TO NRC OFFICE OF I & E, REGION I, NOV. 12, 1976. DOCKET 50-247. TYPE--PUR. NRC--
 WEST., AE--LEEC

CAUSE - A CHANGE FROM CYCLE 1 OPERATION. DURING STARTUP PHYSICS TESTING WITH THE REACTOR AT 90% POWER, MEASUREMENTS WERE TAKEN OF RATED POWER LOOP DELTA-T. WHEN THESE MEASURED VALUES WERE COMPARED TO THE DELTA-T PARAMETER SET INTO THE OVERPOWER AND OVERTEMPERATURE DELTA-T SET POINT RELATIONS, IT WAS FOUND THAT THE SET POINT ASSOCIATED WITH THE LOOP 22 WAS NONCONSERVATIVE. THE LOOP DELTA-T HAS CHANGED FROM THAT EXPERIENCE DURING CYCLE 1 OPERATION. THE SET POINT INSTRUMENTATION WAS RESET TO REFLECT THE MEASURED LOOP DELTA-T.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 2 (PUR) + OSET POINT + INSTRUMENT, SWITCH + INSTRUMENT, PROTECTIVE + REACTOR PROTECTION SYSTEM + TEST, SYSTEM OPERABILITY + TEST, PHYSICS + FAILURE, INHERENT

120326
 CONTAINMENT VENTILATION VALVE CIRCUITRY FAILS TO MEET SINGLE FAILURE CRITERIA AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS. LTR W/RO-70-2-23(A) TO NRC OFFICE OF I & E, REGION I, DEC. 16, 1976. DOCKET 50-247. TYPE--PUR. NRC--
 WEST., AE--LEEC

CAUSE - ONLY ONE SOURCE OF POWER. DURING A REVIEW OF THE ELECTRICAL CIRCUITRY ASSOCIATED WITH THE CONTAINMENT VENTILATION ISOLATED VALVES, IT WAS DISCOVERED THAT THE SINGLE FAILURE CRITERIA CANNOT BE SATISFIED FOR A POSTULATED SHORT CIRCUIT OR FOREIGN VOLTAGE IMPOSITION IN THE CONTROL CIRCUITRY FOR THESE VALVES. ALL 6 VALVES ARE CONTROLLED FROM THE SAME ELECTRICAL CIRCUIT. THE SAME CIRCUITRY EXISTS FOR THE 3 CONTAINMENT PRESSURE RELIEF VALVES. MODIFICATIONS WERE MADE TO PROVIDE INDEPENDENT CIRCUITRY TO 1 SUPPLY AND 1 EXHAUST VALVE AND BOTH PRESSURE RELIEF VALVES OUTSIDE CONTAINMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 2 (PUR) + INDEPENDENCE + ELECTRIC POWER + VALVES + VENTILATION SYSTEM + PRESSURE RELIEF + CONTAINMENT + SINGLE FAILURE CRITERION + FAILURE, DESIGN ERROR + CONTROL SYSTEM + CONTAINMENT ISOLATION

120664
 SET POINT DRIFT IN POWER RANGE CHANNELS AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/ROPT, TEIR-70-2-2 TO NRC OFFICE OF I & E, REGION I, DEC. 23, 1976. DOCKET 50-247. TYPE--PUR. NRC--
 WEST., AE--LEEC

CAUSE - INSTRUMENT DRIFT. DURING POWER RANGE CHANNEL TESTING WITH THE UNIT IN COLD SHUTDOWN, THE VALUES OF F (DELTA I) FOR CHANNELS 41 AND 43 WERE FOUND TO BE OUT OF TOLERANCE WITH THE DESIGN VALUES. THE PCB000 STATIC GAIN UNITS, MODEL 62-W-2, WERE READJUSTED TO THE PROPER SETTINGS. THIS IS AN INFORMATION ONLY REPORT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 2 (PUR) + INSTRUMENT, SWITCH + INSTRUMENT CALIBRATION + INSTRUMENT, POWER RANGE + TEST, SYSTEM OPERABILITY + OSET POINT + DRIFT + FAILURE, INHERENT + REACTOR PROTECTION SYSTEM + FAILURE, INSTRUMENT

120885
 INDICATED AXIAL FLUX DIFFERENCE OUTSIDE TARGET BAND TOO LONG AT INDIAN POINT 2
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-70-2-201A) TO NRC OFFICE OF I & E, REGION I, DEC. 23, 1976. DOCKET 50-247. TYPE--PUR. NRC--
 WEST., AE--LEEC

12042 *CONTINUED*

CAUSE - MISUNDERSTANDING OF REQUIREMENTS. DURING POWER ESCALATION, REACTOR POWER WAS RAISED TO CR2 ALTHOUGH THE INDICATED AXIAL FLUX DIFFERENCE HAD BEEN OUTSIDE ITS TARGET BAND FOR A PERIOD IN EXCESS OF TECH SPEC REQUIREMENTS. THE CAUSE WAS A MISINTERPRETATION OF THE REQUIREMENTS BY THE OPERATOR. ON REALIZING THIS CONDITION, THE OPERATOR IMMEDIATELY REDUCED POWER TO BELOW CR2 AND HELD IT THERE UNTIL REQUIREMENTS WERE SATISFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 2 (PWR) * FLUX TILT * POWER DISTRIBUTION * FAILURE, OPERATOR ERROR * COMMUNICATION * REACTOR STARTUP

112001

STEAM GENERATOR BLOWDOWN VALVE FAILS TO CLOSE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-70-3-160 TO NRC OFFICE OF I & E, REGION 1, MARCH 30, 1976, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--UNITD ENGR

CAUSE - SCORED PLUG AND GUIDE BUSHING. DURING PRECRITICAL HOT SHUTDOWN OPERATION, STEAM GENERATOR 31 BLOWDOWN ISOLATION VALVE FAILED TO CLOSE ON SIGNAL FROM THE CONTROL ROOM. THE BUSHING IN CONTACTS CO., 2 INCH, 20000 SERIES CONTROL VALVE FAILED DUE TO A SCORED PLUG AND GUIDE BUSHING. IT WAS REPAIRED AND TESTED SUCCESSFULLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * REACTOR STARTUP EXPERIENCE * BLOWDOWN * STEAM GENERATOR * INDIAN POINT 3 (PWR) * FAILURE, INHERENT * VALVES

112000

VENT LINE SOCKET WELD LEAKS AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-70-3-260 TO NRC OFFICE OF I & E, REGION 1, MARCH 31, 1976, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--UNITD ENGR

CAUSE - POOR WELD CONTOUR. WHILE AT HOT SHUTDOWN, A LEAK WAS OBSERVED AT THE NIPPLE TO SOCKET CONNECTION OF THE VENT VALVE IN THE DISCHARGE LINE OF ACCUMULATOR 31. THE PLANT WAS BROUGHT TO COLD SHUTDOWN TO EFFECT REPAIRS. FAILURE WAS DUE TO FATIGUE AGGRAVATED BY A POOR WELD CONTOUR. FAILURE STARTED FROM THE OUTSIDE OF THE WELD. ALL (50) SIMILAR VENT CONNECTIONS WERE INSPECTED. OF 200 WELDS INSPECTED, 13 REQUIRING AND RECEIVED CORRECTIVE ACTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

WELDS * REACTOR STARTUP EXPERIENCE * FAILURE, FATIGUE * FAILURE, INSTALLATION ERROR * LEAK * INDIAN POINT 3 (PWR) * PIPES AND PIPE FITTINGS * ACCUMULATOR

112057

INCORE THERMOCOUPLE LEAKS AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-70-3-310 TO NRC OFFICE OF I & E, REGION 1, APRIL 10, 1976, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--UNITD ENGR

CAUSE - SHEATHING LEAK. DURING A REACTOR COOLANT SYSTEM HYDROSTATIC TEST INSPECTION, A SLIGHT LEAK (1 DROP/30 MIN) WAS DISCOVERED AT AN INCORE THERMOCOUPLE. THE THERMOCOUPLE WAS CAPPED OFF WITH A SWAGelok CAP. THE ROSENBLUTH THERMOCOUPLE LEAKED THROUGH THE SHEATHING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CLADDING * TEST, PROOF * FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * MAIN COOLING SYSTEM * LEAK * INDIAN POINT 3 (PWR) * THERMOCOUPLE

113310

STEAM GENERATOR BLOWDOWN VALVE FAILS TO CLOSE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-70-3-410 TO NRC OFFICE OF I & E, REGION 1, APRIL 27, 1976, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--CCN ED

CAUSE - SCORED PLUG. DURING HOT PRECRITICAL OPERATION, STEAM GENERATOR 31 BLOWDOWN ISOLATION VALVE FAILED TO CLOSE WHEN THE CONTROL ROOM SWITCH WAS OPERATED. THE WAGONWHEEL (WORTHINGTON), 2-INCH, 20000 SERIES, MODEL 302921AB, CONTROL VALVE WAS FOUND TO HAVE A SCORED PLUG. THE VALVE WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (PWR) * VALVES * CONTAINMENT ISOLATION * STEAM GENERATOR * BLOWDOWN * FAILURE, EQUIPMENT *

113314 *CONTINUED*
FAILURE, INHERENT

113525
LEAK FOUND IN VALVE SOCKET WELD AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS. LTR NYRO-76-3-5101 TO NRC OFFICE OF I & E, REGION I, MAY 5, 1976. DOCKET 50-206. TYPE--PUR, NRC--BEST.,
AE--UNITED ENGR

CAUSE - EXCESSIVE STRESS ON WELD. DURING HOT PREHEATING OPERATION, A LEAK WAS OBSERVED AT THE
SOCKET WELD CONNECTION OF THE VENT VALVE TO THE SEAL INJECTION HEADER FOR CHARGING PUMP 32. THE
VENT VALVE HAS BEEN JUDGED TO BE UNNECESSARY AND, THEREFORE, WAS REMOVED AND THE LINE CAPPED.
THE INSTALLATION RESULTED IN EXCESSIVE STRESS AT THE SOCKET WELD CONNECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

STRESS * WELOS * REACTOR STARTUP EXPERIENCE * FAILURE, INSTALLATION ERROR * MAIN COOLING SYSTEM * LEAK *
INDIAN POINT 3 (PUR) * CRACK * FEEDWATER * VALVES

113774
ROD POSITION INDICATOR SHOWS A ROD TO BE OUT OF LINE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS. LTR NYRO-76-3-5101 TO NRC OFFICE OF I & E, REGION I, MAY 10, 1976. DOCKET 50-206. TYPE--PUR, NRC--
BEST., AE--UNITED ENGR

CAUSE - INDICATOR MISALIGNED. DURING LOW POWER PHYSICS TESTING, THE ROD POSITION INDICATOR FOR A
PART-LENGTH ROD SHOWED THE ROD TO BE 20 STEPS HIGHER THAN OTHER RODS IN THAT GROUP. A FLUX MAP OF
THE CORE VERIFIED THAT THE ROD WAS CORRECTLY ALIGNED. THE REACTORHOUSE ROD POSITION INDICATOR
WAS MISALIGNED. IT WAS REALIGNED TO GIVE A TRUE INDICATION OF ROD POSITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

REACTOR STARTUP EXPERIENCE * INSTRUMENT, ABNORMAL INDICATION * INSTRUMENT, POSITION * INDIAN POINT 3 (PUR) *
FAILURE, INHERENT * CONTROL RODS

113752
LEAK FOUND IN PRESSURIZER LIQUID SAMPLE LINE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS. LTR NYRO-76-3-5101 TO NRC OFFICE OF I & E, REGION I, MAY 13, 1976. DOCKET 50-206. TYPE--PUR, NRC--
BEST., AE--UNITED ENGR

CAUSE - PIN HOLE IN TUBING. DURING STARTUP OPERATIONS AT 15 POWER, A LEAK WAS OBSERVED ON THE
PRESSURIZER LIQUID SPACE SAMPLE LINE DOWNSTREAM OF THE ISOLATION VALVE. THE LINE WAS ISOLATED
AND THE LEAKING SECTION OF 3/8-IN. O.D., 0.065 IN. WALL, STAINLESS STEEL TUBING WAS REMOVED AND
REPLACED BY A TUBE UNION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

*SAMPLING * PRESSURIZER * REACTOR STARTUP EXPERIENCE * FAILURE, TUBING * OTUBING * LEAK * INDIAN POINT 3 (PUR)

114157
CONTAINMENT SPRAY INADVERTENTLY ACTUATED AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS. LTR NYRO-76-3-5101 TO NRC OFFICE OF I & E, REGION I, MAY 25, 1976. DOCKET 50-206. TYPE--PUR, NRC--
BEST., AE--UNITED ENGR

CAUSE - INCORRECT VALVE LINEUP. DURING CONTAINMENT SPRAY PUMP TESTING WITH THE REACTOR SHUTDOWN,
AN INADVERTENT ACTUATION OF THE CONTAINMENT SPRAY OCCURRED. THE PUMP WAS TESTED WITH AN
INCORRECT VALVE LINEUP. THIS CAUSED THE CONTENTS OF THE REFUELING WATER STORAGE TANK TO DROP 600
GALLONS BELOW THE LIMIT. THE SPRAY WAS STOPPED AND THE STORAGE TANK WAS RETURNED TO WITHIN
LIMITS. NO DAMAGE OF SIGNIFICANCE WAS OBSERVED TO EQUIPMENT WITHIN CONTAINMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

*CONTAINMENT SPRAY * FAILURE, OPERATION ERROR * OPERATION * PROCEDURES AND MANUALS * REACTOR STARTUP
EXPERIENCE * TEST, SYSTEM OPERABILITY * INDIAN POINT 3 (PUR)

110617
MPS RELAY FLUCTUATES INTERMITTENTLY AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS. LTR NYRO-76-3-5101 TO NRC OFFICE OF I & E, REGION I, JUNE 3, 1976. DOCKET 50-206. TYPE--PUR, NRC--
BEST., AE--UNITED ENGR

114617 *CONTINUED*

CAUSE - PIVOT POINT MISALIGNED. DURING TESTING WITH THE REACTOR SHUT DOWN, A RELAY ASSOCIATED WITH CONTAINMENT VENTILATION ISOLATION FUNCTIONED ONLY INTERMITTENTLY. THE WESTINGHOUSE TYPE RC-6 RELAY WAS FOUND TO BE MISALIGNED IN THAT THE PIVOT POINT FOR THE OPERATING CONTACTS HAD SHIFTED. IT WAS ADJUSTED AND OPERATED CORRECTLY UPON RETESTING. AN EXAMINATION OF SIMILAR RELAYS FOUND NONE TO REQUIRE ADJUSTMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * CONTAINMENT AIR COOLING * FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * INDIAN POINT 3 (IP3) * RELAYS

114618

BATTERY CHARGER BECOMES INOPERABLE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR N/RO-76-3-10(B) TO NRC OFFICE OF I & E, REGION 1, JUNE 3, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST., AE--UNITO ENGR

CAUSE - FAN MOTOR FAILURE. DURING STARTUP TESTING WITH THE REACTOR AT 65% POWER, THE BATTERY CHARGER BECAME INOPERABLE. A CONTROLLED SHUTDOWN WAS INITIATED. A WESTINGHOUSE J PHASE AC CHARGER FAN MOTOR, TYPE FS, 1/4 HP, 1725 RPM BECAME INOPERABLE WHEN EXPOSED WIRING CAUSED A FUSE TO BLOW. AN ALTERNATE MEANS OF COOLING WAS PROVIDED. THE BATTERY CHARGER RETURNED TO SERVICE. THE SHUTDOWN HALTED, AND THE UNIT RETURNED TO 65% POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * INDIAN POINT 3 (IP3) * COOLING * FAILURE, IMMINENT * BLOWERS * BATTERIES & CHARGERS

114619

LOW VOLTAGE POWER CIRCUIT BREAKER TRIPS AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR N/RO-76-3-11(B) TO NRC OFFICE OF I & E, REGION 1, JUNE 16, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST., AE--UNITO ENGR

CAUSE - SPURIOUS OVERCURRENT SIGNAL. WHILE CRITICAL AT ZERO POWER OPERATION, A SPURIOUS OVERCURRENT SIGNAL OPENED THE NORMAL FEED CIRCUIT BREAKER TO 480V BUS 0A, AND BUS FAULT LOCKOUT RELAY 0800A WAS ACTIVATED. EMERGENCY DIESEL GENERATOR 32 STARTED BUT WAS PREVENTED FROM TYPING INTO BUS 0A DUE TO ACTIVATION OF THE BUS FAULT LOCKOUT RELAY. WHEN THE NORMAL FEED CIRCUIT BREAKER WAS PLACED IN THE FULL-CUT POSITION AND THE LOCKOUT RELAY WAS RESET, THE DIESEL GENERATOR AUTOMATICALLY CLOSED RESTORING POWER TO BUS 0A. THE OVERCURRENT SIGNAL WAS THEN RESET AND NORMAL FEED RESTORED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE * ELECTRIC POWER * ELECTRIC POWER, NORMAL * REACTOR STARTUP EXPERIENCE * INSTRUMENT, ABNORMAL INDICATION * INDIAN POINT 3 (IP3) * BREAKER * RELAYS

115498

SET POINT DRIFT IN PRESSURIZER PRESSURE DISTABLE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR N/RO-76-3-12(B) TO NRC OFFICE OF I & E, REGION 1, JUNE 26, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST., AE--UNITO ENGR

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR AT 70% POWER, THE TRIP SETTING ON 1 OF THE 4 LOW PRESSURIZER PRESSURE DISTABLES WAS FOUND TO BE BELOW THE LIMIT. THE FURBORN DISTABLE, MODEL 63U-AC-DMA-F, EXPERIENCED INSTRUMENT DRIFT. IT WAS RESET TO WITHIN TOLERANCES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * INDIAN POINT 3 (IP3) * SET POINT * DRIFT * SENSORS, PRESSURE

115499

TWO MOTOR CONTROL CENTERS TRIP AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR N/RO-76-3-13(B) TO NRC OFFICE OF I & E, REGION 1, JUNE 26, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST., AE--UNITO ENGR

CAUSE - OVERLOAD SETTINGS TOO LOW. WHILE OPERATING AT 70% POWER, 2 MOTOR CONTROL CENTERS TRIPPED CAUSING A LOSS OF INDIVIDUAL CONTROL ROD POSITION INDICATION AND INITIATING A TURBINE RUNBACK. THE MCC'S WERE RESET AND A CHECK OF THE LOADS WAS MADE. NO ABNORMAL LOADING WAS FOUND TO EXIST. THE OVERLOAD SETTINGS OF THE WESTINGHOUSE AIR CIRCUIT BREAKERS FOR THE MCC'S WERE DETERMINED TO BE SET AT TOO LOW A VALUE FOR OPERATION.

115491 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTROL * REACTOR STARTUP EXPERIENCE * FAILURE, INSTALLATION ERROR * INSTRUMENT, POSITION * INDIAN POINT J (PWR) * TURBINE * SET POINT * BREAKER * CONTROL ROD DRIVES

115492
 TWO MOTOR CONTROL CENTERS TRIP A SECOND TIME AT INDIAN POINT J
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-78-3-1010) TO NRC OFFICE OF I & E, REGION I, JUNE 29, 1978, DOCKET 50-206, TYPE--PWR, NRC--WEST.. AE--LIMIT ENGR

CAUSE - OVERLOAD SETTINGS TOO LOW. WHILE OPERATING AT 75% POWER, 2 MOTOR CONTROL CENTERS TRIPPED CAUSING A LOSS OF INDIVIDUAL CONTROL ROD POSITION INDICATION AND INITIATING A TURBINE SHUTDOWN. A SIMILAR EVENT OCCURRED THE PRIOR DAY. THE OVERLOAD SETTINGS OF THE WESTINGHOUSE AIR CIRCUIT BREAKERS, MODEL DS410, WERE TOO LOW FOR OPERATION. THEY WERE RAISED TO A TEMPORARY SETTING. THE MCC'S WERE RESET. FINAL ADJUSTMENTS WILL BE MADE AFTER FURTHER INVESTIGATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTROL * REACTOR STARTUP EXPERIENCE * FAILURE, INSTALLATION ERROR * INSTRUMENT, POSITION * INDIAN POINT J (PWR) * TURBINE * SET POINT * BREAKER * CONTROL ROD DRIVES

115499
 TWO DIESEL GENERATORS INOPERABLE AT INDIAN POINT J
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS. LTR W/RO-78-3-201A) TO NRC OFFICE OF I & E, REGION I, JUNE 23, 1978, DOCKET 50-206, TYPE--PWR, NRC--WEST.. AC--LIMIT ENGR

CAUSE - TIE BREAKER MALFUNCTION AND OVERLOAD. DURING A UNIT TRIP AND BLACKOUT AT POWER TEST, EMERGENCY DIESEL GENERATOR 32 FAILED TO TIE INTO BUS 6A AFTER STARTING. DIESEL GENERATOR 31 HAD BEEN STARTED AND TIED INTO BUSES 2A AND 3A PRIOR TO THE TEST. DG 31 TRIPPED ON OVERCURRENT BEFORE DG 32 WAS MANUALLY TIED TO BUS 6A. DG 32 FAILURE WAS APPARENTLY CAUSED BY SPURIOUS OPERATION OF AUXILIARY CONTACTS ASSOCIATED WITH THE NORMAL FEED IN BUS TIE BREAKERS. THEY WERE SUCCESSFULLY TESTED 6 TIMES. DG 31 TRIP WAS APPARENTLY DUE TO EXCESSIVE LOADING DUE TO ADDITIONAL LOADS ON THE DIESEL IN PREPARATION FOR THE TEST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * ACCIDENT, LOSS OF POWER * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * INDIAN POINT J (PWR) * BREAKER * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

115705
 POWER RANGE CHANNEL INDICATION DRIFTS DOWNWARD AT INDIAN POINT J
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-78-3-1510) TO NRC OFFICE OF I & E, REGION I, JULY 2, 1978, DOCKET 50-206, TYPE--PWR, NRC--WEST.. AE--LEEC

CAUSE - DEFECTIVE DETECTOR. DURING STARTUP TESTING OPERATIONS, POWER RANGE CHANNEL 4J POWER LEVEL INDICATION BEGAN DECREASING SLOWLY AND DELTA FLUX BEGAN INCREASING IN THE NEGATIVE DIRECTION. A WESTINGHOUSE POWER RANGE DETECTOR, ASSEMBLY NO. WJ23006, LOST ITS SENSITIVITY CAUSING IT TO DRIFT. IT WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * INSTRUMENT, ABNORMAL INDICATION * INSTRUMENT, POWER RANGE * INDIAN POINT J (PWR) * DRIFT * FAILURE, INHERENT

115710
 REACTOR COOLANT FLOW TRANSMITTER DRIFTS AT INDIAN POINT J
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR W/RO-78-3-1610) TO NRC OFFICE OF I & E, REGION I, JULY 2, 1978, DOCKET 50-206, TYPE--PWR, NRC--WEST.. AE--LEEC

CAUSE - DEFECTIVE AMPLIFIER ASSEMBLY. DURING TESTING WITH THE REACTOR AT 75% POWER, A REACTOR COOLANT SYSTEM FLOW TRANSMITTER WAS FOUND TO BE DRIFTING. A DEFECTIVE FLOW TRANSMITTER AMPLIFIER ASSEMBLY, FORDOM PART NO. 14J5Y, CAUSED THE DRIFT. A NEW ASSEMBLY IS ON ORDER AND WILL BE INSTALLED AT THE EARLIEST OPPORTUNITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * MAIN COOLING SYSTEM * INDIAN POINT J (PWR) * DRIFT * ELECTRONIC FUNCTION UNITS * SENSORS, FLOW

115704
 CONTROL ROD DROPS AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS, LTR W/RO-70-3-17(10) TO NRC OFFICE OF I & E, REGION 1, JULY 8, 1970, DOCKET 50-200, TYPE--PWR, NRC--
 WEST., AE--LECC

CAUSE - BLDGM MOVABLE COIL FUSE. WHILE AT A STEADY LOAD OF 73% POWER, CONTROL ROD DR DROPPED
 ACTUATING A DROPPED ROD STOP ON POWER RANGE CHANNEL #2 AND INITIATING A TURBINE RUNBACK. A
 SAFETY, A23810, 10 AMP, 250 V FUSE FOR THE MOVABLE COILS OF ROD DR BLEW AFTER THE STATIONARY COIL
 WAS RELEASED AND WHILE ROD DR WAS ON THE MOVABLE LATCH CAUSING THE ROD TO DROP. ALSO, SEVERAL
 INDICATOR FUSES WERE FOUND BLOWN IN THE ROD CONTROL CABINETS. THESE WERE APPARENTLY BLOWN PRIOR
 TO THIS INCIDENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

INSTRUMENT, PROTECTIVE + FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + FLUX TILT + ACCIDENT, CONTROL
 ROD DROPPIN + INDIAN POINT 3 (PWR) + FAILURE, INHERENT + CONTROL RODS

115700
 CONTROL ROD DROPS AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS, LTR W/RO-70-3-19(10) TO NRC OFFICE OF I & E, REGION 1, JULY 8, 1970, DOCKET 50-200, TYPE--PWR, NRC--
 WEST., AE--LECC

CAUSE - ERROR IN TEST PROCEDURE. WHILE PERFORMING DROPPED ROD TESTS, CONTROL ROD N7 WAS DROPPED
 AS REQUIRED. ABOUT 15 SECONDS LATER, CONTROL ROD P6 DROPPED. DROPPED ROD N7 INITIATED A TURBINE
 RUNBACK FROM 74% TO 49%. WHEN CONTROL BARR D INSERTED TO MAINTAIN PROGRAMMED TAVG, ROD P6
 DROPPED. ROD P6 DROPPED BECAUSE A FUSE WHICH SHARED THE NEGATIVE LEAD TO THE MOVABLE WHIPPER OF
 BOTH RODS WAS PULLED. PROCEDURE DID NOT SPECIFY THE CORRECT FUSE TO BE REMOVED, THE PROCEDURE
 WAS CHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
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INSTRUMENT, PROTECTIVE + PROCEDURES AND MANUALS + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FLUX
 TILT + FAILURE, ADMINISTRATIVE CONTROL + ACCIDENT, CONTROL ROD DROPPIN + INDIAN POINT 3 (PWR)

115707
 BATTERY CHARGER AC BREAKER TRIPS AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS, LTR W/RO-70-3-18(10) TO NRC OFFICE OF I & E, REGION 1, JULY 8, 1970, DOCKET 50-200, TYPE--PWR, NRC--
 WEST., AE--LECC

CAUSE - FAN PRESSURE SENSOR FAILS. WHILE OPERATING AT 73% POWER, BATTERY CHARGER 32 AC BREAKER
 TRIPPED, RENDERING THE BATTERY CHARGER INOPERATIVE. A CONTROLLED SHUTDOWN WAS INITIATED. A
 FAIRCHILD, MODEL PSP-100A, PRESSURE SENSOR FOR THE CHARGER FAN HAD FAILED, TRIPPING THE BREAKER.
 THE SENSOR WAS JUMPED OUT, THE BATTERY CHARGER RETURNED TO SERVICE, AND THE SHUTDOWN WAS HALTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, COMPONENT + REACTOR STARTUP EXPERIENCE + INDIAN POINT 3 (PWR) + FAILURE, INHERENT + PBREAKER +
 SENSORS, PRESSURE + BATTERIES & CHARGERS

115708
 REACTOR COOLANT SAMPLE VALVE FAILS TO CLOSE AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS, LTR W/RO-70-3-21(10) TO NRC OFFICE OF I & E, REGION 1, JULY 10, 1970, DOCKET 50-200, TYPE--PWR, NRC--
 WEST., AE--LECC

CAUSE - SLIGHT JOG IN STEM. WHILE CRITICAL AT ZERO POWER, A REACTOR COOLANT SAMPLE VALVE FAILED
 TO CLOSE. THE WORTHINGTON, MODEL 30-30571, 3/8 INCH, REVERSE ACTUATION VALVE HAD A SLIGHT JOG IN
 THE STEM. IT WAS REINSTALLED IN THE CLOSED POSITION. A NEW PLUG/STEM ASSEMBLY WILL BE INSTALLED
 AT THE NEXT OPPORTUNITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + SAMPLING + REACTOR STARTUP EXPERIENCE + INDIAN POINT 3 (PWR) +
 FAILURE, INHERENT + VALVES

115854
 MOTOR CONTROL CENTER TRIPS AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 3 PGS, LTR W/RO-70-3-22(10) TO NRC OFFICE OF I & E, REGION 1, JULY 13, 1970, DOCKET 50-200, TYPE--PWR, NRC--
 WEST., AE--LECC

115024 CONTINUED

CAUSE - BREAKER OVERLOAD. DURING 612 POWER OPERATION, MCC30 TRIPPED WHEN A MECHANIC INADVERTENTLY CAUSED A FAULT IN THE CUBICLE PCB INSTRUMENT AIR COMPRESSOR 32 RESULTING IN TRIPPER OF EMERGENCY POWER TO MCC30. LOSS OF AC AUXILIARIES FOR 06J1 MADE IT INOPERABLE FOR 19 MINUTES AT WHICH TIME POWER WAS RESTORED TO MCC30. MCC30 BECAME LOADED TO THE TRIP POINT. THE TRIP RESULTED IN LOSS OF INDIVIDUAL AND POSITION INDICATION WHICH INITIATED A TURBINE RUNBACK. OVERLOAD SET POINT FOR THIS TYPE BREAKER IS UNDER REVIEW. THREE PEOPLE RECEIVED FLASHBURNS, 2 REQUIRING HOSPITALIZATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC * MAINTENANCE AND REPAIR * REACTOR STARTUP EXPERIENCE * FAILURE, MAINTENANCE ERROR * CONTROL PANEL/ROOM * INDIAN POINT 3 (IP3) * NONBREAKER

115022

STEAM GENERATOR FLOW TRANSMITTERS FAIL LOW AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS. LTR B/PD-76-3-25(1) TO NRC OFFICE OF I & E, REGION I, JULY 15, 1976. DOCKET 50-286. TYPE--PUR, NRC--WEST.. AE--LECC

CAUSE - PLUGGED IMPULSE LINES. WHILE OPERATING AT 522 POWER, STEAM FLOW INDICATORS FOR STEAM GENERATOR 33 CHANNEL B AND 5/6 33 CHANNEL A FAILED LOW. DISTURBANCE ASSOCIATED WITH 5/6 33 CHANNEL A WAS PLACED IN THE TRIP CONDITION. THE FLOWBAND FLOW TRANSMITTERS FAILED DUE TO SOLIDS IN THEIR IMPULSE LINES. THE LINES WERE BLOWN DOWN AND CLEARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * OVERLOAD * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * STEAM GENERATOR * TUBING * INDIAN POINT 3 (IP3) * EMERGENCY COOLING SYSTEM * SENSORS, FLOW

116201

AIRLOCK LEAKAGE EXCESSIVE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
2 PGS. LTR B/PD-76-3-25(1) TO NRC OFFICE OF I & E, REGION I, AUG. 6, 1976. DOCKET 50-286. TYPE--PUR, NRC--WEST.. AE--LECC

CAUSE - GASKET IMPROPERLY SEATED. DURING A TYPE B AIRLOCK TEST WITH THE REACTOR AT 302 POWER, THE PRESSURE IN THE AIRLOCK WOULD NOT STABILIZE. THE INNER DOOR SEAL OUTER GASKET WAS LEAKING. THE GASKET NO. 0300 SILICONE RUBBER GASKET WAS IMPROPERLY SEATED IN ITS GROOVE. IT WAS REPLACED WITHIN THE TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TEST, LEAK RATE * OCCUPANT AIR LOCK * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPENABILITY * SEAL * FAILURE, INSTALLATION ERROR * LEAK RATE * INDIAN POINT 3 (IP3)

116872

ECCS AND DNB PROBLEMS IDENTIFIED AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NY
10 PGS. LTR B/PD-76-3-26(1) TO NRC OFFICE OF I & E, REGION I, AUG. 18, 1976. DOCKET 50-286. TYPE--PUR, NRC--WEST.. AE--LECC

CAUSE - INCORRECT ASSUMPTIONS USED. WESTINGHOUSE NOTIFIED THE UTILITY THAT GENERIC ERRORS WERE FOUND IN THE NON-CONSERVATIVE DIRECTION IN THE ECCS ANALYSIS AND DNB ANALYSIS. THE EFFECT OF THE ERROR WAS TO INCREASE THE CALCULATED PEAK CLAD TEMPERATURE BY 40F. THE EFFECT OF BURNUP MORE THAN 0PP SETS THIS EFFECT. GENERIC DESIGN MARGINS ARE ADEQUATE TO OFFSET BOP EFFECTS FOR THE 13 X 15 FUEL DESIGN WITH LINEAR CORE FUELS DENSITIES EXCEEDING THAT CORRESPONDING TO 1002 POWER. NO ADDITIONAL PENALTIES WILL BE REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (60 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * ACCIDENT, LOSS OF COOLANT * SHUTDOWN MARGIN * MULTICHANNEL ANALYSIS * DNB * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * INDIAN POINT 3 (IP3) * TEMPERATURE * FAILURE, COMMON MODE

117172

CONSTANT IN OVERPOWER DELTA T SET POINT EQUATION NONCONSERVATIVE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
7 PGS. LTR B/PD-76-3-26(1) TO NRC OFFICE OF I & E, REGION I, AUG. 20, 1976. DOCKET 50-286. TYPE--PUR, NRC--WEST.. AE--LECC

CAUSE - UNKNOWN. WHILE OPERATING AT 635 POWER, A REVIEW OF LOAD REJECTION TEST DATA INDICATED THAT THE K5 CONSTANT IN THE OVERPOWER DELTA T SET POINT EQUATION MIGHT BE LESS CONSERVATIVE THAN THE TECH SPEC VALUE. UPON CONFIRMATION, AN IMMEDIATE SHUTDOWN WAS INITIATED. THE K5 CONSTANT WAS RESET TO A MORE CONSERVATIVE VALUE, VERIFIED, AND THE SHUTDOWN WAS HALTED. NO SPECIFIC CAUSE FOR THIS EVENT WAS FOUND.

117176 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * INDIAN POINT 3 (IP3) * RESET POINT * SENSORS, TEMPERATURE

117177
 MAIN STEAM FLOW INDICATION LOW AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR D/RO 70-3-2710) TO NRC OFFICE OF I & E, REGION 1, AUG. 20, 1970. DOCKET 50-200, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - BINDING ON FLOW TRANSMITTER. DURING TESTING WITH THE REACTOR AT 75% POWER, A PLUMB INDICATOR ASSOCIATED WITH MAIN STEAM FLOW INDICATION FOR STEAM GENERATOR 3A READ LOWER THAN ACTUAL AS STEAM FLOW INCREASED. INSPECTION SHOWED THAT ITS FLOW TRANSMITTER (FJAGOMU MODEL NO. Q30-2A3), COVER WAS BINDING ITS MECHANISM. IT WAS REALIGNED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

STEAM * SAFETY INJECTION * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * FAILURE, MAINTENANCE ERROR * INSTRUMENT, ABNORMAL INDICATION * INDIAN POINT 3 (IP3) * SENSORS, FLOW

117182
 REACTOR COOLANT LEAKS TO CONTAINMENT AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR D/RO 70-3-301A) TO NRC OFFICE OF I & E, REGION 1, AUG. 30, 1970. DOCKET 50-200, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - SAMPLE LINE LEAK. WHILE OPERATING AT 80% POWER, RADIATION MONITORS AND CONTAINMENT PURSIVITY DETECTION SYSTEMS INDICATED A REACTOR COOLANT LEAK TO CONTAINMENT. AN UNDESIRED PLANT SHUTDOWN WAS INITIATED WITH A CONCURRENT CONTAINMENT ENTRY TO DETERMINE THE SOURCE OF LEAKAGE. THE LEAK WAS LOCATED IN THE PRIMARY SAMPLE LINE FOR HOT LEG LOOPS 1 AND 3 DOWNSTREAM OF THE DELAY CCELLS. THE LINE WAS ISOLATED AND THE SHUTDOWN TERMINATED. REPAIRS WILL BE EFFECTED AT THE NEXT OUTAGE OF SUFFICIENT DURATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * REACTOR COOLANT * SAMPLING * REACTOR STARTUP EXPERIENCE * MAIN COOLING SYSTEM * CONTAINMENT LEAK MONITOR * LEAK * INDIAN POINT 3 (IP3) * PIPES AND PIPE FITTINGS

117639
 CONTROL ROOM VENTILATION SYSTEM DAMPER FAILS TO OPERATE AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR D/RO 70-3-2710) TO NRC OFFICE OF I & E, REGION 1, SEPT. 9, 1970. DOCKET 50-200, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - DIRT IN CONTROL VALVE. DURING A TEST OF AREA RADIATION MONITOR N-1 FOR THE CONTROL ROOM WHICH REQUIRES THE CONTROL ROOM VENTILATION TO TRANSFER TO THE INCIDENT MODE, DAMPER C DID NOT TRANSFER AS REQUIRED. A POWER MULTIPURPOSE RELAY, PRODUCT NO. 243-0000, WAS FOUND TO HAVE DIRT UNDER THE CONTROL VALVE SEAT WHICH RESULTED IN THE MISOPERATION. THE RELAY WAS CLEANED AND THE DAMPER THEN FUNCTIONED PROPERLY. THE UNIT WAS OPERATING AT 80% POWER AT THE TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * VENTILATION SYSTEM * CRUD * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * CONTROL PANEL/ROOM * INDIAN POINT 3 (IP3) * VALVES * RELAYS

118018
 EMERGENCY DIESEL GENERATOR CYCLES AT INDIAN POINT 3
 CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
 2 PGS. LTR D/RO 70-3-3110) TO NRC OFFICE OF I & E, REGION 1, SEPT. 29, 1970. DOCKET 50-200, TYPE--PWR, NRC--WEST., AE--LECC

CAUSE - LOW OIL LEVEL IN GOVERNOR. DURING TESTING OF THE EMERGENCY DIESEL GENERATORS WHILE OPERATING AT 75% POWER, DG 31 BEGAN CYCLING BETWEEN 50 AND 63 CYCLES PER SECOND. THE WASHINGTON GOVERNOR MALFUNCTIONED DUE TO LOW OIL LEVEL. A LOCAL OIL DRAIN VALVE WAS NOT CLOSED TIGHTLY. THE VALVE WAS TIGHTENED, OIL LEVEL RESTORED, AND THE DIESEL SUCCESSFULLY RETESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * LEAK * INDIAN POINT 3 (IP3) * CYCLING * VALVES * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

11872A
LEAK FOUND IN SEAL INJECTION HEADEN FOR A CHARGING PUMP AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/NO 76-3-32(B) TO NRC OFFICE OF I & E, REGION 1, OCT. 1, 1976, DOCKET 50-286, TYPE--PWR, RFG--
WEST., AE--LEGC

CAUSE - FATIGUE. DURING 90% POWER OPERATION, A LEAK WAS OBSERVED AT THE SOCKET WELD CONNECTION OF A VENT VALVE TO THE SEAL INJECTION HEADEN FOR CHARGING PUMP 33. THE LEAK RESULTED FROM FATIGUE FAILURE INDUCED BY A HIGH MOMENT FORCE DUE TO THE HEAVY BLIND FLANGE ON THE VENT LINE AFTER THE VENT VALVE. THE CONNECTION WAS REVEALED. TO REDUCE THE STRESS, THE FLANGE WAS REMOVED AND REPLACED WITH A SMOGELCC CAP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE - PIPE - PHELUS - REACTOR STARTUP EXPERIENCE - FAILURE, FATIGUE - FAILURE, DESIGN ERROR - MAIN COOLING SYSTEM - LEAK - INDIAN POINT 3 (IP3) - FEEDWATER - PIPES AND PIPE FITTINGS

11872B
NUCLEAR POWER RANGE TESTS NOT PERFORMED ON TIME AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR W/NO 76-3-33(B) TO NRC OFFICE OF I & E, REGION 1, OCT. 1, 1976, DOCKET 50-286, TYPE--PWR, RFG--
WEST., AE--LEGC

CAUSE - ADMINISTRATIVE ERROR. DURING A REVIEW OF THE PERIODIC TEST SCHEDULE WHILE OPERATING AT 100% POWER, IT WAS DISCOVERED THAT THE NUCLEAR POWER RANGE TEST HAD NOT BEEN PERFORMED WITHIN THE SPECIFIED TIME LIMIT. THE TEST WAS INITIATED IMMEDIATELY. THE CAUSE WAS AN ADMINISTRATIVE ERROR. ADDITIONAL POLLED LP PROCEDURES HAVE BEEN INSTITUTED TO PRECLUDE RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TESTING - REACTOR STARTUP EXPERIENCE - REVIEW - FAILURE, ADMINISTRATIVE CONTROL - INSTRUMENT, POWER RANGE - TEST INTERVAL - INDIAN POINT 3 (IP3)

11872C
REACTOR COOLANT SYSTEM PRESSURE TRANSIENT OCCURS AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR W/NO 76-3-34(B) TO NRC OFFICE OF I & E, REGION 1, OCT. 14, 1976, DOCKET 50-286, TYPE--PWR, RFG--
WEST., AE--LEGC

CAUSE - INADVERTENT CLOSURE OF ISOLATION VALVE. FOLLOWING VENTING OF THE REACTOR COOLANT SYSTEM PREPARATORY TO PLANT HEATUP, A PRESSURE TRANSIENT TO ABOUT 2250 PSIG WAS EXPERIENCED. AT THE TIME, THE SYSTEM WAS BEING OPERATED IN THE SGLD MODE AT A TEMPERATURE OF 180 F. OVERPRESSURIZATION OF THE RCS WAS THE RESULT OF A REDUCTION IN LETDOWN FLOW CAUSED BY A PROBABLE INADVERTENT CLOSURE OF ONE OR BOTH RHM ISOLATION VALVES. A CHECK OF THE CONTROL CIRCUITS FOR THESE VALVES IS IN PROGRESS. ANALYSIS INDICATED THAT THE INTEGRITY OF THE REACTOR VESSEL HAD NOT BEEN IMPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM - REACTOR STARTUP EXPERIENCE - MAIN COOLING SYSTEM - INDIAN POINT 3 (IP3) - OVERPRESSURE TRANSIENT - VALVES

11872D
SMOP WELD IN OUTLET NOZZLE OF BORON INJECTION TANK LEAKS AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR W/NO 76-3-34(B) TO NRC OFFICE OF I & E, REGION 1, OCT. 19, 1976, DOCKET 50-286, TYPE--PWR, RFG--
WEST., AE--LEGC

CAUSE - CORROSION DUE TO OVERLAY REMOVAL. DURING A HEATUP OF THE REACTOR COOLANT SYSTEM FROM THE COLD SHUTDOWN CONDITION, A LEAK IN A SMOP WELD WAS DISCOVERED AT THE OUTLET NOZZLE OF THE BORON INJECTION TANK. THE LEAK WAS DUE TO CORROSION. CORROSION WAS ATTRIBUTED TO REMOVAL OF THE 1/8 INCH INCREAS OVERLAY FROM AREAS OF THE CARBON STEEL NOZZLE DURING MULTIPLE FIELD REPAIRS IN OCTOBER 1973 AND FAILURE TO RESTORE THE CLADDING. THE LEAKING WELD JOINT WAS COMPLETELY REMOVED AND AN ACCEPTABLE REPAIR WELD COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CLADDING - POISON, SOLUBLE - BHELLS - SAFETY INJECTION - CORROSION - REACTOR STARTUP EXPERIENCE - STORAGE CONTAINER - NOZZLE - FAILURE, INSTALLATION ERROR - LEAK - INDIAN POINT 3 (IP3)

12084
UPDATE REPORT ON REACTOR COOLING LEAK TO CONTAINMENT AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/NO 76-3-30(A) TO NRC OFFICE OF I & E, REGION 1, OCT. 20, 1976, DOCKET 50-286, TYPE--PWR, RFG--

120004 *CONTINUED*
WEST., AE--LECC

CAUSE - FITTING IMPROPERLY INSTALLED. WHILE OPERATING AT 90% POWER, RADIATION MONITORS AND CONTAINMENT HUMIDITY DETECTION SYSTEMS INDICATED A REACTOR COOLANT LEAK TO CONTAINMENT. THE LEAK WAS LOCATED IN PRIMARY SAMPLE LINE 50 FOR HOT LEG LOOPS 1 AND 3 DOWNSTREAM OF THE DELAY COILS. THE LINE WAS ISOLATED. THE LINE HAD PARTED AT A SWAGELUM CONNECTOR AS A RESULT OF AN IMPROPER INSTALLATION. A NEW FITTING WAS PROPERLY INSTALLED AND TESTED AT FULL SYSTEM PRESSURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (IP3) * REACTOR STARTUP EXPERIENCE * PIPES AND PIPE FITTINGS * MAIN COOLING SYSTEM * SAMPLING * FAILURE, INSTALLATION ERROR * LEAK

119890

FREQUENCY OF DIESEL GENERATOR INCREASES TO 62 HERTZ AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, NEW YORK, NY
2 PGS, LTR NYRO-70-3-35(B) TO NRC OFFICE OF I & E, REGION 1, OCT. 22, 1976, DOCKET 50-206, TYPE--PM, NRC--
WEST., AE--LECC

CAUSE - AIR IN OIL LINES TO GOVERNOR. DURING OPERATIONAL TESTING OF THE EMERGENCY DIESEL GENERATORS WITH THE REACTOR SHUT DOWN, THE FREQUENCY OF G# 31 INCREASED TO 62 HERTZ. AIR IN THE OIL LINES TO THE WOODWARD GOVERNOR CAUSED THE MALFUNCTION. THIS AIR POCKET APPARENTLY RESULTED FROM A PREVIOUS REPAIR. THE LINES WERE PURGED, REFILLED, AND THE DIESEL RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTROL * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * INDIAN POINT 3 (IP3) * PNEUMATIC SYSTEM * ENGINES, INTERNAL COMBUSTION * PNEUMATICA, DIESEL

120301

OXYGEN CONCENTRATION IN REACTOR COOLANT EXCEEDS LIMIT AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR NYRO-70-3-37(B) TO NRC OFFICE OF I & E, REGION 1, NOV. 1, 1976, DOCKET 50-206, TYPE--PM, NRC--
WEST., AE--LECC

CAUSE - MISINTERPRETATION OF TECH SPECS. DURING ROUTINE STARTUP OPERATIONS WITH THE REACTOR COOLANT SYSTEM SOLID AT 190 F, THE PRESSURIZER WAS HEATED TO 400 F IN PREPARATION FOR DRAWING A STEAM BUBBLE. DURING THIS PERIOD, THE OXYGEN CONCENTRATION IN THE REACTOR COOLANT WAS 1.8 PPM WHICH EXCEEDS THE TRANSIENT VALUE OF 1.0 PPM FOR OPERATION ABOVE 250 F. THE OPERATOR FAILED TO RECOGNIZE THE TEMPERATURE OF THE PRESSURIZER AS BEING RELATIVE TO THE TECH SPECS. ALSO, PROCEDURES DID NOT STATE THAT THE PRESSURIZER SHOULD NOT BE HEATED ABOVE 250 F UNTIL THE OXYGEN CONCENTRATION WAS WITHIN SPECIFICATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (IP3) * CONCENTRATION * OXYGEN * MAIN COOLING SYSTEM * TEMPERATURE * PRESSURIZER * FAILURE, OPERATOR ERROR * COMMUNICATION * REACTOR COOLANT * REACTOR STARTUP

119754

CONTROL OF DIESEL GENERATOR SPEED UNSUCCESSFUL AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR NYRO-70-3-40(B) TO NRC OFFICE OF I & E, REGION 1, NOV. 20, 1976, DOCKET 50-206, TYPE--PM, NRC--
WEST., AE--LECC

CAUSE - DEFECTIVE CONNECTION IN CIRCUITRY. DURING TESTING OF THE EMERGENCY DIESEL GENERATORS WHILE OPERATING AT 90% POWER, ATTEMPTS TO CONTROL THE SPEED OF DIESEL GENERATOR 31 WERE UNSUCCESSFUL. THE DIESEL WAS MANUALLY TRIPPED. DUE TO THE CONCURRENT LOSS OF NO. DRIVE NO 31, THE REACTOR TRIPPED BUT WAS RETURNED TO SERVICE USING NORMAL PLANT PROCEDURES. THE UNIT/PARALLEL RELAY, A GE, MODEL CR-120202-01, 125 VDC SERIES A RELAY, OPERATED INTERMITTENTLY DUE TO A DEFECTIVE CONNECTION IN THE CIRCUITRY ASSOCIATED WITH THIS RELAY. THE DEFECTIVE WIRING WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (IP3) * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * CONTROL SYSTEM * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * CABLES AND CONNECTIONS * REACTOR SHUTDOWN * FAILURE, MAINTENANCE ERROR

120278

NUCLEAR POWER RANGE CHANNEL FOUND TO BE NONCONSERVATIVE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR NYRO 70-3-42(B) TO NRC OFFICE OF I & E, REGION 1, NOV. 20, 1976, DOCKET 50-206, TYPE--PM, NRC--
WEST., AE--LECC

CAUSE - OUT OF ADJUSTMENT. DURING TESTING OF THE NUCLEAR POWER RANGE CHANNELS WHILE OPERATING AT

120770 (CONTINUED)

SIX POWER, IT WAS FOUND THAT THE VALUE OF F (DELTA I) CHANNEL II WAS LESS CONSERVATIVE THAN THE TECH SPEC VALUE. THE COMPUTED VALUE FOR THE JERKPOWER DELTA T SET POINT WAS NONCONSERVATIVE BY 0.2 F WHILE THE OVERTEMPERATURE DELTA T SET POINT WAS WITHIN SPECS. THE FORWARD STATIC GAIN UNIT, MUGEL DG, WAS FOUND TO HAVE BEEN OUT OF ADJUSTMENT FOR NO APPARENT CAUSE. THE AFFECTED INSTRUMENT WAS ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INDIAN POINT 3 (PWR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * INSTRUMENT, POWER RANGE * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * REACTOR PROTECTION SYSTEM * FAILURE, INHERENT

120000

CONTROL ROD DROPS AT INDIAN POINT 3

CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-70-3-3010 TO NRC OFFICE OF I & E, REGION I, DEC. 6, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST, AE--LEEC

CAUSE - GRIPPER COIL FUSE BLEW. WHILE AT SIX POWER, SHUTDOWN BANK A ROD C-5 DROPPED, INITIATING A TURBINE RUNBACK. MAXIMUM INDICATED TILT WAS CALCULATED TO BE 0.98. REACTOR POWER WAS REDUCED TO 40% AS A RESULT OF THE TURBINE RUNBACK. THE FUSE (SABRUT, A 25K10, 10 AMP, 250 V) FOR THE STATIONARY GRIPPER COIL OF ROD C-5 BLEW, CAUSING THE ROD TO DROP. THE FUSE WAS REPLACED AND THE ROD RETRIEVED USING STANDARD PLANT PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INDIAN POINT 3 (PWR) * CONTROL RCDs * INSTRUMENT, PROTECTIVE * REACTOR TRANSIENT * CONTROL ROD DRIVES * FAILURE, INSTRUMENT * FAILURE, INHERENT * REACTIVITY, NEGATIVE * ACCIDENT, CONTROL ROD DROP IN

120007

TURBINE OVERSPEED PROTECTION CHANNEL INDICATES LOW AT INDIAN POINT 3

CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR W/RO-6-3-410 TO NRC OFFICE OF I & E, REGION I, DEC. 6, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST, AE--LEEC

CAUSE - CARD OUT OF ADJUSTMENT. DURING SIX POWER OPERATION, THE CONTROL ROOM OPERATOR OBSERVED CHANNEL 1 OF THE INDEPENDENT OVERSPEED PROTECTION READING 1200 RPM WHILE THE TURBINE WAS OPERATING AT 1800 RPM. THE CHANNEL, WHICH PROVIDES INPUT TO A 2 OUT OF 3 MATRIX WHICH TRIPS THE TURBINE ON OVERSPEED, WAS PLACED IN THE TRIP CONDITION. A GLEN CONTROL'S FREQUENCY TO DC CARD WAS FOUND OUT OF ADJUSTMENT. ITS SENSITIVITY WAS ADJUSTED AND THE CHANNEL RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INDIAN POINT 3 (PWR) * INSTRUMENT, SWITCH * INSTRUMENT, ABNORMAL INDICATION * TURBINE * FAILURE, INSTRUMENT * DRIFT * FAILURE, INHERENT * PROTECTION SYSTEM * INSTRUMENT, PROTECTIVE

120722

RHR PRESSURE RELIEF VALVE LIFTS BELOW SET PRESSURE AT INDIAN POINT 3

CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR W/HPT, THEIR-70-3-1 TO NRC OFFICE OF I & E, REGION I, DEC. 15, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST, AE--LEEC

CAUSE - NOT DETERMINED. DURING A HEATUP WITH A BUBBLE IN THE PRESSURIZER, RHR SYSTEM IN SERVICE, AND RHR PUMPS SECURED, PRESSURIZER LEVEL BEGAN DECREASING RAPIDLY, RC PUMPS WERE SHUT DOWN AND A SECOND CHANGING PUMP STARTED. PRESSURIZER RELIEF TANK LEVEL AND PRESSURE ALSO INCREASED. THE RHR SLITCH RELIEF VALVE HAD LIFTED. THE DISCHARGE WAS TERMINATED BY MANUAL CLOSURE. THE SETTING FOR THIS VALVE IS 400 PSIG, HOWEVER, RCS PRESSURE NEVER EXCEEDED 400 PSIG. THE VALVE WILL BE RESET DURING THE NEXT OUTAGE. THIS IS AN INFORMATION ONLY REPORT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INDIAN POINT 3 (PWR) * VALVES * PRESSURE RELIEF * SHUTDOWN COOLING SYSTEM * FAILURE, EQUIPMENT * SET POINT * DRIFT

120020

HIGH FILM BADGE READING OCCURS AT INDIAN POINT 3

CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
1 PGS, LTR W/HPT TO U.S. NRC, REGION I, DEC. 16, 1976, DOCKET 50-206, TYPE--PWR, NRC--WEST, AE--LEEC

CAUSE - UNKNOWN. FOR THE MONTH OF OCTOBER, AN INDIVIDUAL'S MONTHLY FILM BADGE READING WAS 3730 MREM WHILE THE 2 SELF-READING POCKET DOSIMETERS READ 80 MREM. THE INDIVIDUAL ENTERED THE CONTROLLED AREA ONLY ON 4 DAYS. CALCULATED MAXIMUM EXPOSURE BASED ON TOTAL TIME AND HIGHEST MEASURED FIELD WAS ABOUT 130 REM. NO INDICATION OF A POTENTIAL FOR THE HIGH EXPOSURE WAS FOUND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

120020 *CONTINUED*
CHARGE \$2.00

INDIAN POINT 3 (PWR) * PERSONNEL EXPOSURE, RADIATION * WADGE * DOSIMETRY * PERSONNEL PROTECTIVE DEVICE

120041
A CONTROL ROD FOUND TO BE MISALIGNED AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR N/RO-70-3-39(8) TO NRC OFFICE OF I & E, REGION I, DEC. 17, 1970, DOCKET 50-286, TYPE--PWR, NRC--
WEST., AE--UELC

CAUSE - UNKNOWN. DURING 77% POWER OPERATION, CONTROL BANK 4 ROD D-8 INDICATED A POSITION OF 103 STEPS WITH THE REMAINING RODS IN THE BANK POSITIONED AT 220 STEPS. MAXIMUM RADIAL FLUX TILT WAS 2.25%. NO SPECIFIC CAUSE WAS FOUND. THE MISALIGNED ROD WAS RETRIEVED USING STANDARD PLANT PROCEDURES. THE TILT WAS ELIMINATED WITHIN THE REQUIRED TIME LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (PWR) * REACTOR STARTUP EXPERIENCE * FLUX TILT * CONTROL RODS * REACTIVITY EFFECT * FAILURE, EQUIPMENT

120722
MAIN STEAM ISOLATION VALVES FAIL TO CLOSE AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
3 PGS, LTR N/RO-70-3-05(1A) TO NRC OFFICE OF I & E, REGION I, DEC. 30, 1970, DOCKET 50-286, TYPE--PWR, NRC--
WEST., AE--UELC

CAUSE - PACKING GLAND PLATES OUT OF ADJUSTMENT. WHILE SECURING THE SECONDARY PLANT FOLLOWING A UNIT TRIP, MAIN STEAM ISOLATION VALVES FOR LOOPS 32 AND 33 FAILED TO CLOSE FULLY. MS-1-32 REMAINED FULLY OPEN WHILE MS-1-33 CLOSED TO AN INTERMEDIATE POSITION. BOTH WERE MANUALLY CLOSED. THE CAUSE WAS SHAFT BINDING AT THE PACKING GLAND DUE TO IMPROPER ADJUSTMENT OF THE GLAND PLATE. THE PLATES WERE ADJUSTED AND THE VALVES TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (PWR) * VALVES * CONTAINMENT ISOLATION * COOLING SYSTEM, SECONDARY * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * BEARING * STEAM

120724
SET POINT DRIFT IN NUCLEAR POWER RANGE CHANNEL AT INDIAN POINT 3
CONSOLIDATED EDISON CO. OF NEW YORK, INC., NEW YORK, NY
2 PGS, LTR N/RO-70-3-03(8) TO NRC OFFICE OF I & E, REGION I, DEC. 30, 1970, DOCKET 50-286, TYPE--PWR, NRC--
WEST., AE--UELC

CAUSE - STATIC GAIN UNIT OUT OF ADJUSTMENT. DURING TESTING OF THE NUCLEAR POWER RANGE CHANNELS WHILE OPERATING AT 95% POWER, THE OVERPOWER AND OVERTEMPERATURE DELTA T SET POINTS FOR CHANNEL 11 WERE FOUND TO BE LESS CONSERVATIVE THAN THE REQUIRED VALUE. THE FORWARD STATIC GAIN UNIT, MODEL 08, WAS OUT OF ADJUSTMENT. IT WAS ADJUSTED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INDIAN POINT 3 (PWR) * INSTRUMENT, SWITCH * SENSORS, TEMPERATURE * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * FAILURE, INHERENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, POWER RANGE * INSTRUMENT CALIBRATION

110201
CONTAINMENT PRESSURE SWITCH SET POINT DRIFT AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR N/RO 70-1 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JAN. 16, 1970, DOCKET 50-305, TYPE--PWR, NRC--
WEST., AE--PICNER SERV.

CAUSE - ZERO SHIFT. DURING A TEST WITH THE REACTOR AT 99% POWER, A CONTAINMENT PRESSURE INSTRUMENT WAS INDICATING LOW. THE PRESSURE TRANSMITTER WAS FOUND TO HAVE A 0.25% ZERO SHIFT. LGD. AFTER CALIBRATION, THE CHANNEL FUNCTIONED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * KEWAUNEE (PWR) * SET POINT * EMERGENCY COOLING SYSTEM * DRIFT * SENSORS, PRESSURE

110957
RTD INDICATES LOW AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI

118957 CONTINUED
2 PGS. LTR W/NO 70-1 TO NRC OFFICE OF I & E, REGION III, FEB. 17, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICKEE SERV.

CAUSE - UNDETERMINED. WHILE OPERATING AT 99% POWER, TESTS SHOWED HOT LEG CHANNEL 4 TEMPERATURE TO BE INDICATING OK LCU. THE RTD WAS REMOVED FROM THE CIRCUIT AND A SPARE RTD INSTALLED. THE R/I CONVERTER WAS CALIBRATED. DURING THE REFUELING OUTAGE, THE RTD WILL BE REMOVED AND EXAMINED TO DETERMINE THE CAUSE OF FAILURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * TEST, 5 STEM OPENABILITY * KEWAUNEE (PWR) * SENSORS, TEMPERATURE

111901
RELAY FAILS TO TRIP CIRCULATING WATER PUMP AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO 70-2 TO NRC OFFICE OF I & E, REGION III, MARCH 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICKEE SERV.

CAUSE - LOOSE CONNECTION. DURING TESTING OF THE FOREBAY LEVEL INSTRUMENTS WITH THE REACTOR SHUT DOWN FOR REFUELING, THE RELAY TO TRIP CIRCULATING WATER PUMP 10 WOULD NOT FUNCTION. A LOOSE CONNECTION WAS FOUND ON TERMINAL 3 OF THE RELAY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * REFUELING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * KEWAUNEE (PWR) * CABLES AND CONNECTORS * CONDENSED COOLING SYSTEM * PUMPS * RELAYS

111902
CONTAINMENT SPRAY VALVE FAILS TO OPEN AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO 70-3 TO NRC OFFICE OF I & E, REGION III, MARCH 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICKEE SERV.

CAUSE - MANUALLY TORQUED TOO TIGHT. DURING REFUELING OUTAGE SURVEILLANCE TESTING, A CONTAINMENT SPRAY DISCHARGE VALVE FAILED TO OPEN ON SIGNAL. WHEN THE VALVE HANDWHEEL WAS JOGGED, THE VALVE OPERATED PROPERLY. IT APPEARS THAT THE VALVE HAD BEEN TORQUED DOWN MANUALLY TO PREVENT LEAKAGE THROUGH THE VALVE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT SPRAY * FAILURE, OPERATOR ERROR * REFUELING * TEST, SYSTEM OPERABILITY * KEWAUNEE (PWR) * VALVES

111903
SET POINT DRIFT IN UNDERVOLTAGE RELAYS AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO 70-4 TO NRC OFFICE OF I & E, REGION III, MARCH 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICKEE SERV.

CAUSE - INSTRUMENT DRIFT. DURING RECALIBRATION OF UNDERVOLTAGE REACTOR TRIP RELAYS WITH THE UNIT IN A REFUELING OUTAGE, ONE RELAY WAS OUT OF SPECIFICATIONS AND COULD NOT BE READJUSTED. IT WAS REPLACED. TWO OTHERS WERE OUT OF LIMITS AND WERE RECALIBRATED. ALL WERE ON LOGIC TRAIN 0. INSTRUMENT DRIFT RESULTED IN SETTINGS 2% BELOW THE MINIMUM VALUE. PRE TOURS WILL BE MODIFIED FOR MORE CONSERVATIVE SET POINTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * REFUELING * TEST, SYSTEM OPERABILITY * KEWAUNEE (PWR) * SET POINT * DRIFT * RELAYS

112317
SET POINT DRIFT IN PRESSURIZED LEVEL TRANSMITTER AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO 70-5 TO NRC OFFICE OF I & E, REGION III, MARCH 18, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICKEE SERVICE

CAUSE - ZERO DRIFTED LOW. DURING TESTING OF THE PRESSURIZED CHANNELS WITH THE REACTOR SHUT DOWN FOR REFUELING, ONE CHANNEL WAS FOUND OUT OF SPECIFICATION LOW. THE TRANSMITTER ZERO HAD DRIFTED LOW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER *

112217 *CONTINUED*
REFUELING * TEST, SYSTEM OPERABILITY * REBAUNEE (PWR) * SET POINT * DRIFT * SENSORS, LEVEL

112478
EMPLOYEE EXPOSED TO AIRBORNE RADIOACTIVE MATERIAL AT REBAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
4 PGS, LTR W/PRO 76-8 TO NRC OFFICE OF I & E, APRIL 5, 1976, DOCKET 50-305, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - FAILURE TO FOLLOW PROCEDURES. THREE PERSONNEL WERE INVOLVED IN CLEANING THE CONVERSE BOLTS REMOVED FROM THE REACTOR VESSEL HEAD UNDER THE DIRECTION OF A CONTRACTOR EMPLOYEE. ONE WAS TOLD TO USE ACETONE AND A WIRE BRUSH AND THE OTHERS WATER AND A WIRE BRUSH. THE JOB WAS COMPLETED IN ONE HOUR. ALL WERE SLIGHTLY CONTAMINATED. A WHOLE BODY COUNT FOUND ONLY THE WORKER WHO USED ACETONE TO HAVE A BODY BURDEN OF CO-60. PROCEDURES WERE NOT FOLLOWED IN THAT RESPIRATORS WERE NOT REQUIRED. THE SUPERVISOR WAS RELIEVED OF HIS DUTIES. THE WORKER WAS EXPOSED TO A CONCENTRATION LESS THAN 4 TIMES THE LIMIT FOR AN ASSUMED 1 HOUR PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AIRBORNE RELEASE * COBALT * INHALATION * MAINTENANCE AND REPAIR * BYPRODUCT MATERIAL * PERSONNEL EXPOSURE, RADIATION * REFUELING * FAILURE, ADMINISTRATIVE CONTROL * REBAUNEE (PWR)

112734
MAIN STEAM FLOW TRANSMITTER OUT OF TOLERANCE AT REBAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR W/PRO 76-8 TO NRC OFFICE OF I & E, REGION III, APRIL 8, 1976, DOCKET 50-305, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - DEFECTIVE BELLOWS. WITH THE UNIT IN THE REFUEL MODE, A MAIN STEAM FLOW TRANSMITTER WAS FOUND TO BE OUT OF TOLERANCE DURING TESTING, AND IT COULD NOT BE RECALIBRATED. A DEFECTIVE BELLOWS WAS FOUND IN THE TRANSMITTER. IT WAS REPLACED AND THE TRANSMITTER RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * INSTRUMENT, SWITCH * REFUELING * TEST, SYSTEM OPERABILITY * MAIN COOLING SYSTEM * REBAUNEE (PWR) * FAILURE, INHERENT * SENSORS, FLOW

112224
SUM OF ALL PENETRATION LEAKS EXCEED ACTION LEVEL AT REBAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR W/PRO 76-7 TO NRC OFFICE OF I & E, REGION III, APRIL 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - NORMAL WEAR OF VALVES. THE SUM OF ALL PENETRATION LEAK TEST MEASUREMENTS PERFORMED DURING THE FIRST REFUELING EXCEEDED THE ACTION LEVEL FOR REPAIR AND RETEST OF 0.1 LA PER LEAKAGE TO THE SPECIAL VENTILATION ZONE. PRIOR TO REPAIR, LEAKAGE WAS 0.11 LA OR 125 SCFM. NORMAL WEAR OF VALVES RESULTED IN THE NEED TO REPAIR AND REDUCE LEAKAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TEST, LEAK RATE * REFUELING * TEST, SYSTEM OPERABILITY * LEAK RATE * REBAUNEE (PWR) * FAILURE, INHERENT * WEAR * VALVES * CONTAINMENT PENETRATION

112227
ASY DAMPERS FAIL TO CLOSE AT REBAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR W/PRO 76-8 TO NRC OFFICE OF I & E, REGION III, APRIL 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - STICKY SOLENOID PILOT VALVES. DURING REFUELING OUTAGE TESTING, ASV DAMPER FROM S/G BLDG ROOM TO THE AUXILIARY BUILDING EXHAUST AND ASV DAMPER FROM THE TOILETS AND LOCKERS TO THE AUXILIARY BUILDING EXHAUST STACK FAILED TO CLOSE ON TRAIN B SAFETY INJECTION ACTUATION SIGNAL. THE CAUSE WAS STICKY SOLENOID PILOT VALVES. THE SOLENOID VALVES AND DAMPERS WERE CYCLED SEVERAL TIMES AND THE PROBLEM DID NOT REOCCUR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * VENTILATION SYSTEM * REFUELING * TEST, SYSTEM OPERABILITY * COMPONENTS * REBAUNEE (PWR) * FAILURE, INHERENT * SOLENOID * AUXILIARY

112228
AUXILIARY FEEDWATER PUMP FAILS TO START AT REBAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR W/PRO 76-9 TO NRC OFFICE OF I & E, REGION III, APRIL 9, 1976, DOCKET 50-305, TYPE--PWR, NRC--BEST.,

11222 *CONTINUED*
AE--PICNEN SERV.

CAUSE - FAULTY LUBE OIL PRESSURE SWITCH. DURING REFUELING OUTAGE TESTING, 1 OF THE 3 AUXILIARY FEEDWATER PUMPS FAILED TO START ON A BLACKOUT SEQUENCE SIGNAL. IT DID START ON SAFETY INJECTION SEQUENCE SIGNAL. A FAULTY LUBE OIL PRESSURE SWITCH INITIATED THE AUTO START OF THE PUMP. THE SWITCH WAS CLEANED. THE AUTO START THEN WORKED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * REFUELING * TEST, SYSTEM OPERABILITY * KEWAUNEE (PWR) * AUXILIARY * FEEDWATER * PUMPS

114412
SET POINT DRIFT IN UNDERVOLTAGE RELAY AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR D/RO 70-11 TO NRC OFFICE OF I & E, REGION III, MAY 19, 1976, DOCKET 50-305, TYPE--PWR, NPG--BEST.,
AE--PICNEN SERV.

CAUSE - INSTRUMENT DRIFT. A MANAGEMENT REVIEW OF SURVEILLANCE PROCEDURES DETECTED BUS 1-1A PHASE UNDERVOLTAGE TRIP SETTING LESS CONSERVATIVE THAN TECH SPEC LIMITS. THE CAUSE WAS INSTRUMENT DRIFT. THE CHANNEL WAS RECALIBRATED. A SIMILAR INCIDENT OCCURRED EARLIER. CURRENTLY THE SET POINT IS THE SAME AS THE LIMITS AND ALLOWS NO MARGIN FOR DRIFT. A DESIGN CHANGE HAS BEEN INITIATED TO SET THE SET POINT 2% MORE CONSERVATIVE THAN THE TS LIMIT. THE REACTION WAS AT 25% POWER AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE * ELECTRIC POWER * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * KEWAUNEE (PWR) * SET POINT * DRIFT * FAILURE, INHERENT * DELAYS

116780
GRAB SAMPLE NOT TAKEN DURING WATER SOFTENING UNIT REGENERATION AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
3 PGS, LTR D/RO 70-12 TO NRC OFFICE OF I & E, REGION III, MAY 20, 1976, DOCKET 50-305, TYPE--PWR, NPG--BEST.,
AE--PICNEN SERV.

CAUSE - OPERATOR ERROR. TECH SPECS REQUIRE A GRAB SAMPLE TO BE ANALYZED FOR PH AND TOTAL SUSPENDED SOLIDS DURING REGENERATION OF A WATER SOFTENING UNIT. THESE UNITS ARE SET UP ON AN AUTOMATIC RECYCLE PROCESS. UNIT IS CYCLED AND THE REGENERATION WASTES DISCHARGED TO THE LAKE WITHOUT THE REQUIRED GRAB SAMPLE AND ANALYSIS BEING PERFORMED. THE OPERATOR MISJUDGED WHEN REGENERATION WOULD OCCUR. A FACTOR WAS THE ABNORMAL HIGH RATE OF USE OF THE LAUNDRY FACILITIES DUE TO WORK IN THE CONTAINMENT DURING THE REFUELING OUTAGE. THE AUTOMATIC FEATURE WILL BE REPEDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT * FAILURE, OPERATOR ERROR * WASTE DISPOSAL * SAMPLING * REFUELING * WATER QUALITY * KEWAUNEE (PWR) * DENITRIFIERS

119477
CIRCULATING WATER TEMPERATURES NOT VERIFIED AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
5 PGS, LTR D/RO 70-1 TO NRC OFFICE OF I & E, REGION III, JUNE 11, 1976, DOCKET 50-305, TYPE--PWR, NPG--BEST., AE--PICNEN SERV.

CAUSE - IMPAIRED COMPUTER. THE PLANT COMPUTER OPERATED IN AN IMPAIRED CONDITION WITH NO COMPUTER FAILURE ALARM FOR A 3 HOUR PERIOD. ALL READINGS REMAINED THE SAME EXCEPT FOR TIME AND ELECTRIC POWER GENERATION. AS A RESULT OF THIS, THE RECORDED CIRCULATING WATER BUS TEMPERATURES CANNOT BE VERIFIED AS ACCURATE ALTHOUGH THEY WERE RECORDED. IF THE ALARM HAD ACTUATED, MANUAL MONITORING COULD HAVE BEEN ACCOMPLISHED. PWRD 70-12, CONCERNING WATER GRAB SAMPLES, HAS BEEN RENUMBERED 81876-1.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COMPUTER, DIGITAL * EFFLUENT * FAILURE, EQUIPMENT * MONITORING PROGRAM, ENVIRONMENTAL * KEWAUNEE (PWR) * TEMPERATURE * CONDENSER COOLING SYSTEM * FAILURE, INHERENT * ANNUNCIATORS

115700
SET POINT DRIFT IN UNDERVOLTAGE RELAYS AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
3 PGS, LTR D/RO 70-12 TO NRC OFFICE OF I & E, REGION III, JUNE 30, 1976, DOCKET 50-305, TYPE--PWR, NPG--BEST.,
AE--PICNEN SERV.

CAUSE - PROCEDURAL DEFICIENCY. A MANAGEMENT REVIEW OF SURVEILLANCE PROCEDURES DETECTED BUS 1-1A

11700 *CONTINUED*

PHASE UNDERVOLTAGE TRIP SETTINGS LESS CONSERVATIVE THAN TECH SPEC LIMITS. PROCEDURES CALLED FOR SETTING THE TRIP SET POINT THE SAME AS THE LIMIT. THUS, ANY TRIP WOULD RESULT IN A MORE CONSERVATIVE SETTING. PROCEDURES WERE CHANGED TO RESET THE TRIP SETTINGS MORE CONSERVATIVELY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * REPAIRS (PWR) * RESET POINT * SHIFT * RELAYS

11702

CIRCULATING WATER BOX TEMPERATURES NOT VERIFIED AS ACCURATE AT KEWAUNEE
DISCONIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR DATED RPT ETR 76-4 TC NRC OFFICE OF I & E, REGION III, AUG. 5, 1976. DOCKET 50-305, TYPE--PWR, NRC--DEST., AE--PICKER SERVICE.

CAUSE - NO COMPUTER FAILURE ALARM. THE PLANT COMPUTER OPERATED WITH NO COMPUTER FAILURE ALARM. ALL READINGS REMAINED THE SAME FOR A 2 HOUR PERIOD AND, AS A RESULT, THE RECORDED CIRCULATING WATER BOX TEMPERATURES CANNOT BE VERIFIED AS ACCURATE. IF IT HAD BEEN KNOWN THAT THE COMPUTER HAD FAILED, MANUAL MONITORING COULD HAVE BEEN ACCOMPLISHED. A DISCHARGE CO TEMPERATURE CONTINUOUS MONITORING RECORDER IS BEING PLANNED TO GIVE 2 SEPARATE MONITORING SYSTEMS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER, DIGITAL * EFFLUENT * FAILURE, EQUIPMENT * REPAIRS (PWR) * TEMPERATURE * CONDENSE COOLING SYSTEM * DISCHARGE * FAILURE, INCIDENT

11707

REACTOR COOLANT LEAKAGE DETECTORS OUT OF SERVICE AT KEWAUNEE
DISCONIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR DATED RPT ETR 76-13 TO NRC OFFICE OF I & E, REGION III, AUG. 13, 1976. DOCKET 50-305, TYPE--PWR, NRC--DEST., AE--PICKER SERVICE.

CAUSE - ISOLATION VALVES LEFT CLOSED. WHILE OPERATING AT 100% POWER, CONTAINMENT PARTICULATE AND RADIO-GAS MONITORS R-11 AND R-12 WERE OUT OF SERVICE FOR REPAIR. THEY WERE RETURNED TO SERVICE BUT THE MANUAL ISOLATION VALVES WERE NOT OPENED. R-21 WAS THEN TAKEN OUT OF SERVICE. THIS CONDITION WENT UNNOTICED FOR 19 HOURS EXCEEDING THE 12 HOUR LIMIT FOR THE REACTOR COOLANT LEAKAGE DETECTION SYSTEM TO BE OUT OF SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SAMPLING * FAILURE, MAINTENANCE ERROR * CONTAINMENT LEAK MONITOR * FLOW * REPAIRS (PWR) * RADIATION MONITORS

11708

SPECIAL VENTILATION TRAIN REMOVED FROM SERVICE WITHOUT TESTS AT KEWAUNEE
DISCONIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR DATED RPT ETR 76-14 TO NRC OFFICE OF I & E, REGION III, AUG. 13, 1976. DOCKET 50-305, TYPE--PWR, NRC--DEST., AE--PICKER SERVICE.

CAUSE - ELECTRICIAN'S ERROR. WHILE THE REACTOR WAS AT 100% POWER, AN ELECTRICIAN PERFORMING MAINTENANCE ON A CIRCUIT BREAKER IN SPECIAL VENTILATION SYSTEM TRAIN B FORGOT TO INFORM THE SHIFT SUPERVISOR BEFORE TAKING TRAIN B OUT OF SERVICE. TRAIN A HAD NOT BEEN TESTED FOR OPERABILITY. SUBSEQUENT TESTING INDICATED IT WAS OPERABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAINTENANCE AND REPAIR * TESTING * VENTILATION SYSTEM * FAILURE, MAINTENANCE ERROR * REPAIRS (PWR) * BREAKER

11711

PLANT COMPUTER OPERATES IN IMPAIRED CONDITION AT KEWAUNEE
DISCONIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS, LTR DATED RPT ETR 76-5 TC NRC OFFICE OF I & E, REGION III, AUG. 13, 1976. DOCKET 50-305, TYPE--PWR, NRC--DEST., AE--PICKER SERVICE.

CAUSE - NO FAILURE ALARM. WHILE OPERATING AT CONSTANT POWER, THE PLANT COMPUTER OPERATED FOR A 2 HOUR PERIOD WITH NO COMPUTER FAILURE ALARM. ALL READINGS REMAINED THE SAME AND, AS A RESULT, THE RECORDED CIRCULATING WATER BOX TEMPERATURES CANNOT BE VERIFIED AS ACCURATE. SINCE THE FAILURE WAS UNKNOWN, MANUAL MONITORING WAS NOT DONE. A DISCHARGE CO TEMPERATURE CONTINUOUS MONITORING RECORDER WILL BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER, DIGITAL * EFFLUENT * FAILURE, INSTRUMENT * REPAIRS (PWR) * INSTRUMENT, ALARM * TEMPERATURE * CONDENSE COOLING SYSTEM * FAILURE, INCIDENT

117172
WASTE NEUTRALIZING TANK RELEASED WITHOUT BEING NEUTRALIZED OR SAMPLED AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
3 PGS. LTR W/NO. NPT. ETSR 76-6 TO NRC OFFICE OF I & E, REGION III, AUG. 13, 1976, DOCKET 50-305, TYPE--PWR,
NRC--WEST., AE--PICTURE SERV.

CAUSE - OPEN DRAIN VALVE. A RELEASE WAS MADE FROM THE WASTE NEUTRALIZING TANK WITHOUT BEING
NEUTRALIZED OR SAMPLED PRIOR TO RELEASE. THE TANK DRAIN VALVE WAS EITHER LEFT OPEN AFTER A
PREVIOUS RELEASE OR INADVERTENTLY OPENED BETWEEN THE LAST RELEASE AND PRIOR TO THIS RELEASE.
DISCHARGE OF THE 3300 GALLONS OF CONCENTRATED SULFURIC ACID TO THE CIRCULATING WATER WAS MADE
OVER A 67 MINUTE PERIOD. THE PH WAS 0.5. ALL PLANKTONIC ORGANISMS IN THE CIRCULATING WATER WERE
ASSUMED TO BE KILLED DURING THE RELEASE PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

EFFLUENT • FAILURE, OPERATOR ERROR • WASTE DISPOSAL • OSAMPLING • WASTE DISPOSAL, LIQUID • WATER QUALITY •
KEWAUNEE (PWR) • EFFECT, PH

110240
CONTAINMENT DISCHARGE MADE WITHOUT REQUIRED SAMPLING AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO TO NRC OFFICE OF I & E, REGION III, AUG. 27, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST., AE--
PICTURE SERV.

CAUSE - PERSONNEL ERROR. A CONTAINMENT DISCHARGE WAS MADE OVER A 17 MINUTE PERIOD IN THE
VENTILATE MODE TO TEST THE HEPA AND CHARCOAL FILTERS. A TRITIUM SAMPLE WAS NOT TAKEN DURING THE
DISCHARGE AS REQUIRED. THIS EMISSION WAS DISCOVERED BY A SUPERVISORY REVIEW OF THE DISCHARGE
PERMIT. PREVIOUS SAMPLES SHOWED VERY LOW TRITIUM ACTIVITY. PERSONNEL FAILED TO FOLLOW
ESTABLISHED HP PROCEDURES. THIS INCIDENT IS NOT REQUIRED TO BE REPORTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, OPERATOR ERROR • PROCEDURES AND MANUALS • TESTING • OSAMPLING • CONTAINMENT ATMOSPHERE • TEST
INTERVAL • KEWAUNEE (PWR)

119012
SECONDARY CONTAINMENT INTEGRITY VIOLATED AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO TO NRC OFFICE OF I & E, REGION III, OCT. 1, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICTURE SERV.

CAUSE - PERSONNEL ERROR. DURING A HOT SHUTDOWN, BOTH DOORS FROM THE AUXILIARY BUILDING TO THE
SHIELD BUILDING WERE BLOCKED OPEN FOR EQUIPMENT TRANSPORT AND VENTILATION. PLANT PERSONNEL
APPARENTLY WERE NOT AWARE OF A WARNING SIGN ON THE OUTSIDE OF THE DOORS WHICH RESTRICTED THIS
ACTION. THIS COULD PREVENT THE SHIELD BUILDING VENTILATION SYSTEM FROM DRAWING A VACUUM IN THE
SHIELD BUILDING ANNULUS AROUND THE CONTAINMENT. NOW, MORE PROMINENT WARNING SIGNS WERE PUT UP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

CONTAINMENT • CONTAINMENT INTEGRITY • FAILURE, MAINTENANCE ERROR • KEWAUNEE (PWR)

116311
CONDENSER OUTLET TEMPERATURE READING MISSED FOR ONE HOUR AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO. NPT. ETSR 76-7 TO NRC OFFICE OF I & E, REGION III, OCT. 8, 1976, DOCKET 50-305, TYPE--PWR,
NRC--WEST., AE--PICTURE SERV.

CAUSE - PERSONNEL ERROR. WHILE CALIBRATING THE 4 CIRCULATING WATER OUTLET TEMPERATURE
INSTRUMENTS, CONDENSER OUTLET TEMPERATURE 1A WAS DISCONNECTED FROM THE PLANT COMPUTER AND, THUS,
1 OF THE 4 DISCHARGE TEMPERATURE READINGS REQUIRED HOURLY WAS MISSED. THIS WAS PERSONNEL ERROR
IN NOT RECONNECTING THE OUTPUT FOR ITS SCAN OR NOT MANUALLY RECORDING THE TEMPERATURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

INSTRUMENT CALIBRATION • TEST, SYSTEM OPERABILITY • FAILURE, MAINTENANCE ERROR • KEWAUNEE (PWR) • TEMPERATURE
• CONDENSER COOLING SYSTEM • SENSOR, TEMPERATURE

119309
SERVICE WATER VALVE FOR CONTAINMENT COIL FAILS TO OPEN AT KEWAUNEE
WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO TO NRC OFFICE OF I & E, REGION III, OCT. 22, 1976, DOCKET 50-305, TYPE--PWR, NRC--WEST.,
AE--PICTURE SERV.

CAUSE - BROKEN TONGUE SWITCH. WHILE THE REACTOR WAS OPERATING AT 99% POWER, THE SERVICE WATER

119305 *CONTINUED*

ACTOR OPERATED VALVE FOR CONTAINMENT FAN COIL UNIT IS DID NOT OPEN WITH THE CONTROL MOTOR SWITCH. A BROKEN TONNAGE SWITCH IN THE VALVE OPERATOR CAUSED THE CIRCUIT BREAKER TO TRIP. THE TONNAGE SWITCH WAS REPLACED AND THE VALVE FUNCTIONED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT AIR COOLING * INSTRUMENT, SWITCH * REPAIRS (PWR) * SERVICE WATER * FAILURE, IMMINENT * VALVE OPERATORS * VALVES * HEAT EXCHANGERS

119310

FEEDWATER ISOLATION ACTUATION SIGNAL FAILS TO OPERATE AT KEWAUNEE

WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI

2 PGS, LTR W/NO 14-17 TO NRC OFFICE OF I & E, REGION III, OCT. 22, 1976, DOCKET 50-305, TYPE--PWR, RFG--BEST., AE--PICKEER SERV.

CAUSE - BAD CONTACT IN RELAY. DURING TESTING WITH THE REACTOR AT 99% POWER, THIN D FEEDWATER ISOLATION ACTUATION SIGNAL DID NOT OPERATE, A DP RELAY DID NOT FUNCTION PROPERLY. IT WAS REPLACED. A BAD CONTACT CAUSED THE FAULTY RELAY TO NOT FUNCTION PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

*CONTROL SWITCH * CONTAINMENT ISOLATION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * REPAIRS (PWR) * FAILURE, IMMINENT * FEEDWATER * RELAYS

119721

AUXILIARY FEEDWATER PUMP FAILS TO START AT KEWAUNEE

WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI

2 PGS, LTR W/NO 76-10 TO NRC OFFICE OF I & E, REGION III, OCT. 27, 1976, DOCKET 50-305, TYPE--PWR, RFG--BEST., AE--PICKEER SERV.

CAUSE - STICKING ACTUATING RELAY. DURING TESTING WITH THE REACTOR AT 99% POWER, AUXILIARY FEEDWATER PUMP IS FAILED TO START. THE ACTUATING RELAY FOR STARTING THE PUMP WAS FOUND STICKING IN THE EMERGIZED POSITION DUE TO A WORN PLUNGER SHAFT. THE RELAY WAS REPLACED AND TESTED FOR OPERABILITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REPAIRS (PWR) * PUMPS * FEEDWATER * AUXILIARY * COOLING SYSTEM, SECONDARY * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * RELAYS * FAILURE, IMMINENT

119722

SET POINT DRIFT IN PRESSURIZED LEVEL TRANSMITTERS AT KEWAUNEE

WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI

3 PGS, LTR W/NO 76-10 TO NRC OFFICE OF I & E, REGION III, OCT. 27, 1976, DOCKET 50-305, TYPE--PWR, RFG--BEST., AE--PICKEER SERV.

CAUSE - INSTRUMENT DRIFT. WITH THE REACTOR AT 99% POWER, TESTING FOUND 2 OF THE 3 PRESSURIZED LEVEL TRANSMITTERS TO HAVE HIGH LEVEL REACTOR TRIP SET POINTS LESS CONSERVATIVE THAN TECH SPECS BY 5.0% AND 0.3% AND 1 OF THE 3 TO HAVE A LOW LEVEL INITIATION 1.5% LESS CONSERVATIVE THAN TECH SPECS. THE CAUSE WAS INSTRUMENT DRIFT. RECALIBRATION CORRECTED THESE CONDITIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REPAIRS (PWR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * SENSORS, LEVEL * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * REACTOR PROTECTION SYSTEM * FAILURE, IMMINENT * PRESSURIZER

120452

CIRCULATING WATER BOX TEMPERATURE NOT RECORDED AT KEWAUNEE

WISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI

2 PGS, LTR W/NO, OPT LTR 76-8 TO NRC OFFICE OF I & E, REGION III, NOV. 9, 1976, DOCKET 50-305, TYPE--PWR, RFG--BEST., AE--PICKEER SERV.

CAUSE - SOFTWARE PROGRAMMING PROBLEMS. A FAILURE IN THE PLANT COMPUTER CAUSED THE MONITORING PROGRAM WHICH MONITORS THE CIRCULATING WATER BOX TEMPERATURE TO STOP. THE EVENTS ARE ATTRIBUTED TO SOFTWARE PROGRAMMING PROBLEMS. THE COMPUTER PRINTED THE LAST TEMPERATURES ENTERED INTO ITS MEMORY FOR 2 HOURLY PRINTOUTS BEFORE IT WAS DISCOVERED THAT THE COMPUTER HAD MALFUNCTIONED. STEPS HAVE BEEN TAKEN TO PROVIDE AN ALTERNATE MEANS TO MONITOR THESE TEMPERATURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REPAIRS (PWR) * CONDENSER COOLING SYSTEM * TEMPERATURE * COMPUTER, DIGITAL * FAILURE, EQUIPMENT * MONITORING PROGRAM, ENVIRONMENTAL * EFFLUENT

119030
STEAM GENERATOR BLOWDOWN ACTIVITY NOT MONITORED CONTINUOUSLY AT KEWAUNEE
DISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO 70-20 TO NRC OFFICE OF I & E, REGION III, NOV. 26, 1976. DOCKET 50-305, TYPE--PWR, NRC--BEST.,
AE--PICHEER SERV.

CAUSE - REQUIREMENT NOT REALIZED. WHILE OPERATING AT 90% POWER, THE RADIATION MONITORING SYSTEM MULTI-POINT RECORDER WAS TAKEN OUT OF SERVICE FOR MAINTENANCE AND NOT RETURNED TO SERVICE UPON COMPLETION. THE CHART DRIVE FAILED AND REPLACEMENT PARTS WERE NOT AVAILABLE. PLANT PERSONNEL DID NOT IMMEDIATELY REALIZE THE REQUIREMENT FOR CONTINUOUSLY RECORDING STEAM GENERATOR BLOWDOWN ACTIVITY. CONSEQUENTLY, NO PROVISIONS WERE MADE TO RECORD ACTIVITY. A DIRECTIVE HAS BEEN ISSUED TO SWITCH THE 36 BLOWDOWN POINTS OUTPUT TO AN ALTERNATE 2-PEN RECORDER WHENEVER THE MULTIPPOINT RECORDER IS OUT OF SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

KEWAUNEE (PWR) * RECORDS * RECEIPTS * RADIATION MONITORS * STEAM GENERATOR * BLOWDOWN * MAINTENANCE AND REPAIR * FAILURE, ADMINISTRATIVE CONTACT * MONITORING SYSTEM, RADIATION

120152
MANUAL MONITORING OF ARIAL FLUX USED NON-UPDATED VALUES AT KEWAUNEE
DISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
3 PGS. LTR W/NO 70-21 TO NRC OFFICE OF I & E, REGION III, NOV. 29, 1976. DOCKET 50-305, TYPE--PWR, NRC--BEST.,
AE--PICHEER SERV.

CAUSE - OPERATOR ERROR. WHILE OPERATING AT 90% POWER, A COMPUTER SOFTWARE PROBLEM CAUSED FAILURE OF THE COMPUTER. THIS HAS OCCURRED 4 TIMES. IT WAS DISCOVERED THAT MANUAL MONITORING OF THE ARIAL FLUX DIFFERENCE DONE DURING COMPUTER FAILURES UTILIZED NON-UPDATED VALUES PRINTED BY THE COMPUTER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

KEWAUNEE (PWR) * MATHEMATICAL TREATMENT * FLUX DISTRIBUTION * FAILURE, OPERATOR ERROR * COMPUTER, DIGITAL

120702
TOTAL SOLIDS DISCHARGED IN THE CIRCULATING WATER EXCEEDS LIMITS AT KEWAUNEE
DISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO. RPT. EISA 70-9 TO NRC OFFICE OF I & E, REGION III, DEC. 23, 1976. DOCKET 50-305, TYPE--PWR,
NRC--BEST., AE--PICHEER SERV.

CAUSE - DISCHARGE RATE TOO HIGH. PRIOR TO RELEASE, THE WASTE NEUTRALIZING TANK WAS SAMPLED FOR TOTAL SOLIDS AND A RELEASE RATE CALCULATED TO ENSURE THAT THE 2.0 MG/L LIMIT WAS NOT EXCEEDED. THE OPERATOR STOPPED THE DISCHARGE AND CALCULATED THE DISCHARGE RATE TO BE ABOUT 10 GPM. UPON COMPLETION OF THE DISCHARGE 10.5 HOURS LATER, IT WAS DETERMINED THAT THE RATE HAD BEEN 22.0 GPM EXCEEDING TECH SPEC LIMITS. THE CAUSE WAS EITHER A PARTIALLY CLOGGED DISCHARGE LINE WHICH CLEARED UPON FLUSHING OR AN OPERATOR ERROR IN CALCULATING THE DISCHARGE FLOW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

KEWAUNEE (PWR) * RELEASE RATE * WASTE DISPOSAL * WASTE DISPOSAL, LIQUID * CONDENSED COOLING SYSTEM * FAILURE, OPERATOR ERROR

120764
TURBINE BUILDING SUMP SAMPLE NOT TAKEN ONE DAY AT KEWAUNEE
DISCONSIN PUBLIC SERVICE CORP., GREEN BAY, WI
2 PGS. LTR W/NO. RPT. 70-10 TO NRC OFFICE OF I & E, REGION III, DEC. 30, 1976. DOCKET 50-305, TYPE--PWR, NRC--BEST., AE--PICHEER SERV.

CAUSE - OPERATOR FORGOT. THE TURBINE BUILDING'S SUMP WAS NOT SAMPLED AND ANALYZED FOR PH AND SUSPENDED SOLIDS ON 12/3/76. THE PERSON WHO NORMALLY PERFORMS THIS TASK FORGOT TO TAKE THE SAMPLE. THIS OCCURRED ON A WEEKEND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

KEWAUNEE (PWR) * SAMPLING * BUILDING * TURBINE * TEST INTERVAL * FAILURE, OPERATOR ERROR * CONTAINMENT SUMP

110958
SET POINT DRIFT IN REACTOR COOLANT FLOW SWITCH AT MAINE Yankee
MAINE Yankee ATOMIC POWER CO., BISCASSSET, ME
2 PGS. LTR W/NO 70-1/3L TO NRC DIVISION OF REGULATORY OPERATIONS, REGION I, JAN. 22, 1976. DOCKET 50-309, TYPE--PWR, NRC--CCRB., AE--STEVE & WEBSTER

CAUSE - FAULTY POWER SUPPLY UNIT. DURING DUTY SURVEILLANCE WITH THE REACTOR AT 110% POWER, 1 OF THE 4 NO. 5 LOW REACTOR COOLANT FLOW TAP SET POINTS WAS DETERMINED TO BE SLIGHTLY OUT OF

110958 (CONTINUED)

TOLERANCE IN THE NON-CONSERVATIVE DIRECTION. THE POWER-RATE MODEL DWA 12-730/15-7500 POWER SUPPLY UNIT FAILED TO MAINTAIN PROPER OUTPUT VOLTAGE IN THE LOADED CONDITION. IT WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00) PBI

REACTOR PROTECTION SYSTEM • ELECTRIC POWER • INSTRUMENT CALIBRATION • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • OSET POINT • MAINE YANKEE (PWR) • POSIFT • ELECTRONIC FUNCTION UNITS • SENSORS, FLAG

110305

SET POINT DRIFT ON OVER-POWER HIGH LIMIT TRIP AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
2 PGS, LTR W/NO 70-273 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, JAN. 27, 1976, DCKET 50-300, TYPE--PWR, NRC--COMB., AE--STONE & WEBSTER

CAUSE - BORN POTENTIOMETER. DURING TESTING WITH THE REACTOR AT 100% POWER, 1 OF THE 4 MP3 VARIABLE OVER-POWER HIGH LIMIT TRIP SET POINTS WAS FOUND TO BE SLIGHTLY OUT OF TOLERANCE IN THE NON-CONSERVATIVE DIRECTION. A BORN POTENTIOMETER WITHIN THE BELL & HOWELL MODEL NO. 19-317 ADJUSTABLE FEEDBACK LIMITED MODULE WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT • INSTRUMENT, PROTECTIVE • REACTOR PROTECTION SYSTEM • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • INSTRUMENT, POWER RANGE • SET POINT • MAINE YANKEE (PWR) • POSIFT • FAILURE, IMMINENT • BEAR

110895

SET POINT DRIFT IN OVER-POWER INSTRUMENT AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
2 PGS, LTR W/NO 70-273 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, JAN. 27, 1976, DCKET 50-300, TYPE--PWR, NRC--COMB., AE--STONE & WEBSTER

CAUSE - BORN POTENTIOMETER. DURING ROUTINE SURVEILLANCE WITH THE REACTOR AT 100% POWER, 1 OF THE 4 MP3 VARIABLE OVER-POWER HIGH LIMIT TRIP SET POINTS WAS FOUND TO BE SLIGHTLY OUT OF TOLERANCE IN THE NON-CONSERVATIVE DIRECTION. THE CAUSE WAS BORN POTENTIOMETER WITHIN THE BELL & HOWELL MODEL NO. 19-317 ADJUSTABLE FEEDBACK LIMITED MODULE. THE MODULE WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM • INSTRUMENT CALIBRATION • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • INSTRUMENT, POWER RANGE • SET POINT • MAINE YANKEE (PWR) • POSIFT • FAILURE, IMMINENT • BEAR

110959

DELTA T INPUT TO TRIP CALCULATOR ERRATIC AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
2 PGS, LTR W/NO 70-273 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, JAN. 29, 1976, DCKET 50-300, TYPE--PWR, NRC--COMB., AE--STONE & WEBSTER

CAUSE - BORN/DIRTY POTENTIOMETER. WHILE OPERATING AT FULL POWER, THE DELTA T INPUT TO CHANNEL 0 THERMAL MARGIN/LOW PRESSURE TRIP CALCULATOR WAS NOTED TO BE READING LOW AND ERRATIC. THIS CAUSED THE TRIP SET POINT TO BE CUT OF TOLERANCE IN THE NON-CONSERVATIVE DIRECTION. THE BELL & HOWELL, MODEL 19-300, 10-TURN COEFFICIENT POTENTIOMETER BECAME BORN AND/DIRTY CAUSING THE ERRATIC SIGNAL. THE POTENTIOMETER WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • INSTRUMENT, ABNORMAL INDICATION • MAINE YANKEE (PWR) • FAILURE, IMMINENT • BEAR • SENSORS, TEMPERATURE • ELECTRONIC FUNCTION UNITS

110337

CONTAMINATED WASTE SHIPPING CASE RECEIVED AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
1 PG, RPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, JAN. 30, 1976, DCKET 50-300, TYPE--PWR, NRC--COMB., AE--STONE & WEBSTER

CAUSE - NOT STATED. A SURVEY OF AN EMPTY MITTAN NUCLEAR & DEVELOPMENT CORP. WASTE SHIPPING CASE AND TRAILER SHOWED REMOVABLE RADIOACTIVE CONTAMINATION IN EXCESS OF 22,000 DPM PER SQ CM IN SEVERAL PLACES ON ARRIVAL. THE UTILITY AGREED TO ACCEPT DELIVERY AND TO HOLD IT ON SITE UNTIL DECONTAMINATION TO ACCEPTABLE LEVELS HAD BEEN ACCOMPLISHED. IN SOME PLACES, CONTAMINATION LEVELS WERE IN THE RANGE OF 1,100,000 DPM PER SQ CM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

110317 *CONTINUED*
 SHIPPING CONTAINER * TRANSPORTATION AND HANDLING * WASTE DISPOSAL * SURVEY, RADIATION * WASTE TRANSPORTATION
 * CONTAMINATION * MAINE YANKEE (PWR)

111091
 WIDE RANGE LOG NUCLEAR INSTRUMENT FAILS AT MAINE YANKEE
 MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
 2 PGS, LTR D/LER 70-5/31 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, FEB. 27, 1976, DOCKET 50-300,
 TYPE--PWR, NRC--COMB., AE--STEVE L WEBSTER

CAUSE - POWER SUPPLY MODULE FAILURE. DURING NORMAL OPERATION AT 15% POWER, THE HIGH VOLTAGE ALARM
 LIGHT FOR 1 OF THE 4 WPS WIDE RANGE LOG NUCLEAR INSTRUMENTATION CHANNELS ACTUATED. THE DENNIS TECHNIPOWER MC
 10-5-2.0 POWER SUPPLY MODULE HAD FAILED. IT WAS REPLACED WITH AN IMPROVED UNIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

REACTION PROTECTION SYSTEM * ELECTRIC POWER * FAILURE, INSTRUMENT * MODIFICATION * INSTRUMENT, POWER RANGE *
 INSTRUMENT, LOGARITHMIC * INSTRUMENT, WIDE RANGE * MAINE YANKEE (PWR) * FAILURE, INSTRUMENT * ELECTRONIC
 FUNCTION UNITS

111095
 WIDE RANGE LOG NUCLEAR INSTRUMENTATION CHANNEL FAILS AT MAINE YANKEE
 MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
 2 PGS, LTR D/LER 70-5/31 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, FEB. 27, 1976, DOCKET 50-300,
 TYPE--PWR, NRC--COMB., AE--STEVE L WEBSTER

CAUSE - POWER SUPPLY MODULE FAILURE. DURING 15% POWER OPERATION, THE HIGH VOLTAGE ALARM LIGHT WAS
 ACTUATED FOR WPS WIDE RANGE LOG NUCLEAR INSTRUMENTATION CHANNEL 0. THE DENNIS TECHNIPOWER MC
 10-5-2.0 POWER SUPPLY MODULE HAD FAILED. IT WAS REPLACED WITH AN IMPROVED UNIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

ELECTRIC POWER * FAILURE, INSTRUMENT * MODIFICATION * FAILURE, DESIGN ERROR * INSTRUMENT, POWER RANGE *
 INSTRUMENT, LOGARITHMIC * INSTRUMENT, WIDE RANGE * MAINE YANKEE (PWR) * ELECTRONIC FUNCTION UNITS

115140
 SMALL ERROR FOUND IN STRIKIN-2 COMPUTER CODE AT MAINE YANKEE
 MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
 3 PGS, LTR D/LER 70-7/99 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, MAY 9, 1976, DOCKET 50-300,
 TYPE--PWR, NRC--COMB., AE--STEVE L WEBSTER

CAUSE - PROGRAM DEFICIENCY. MAINE YANKEE HAS INFORMED OF SEVERAL SMALL ERRORS RECENTLY DISCOVERED
 IN STRIKIN-2. THE CODE USED TO CALCULATE HOT ROD CLAD TEMPERATURE AND CLAD OXIDATION PERCENTAGE.
 A CORRECTION OF THESE ERRORS YIELDS A CHANGE IN THE RESULTS PRODUCED BY THIS MODEL. HOWEVER, THE
 CORRECTED RESULTS ARE STILL WELL WITHIN THE LIMITS OF 10CFR50.46.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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COMPUTER PROGRAM * ANALYTICAL MODEL * POINT SPOT FACTOR ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * MAINE
 YANKEE (PWR)

114193
 BORON CONCENTRATION TEST NOT PERFORMED ON TIME AT MAINE YANKEE
 MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
 2 PGS, LTR D/LER 70-8/31 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, MAY 10, 1976, DOCKET 50-300,
 TYPE--PWR, NRC--COMB., AE--STEVE L WEBSTER

CAUSE - PERSONNEL ERROR. ROUTINE REVIEW OF SURVEILLANCE RECORDS HAS DETERMINED THAT THE WEEKLY
 BORON CONCENTRATION TEST OF THE CONCENTRATED BORIC ACID WAS NOT PERFORMED FOR A 11 DAY PERIOD,
 EXCEEDING THE LIMIT. THE TEST WAS PERFORMED EARLIER THAN USUAL DURING ONE WEEK AND LATER THAN
 USUAL THE FOLLOWING WEEK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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FAILURE, OPERATOR ERROR * POISON, SOLUBLE * TESTING * CHEMICAL ANALYSIS * STORAGE CONTAINER * CHEMICAL SWIR *
 TEST INTERVAL * MAINE YANKEE (PWR) * CONCENTRATION

115923
 COOLING WATER EFFLUENT TEMPERATURE EXCEEDS LIMIT AT MAINE YANKEE
 MAINE YANKEE ATOMIC POWER CO., DISCASSET, ME
 3 PGS, LTR D/LER 70-8/31 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, JULY 7, 1976, DOCKET 50-300,
 TYPE--PWR, NRC--COMB., AE--STEVE L WEBSTER

115023 *CONTINUED*

CAUSE - AFTERNOON TEMPERATURE AND TIDES. WHILE OPERATING AT 100% POWER, COOLING WATER EFFLUENT TEMPERATURE MEASURED AT THE DISCHARGE DIFFUSER EXCEEDED 90 F. AN HOUR LATER A LOAD REDUCTION TO 95% WAS COMMENCED BUT TEMPERATURE REMAINED OVER 90 F FOR A TOTAL OF 0.5 HOURS. A COMBINATION OF AFTERNOON TEMPERATURES AND TIDAL CONDITIONS RESULTED IN THE TEMPERATURE EXCEEDING THE LIMIT FOR A PERIOD IN EXCESS OF THE 2 HOUR LIMITATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REPLIMENT * MAINE YANKEE (PWR) * TEMPERATURE * CONDENSED COOLING SYSTEM * DISCHARGE * FAILURE, INHERENT

115022

SET POINT DRIFT IN PRESSURIZER PRESSURE SWITCH AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., WISCASSET, ME
2 PGS, LTR D/RO 70-10/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION I, JULY 8, 1976, DOCKET 50-300,
TYPE--PWR, NPG--COMB., AE--STONE & WEBSTER

CAUSE - FAULTY POWER SUPPLY UNIT. DURING TESTING WITH THE REACTOR AT 100% POWER, 1 OF THE 4 MP'S HIGH PRESSURIZER PRESSURE TRIP SET POINTS WAS SLIGHTLY OUT OF TOLERANCE DUE TO A FAULTY POWER SUPPLY UNIT. THE POWER-RATE MODEL GRAIS-750/82-7500 POWER SUPPLY UNIT FAILED TO MAINTAIN PROPER OUTPUT VOLTAGE IN THE LOADED CONDITION AND EXHIBITED EXCESSIVE OUTPUT RIPPLE. IT WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * ELECTRIC POWER * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * SET POINT * MAINE YANKEE (PWR) * DRIFT * SENSORS, PRESSURE

117009

SET POINT DRIFT IN THERMAL MARGIN LOW PRESSURE SYSTEM AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., WISCASSET, ME
2 PGS, LTR D/RO 70-10/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION I, AUG. 9, 1976, DOCKET 50-300,
TYPE--PWR, NPG--COMB., AE--STONE & WEBSTER

CAUSE - ADDER/SUBTRACTOR FAILURE. DURING 100% POWER OPERATION, IT WAS NOTED THAT THE CALCULATED TRIP SET POINT FOR CHANNEL B THERMAL MARGIN LOW PRESSURE SYSTEM WAS READING LOWER THAN THE OTHER 3 CHANNELS. THE BELL AND HOWELL MODEL 19-301A ADDER/SUBTRACTOR MODULE HAD FAILED, CAUSING THE CALCULATED TRIP SET POINT TO DECREASE TO ITS MINIMUM VALUE. THE FAILED MODULE WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * SET POINT * MAINE YANKEE (PWR) * DRIFT * ELECTRONIC FUNCTION UNITS * INSTRUMENTS, MISC.

117173

THERMAL MARGIN LOW PRESSURE SYSTEM DEVELOPS TRIP AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., WISCASSET, ME
2 PGS, LTR D/RO 70-11/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION I, AUG. 9, 1976, DOCKET 50-300,
TYPE--PWR, NPG--COMB., AE--STONE & WEBSTER

CAUSE - FAILED AMPLITUDE SELECTOR MODULE. DURING 100% POWER OPERATION, A TRIP SIGNAL WAS DEVELOPED BY CHANNEL D THERMAL MARGIN LOW PRESSURE SYSTEM. THE BELL AND HOWELL MODEL 19-502 AMPLITUDE SELECTOR MODULE, WHICH AMPLIFIES THE HIGHEST OF 2 POWER SIGNALS (NUCLEAR AND DELTA T), FAILED SO AS TO PASS ONLY THE NUCLEAR POWER SIGNAL. THE FAILED MODULE WAS REPLACED IN KIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, SWITCH * INSTRUMENT, POWER RANGE * MAINE YANKEE (PWR) * FAILURE, INHERENT * ELECTRONIC FUNCTION UNITS

118201

CONTAINMENT PENETRATION VALVE FOUND TO BE OPEN AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., WISCASSET, ME
2 PGS, LTR D/RO 70-12/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION I, SEPT. 20, 1976, DOCKET 50-300,
TYPE--PWR, NPG--COMB., AE--STONE & WEBSTER

CAUSE - OPERATOR ERROR. DURING ROUTINE OPERATOR PATROL, WHILE THE REACTOR WAS OPERATING AT 80% POWER, A LEAK MONITORING CONNECTION VALVE FOR CONTAINMENT PENETRATION 02 WAS FOUND TO BE OPEN. ESTABLISHMENT OF CONTAINMENT INTEGRITY, PERFORMED THE PREVIOUS DAY, INCLUDES OPENING THIS VALVE TO DRAIN THE PENETRATION PRIOR TO INSTALLING A BLIND FLANGE ON THE PENETRATION. THE OPERATOR FAILED TO CLOSE THE VALVE FOLLOWING INSTALLATION OF THE BLIND FLANGE. THE VALVE WAS IMMEDIATELY LOCKED CLOSED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

118201 *CONTINUED*
FAILURE, OPERATOR ERROR * CONTAINMENT ISOLATION * PROCEDURES AND MANUALS * MAINE YANKEE (PWR) * VALVES * CONTAINMENT PENETRATION

118682
TWO SHOCK SUPPRESSORS FOUND INOPERABLE AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., BISCASSET, ME
2 PGS, LTR #/MG 78-13/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, OCT. 13, 1978, DOCKET 50-309.
TYPE--PWR, MFG--COMB., AE--STONE & BERSTER

CAUSE - LOOSE BRACKET/FAILED SEAL. DURING ROUTINE VISUAL INSPECTION OF SHOCK SUPPRESSORS, 2 WERE DETERMINED TO BE INOPERABLE. ONE, DISCOVERED WHILE IN SHUTDOWN, WAS REPAIRED PRIOR TO STARTUP. THE OTHER, DISCOVERED DURING NORMAL OPERATION, WAS REPAIRED WITHIN THE REQUIRED 72 HOURS. A IIT GRINNELL, FIG. 200 1 1/2 INCH UNIT WAS INOPERABLE DUE TO A LOOSE MOUNTING BRACKET. THE BRACKET WAS REPAIRED. AN 8 INCH UNIT HAD A FAILED SHAFT SEAL. THE SEAL WAS REPLACED WITH ONE OF IMPROVED MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*SHOCK ABSORBER * SEAL * SUPPORT STRUCTURE * FAILURE, INSTALLATION * MONITORING SURVEILLANCE PROGRAM * MAINE YANKEE (PWR) * PIPES AND PIPE FITTINGS

120198
SHOCK SUPPRESSOR FOUND LEAKING EXCESSIVELY AT MAINE YANKEE
YANKEE ATOMIC POWER CO., BISCASSET, ME
2 PGS, LTR #/LER 78-14/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, NOV. 17, 1978, DOCKET 50-309.
TYPE--PWR, MFG--COMB., AE--STONE & BERSTER

CAUSE - FAILED O-RING SEAL. DURING 100% POWER OPERATION, A SHOCK SUPPRESSOR ON FEEDWATER LINE 2 WAS FOUND TO BE LEAKING EXCESSIVELY. THE IIT GRINNELL, FIG. NO. 201 2-1/2 INCH SHOCK SUPPRESSOR WAS INOPERABLE DUE TO A FAILED CYLINDER BUSHING O-RING SEAL. THE FAILED SEAL WAS REPLACED WITH IMPROVED MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAINE YANKEE (PWR) * SHOCK ABSORBER * SUPPORT STRUCTURE * PIPES AND PIPE FITTINGS * FEEDWATER * COOLING SYSTEM, SECONDARY * FAILURE, EQUIPMENT * SEAL * LEAK * FAILURE, DESIGN ERROR * MODIFICATION

120454
MAIN STEAM LINE SHOCK SUPPRESSOR LEAKS AT MAINE YANKEE
MAINE YANKEE ATOMIC POWER CO., BISCASSET, ME
2 PGS, LTR #/RO 78-15/3L TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 1, NOV. 22, 1978, DOCKET 50-309.
TYPE--PWR, MFG--COMB., AE--STONE & BERSTER

CAUSE - FAILED SHAFT SEAL. DURING 100% POWER OPERATION, A SHOCK SUPPRESSOR ON MAIN STEAM LINE 3 WAS FOUND TO BE LEAKING EXCESSIVELY. THE IIT GRINNELL, FIG NO. 200, 8-INCH SHOCK SUPPRESSOR WAS INOPERABLE DUE TO A FAILED SHAFT SEAL. THE FAILED SEAL WAS REPLACED WITH ONE OF IMPROVED MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*SHOCK ABSORBER * SUPPORT STRUCTURE * PIPES AND PIPE FITTINGS * SURVEILLANCE PROGRAM * FAILURE, EQUIPMENT * SEAL * LEAK * FAILURE, DESIGN ERROR * MODIFICATION * MATERIAL * MAINE YANKEE (PWR)

113210
LINEAR SURFACE INDICATIONS FOUND IN RV NOZZLE SAFE ENDS AT MCGUIRE 1
DUKE POWER CO., CHARLOTTE, NC
5 PGS, LTR #/CO-369/78-4 TO NRC OFFICE OF I & E, APRIL 9, 1978, DOCKET 50-369, TYPE--PWR, MFG--BEST., AE--DUKE

CAUSE - UNKNOWN. DYE PENETRANT INSPECTION OF THE INCONEL WELD OVERLAY ON THE CARBON STEEL NOZZLE SAFE ENDS SHOWED THE PRESENCE OF SEVERAL INDICATIONS AT 2 NOZZLES. A PROGRAM WAS INITIATED TO DETERMINE THE CAUSE AND HOW THEY SHOULD BE TREATED. IT WAS CONCLUDED THAT THE INDICATIONS SHOULD BE REMOVED.

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PLANT * FAILURE, FABRICATION ERROR * TEST, NONDESTRUCTIVE * NOZZLE * CONSTRUCTION * MCGUIRE 1 (PWR) * CRACK * PRESSURE VESSELS

116248
LINEAR SURFACE INDICATIONS FOUND ON RV NOZZLE SAFE ENDS AT MCGUIRE 1
DUKE POWER CO., CHARLOTTE, NC
5 PGS, LTR #/RPT TO NRC OFFICE OF I & E, JULY 3, 1978, DOCKET 50-369, TYPE--PWR, MFG--BEST., AE--DUKE

110200 *CONTINUED*

CAUSE - FABRICATION DEFECTS. AFTER LIGHT GRINDING ON THE WELD OVERLAY OF STAINLESS STEEL STUD ENDS ON THE REACTOR VESSEL CARBON STEEL NOZZLES, DYE PENETRANT INSPECTION SHOWED SEVERAL INDICATIONS IN 2 OF THE 8 NOZZLES. THE INDICATIONS WERE GRINDED OUT USING APPROVED PROCEDURES. REPAIRS WERE MADE AND CERTIFIED TO MEET ALL VESSEL SPECIFICATIONS. THESE REPAIRS WERE ONLY ON THE OD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PHENOS * WFLAB * FAILURE, FABRICATION ERROR * TEST, NONDESTRUCTIVE * NOZZLE * MAIN COOLING SYSTEM * CONSTRUCTION * MCGUIRE 1 (PWR) * PRESSURE VESSELS

111092

DEFECTIVE SOLID STATE PROTECTION RELAYS FOUND AT MCGUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
2 PGS, LTR W/CD-369-370/76-1 TO NRC OFFICE OF I & E, JAN. 16, 1976. DOCKET# 50-369/370. TYPE--PWR, MFG--WEST., AE--DUKE

CAUSE - DEFECTIVE SOLDERING. DURING ROUTINE ANALYSIS AND CIRCUIT CHECKOUT, SEVERAL SOLID STATE PROTECTIVE RELAYS WERE FOUND TO HAVE IMPROPER OR INCOMPLETE SOLDERING OF ELECTRONIC COMPONENTS TO CIRCUIT BOARDS. A 100% INSPECTION OF ALL ITC SOLID STATE PROTECTIVE RELAYS WILL BE MADE FOLLOWED BY REPAIR AND RETEST AS NECESSARY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SOLID STATE DEVICE * FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * CONSTRUCTION * CABLES AND CONNECTORS * MCGUIRE 2 (PWR) * MCGUIRE 1 (PWR) * RELAYS

111022

SOLID STATE PROTECTIVE RELAYS FOUND DEFECTIVE AT MCGUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS, LTR W/CD-369-370/76-1 TO NRC OFFICE OF I & E, FEB. 16, 1976. DOCKET# 50-369/370. TYPE--PWR, MFG--WEST., AE--DUKE

CAUSE - IMPROPER SOLDERING OF COMPONENTS. DURING ROUTINE ANALYSIS AND CIRCUIT CHECKOUT, SEVERAL SOLID STATE PROTECTIVE RELAYS WERE FOUND TO HAVE IMPROPER OR INCOMPLETE SOLDERING OF ELECTRONIC COMPONENTS TO CIRCUIT BOARD. ALL ITC SOLID STATE PROTECTIVE RELAYS WERE VISUALLY INSPECTED. DEFECTIVE RELAYS WERE REPAIRED AND RETESTED.

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SOLID STATE DEVICE * PROTECTION SYSTEM * FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * CONSTRUCTION * CABLES AND CONNECTORS * MCGUIRE 2 (PWR) * MCGUIRE 1 (PWR) * RELAYS

111920

CRON MISSILE SHIELD HOLDOWN TENDON WIRES FAIL AT MCGUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
5 PGS, LTR W/CD-369-370/76-2 TO NRC OFFICE OF I & E, MARCH 12, 1976. DOCKET# 50-369/370. TYPE--PWR, MFG--WEST., AE--DUKE

CAUSE - EXCESSIVE CORROSION. DURING STRESSING OPERATIONS FOR THE CRON MISSILE SHIELD HOLDOWN TENDONS, 2 BUTTON HEADS FAILED AT THE UNDERSIDE OF THE UPPER BUTTON HEAD AND 2 WIRES FAILED IN ANCHOR TENDON NEAR THE BASE ANCHOR. IN CHECKING, OTHER FAILED WIRES WERE LOCATED. EXAMINATION INDICATED EXCESSIVE CORROSION AT THE BASE OF THE TENDONS. ALL 46 WIRE TENDONS WILL BE REMOVED AND REPLACED WITH 1-1/8 INCH DIAMETER HIGH STRENGTH THREADED RODS.

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MISSILE GENERATION AND PROTECTION * STEEL * CONCRETE, PRESTRESSED * CORROSION * MODIFICATION * FAILURE, DESIGN ERROR * SHIELDING * CONSTRUCTION * MCGUIRE 2 (PWR) * MCGUIRE 1 (PWR)

113214

CURRENT TRANSFORMERS FOUND DEFECTIVE AT MCGUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS, LTR W/CD-369-370/76-3 TO NRC OFFICE OF I & E, MARCH 29, 1976. DOCKET# 50-369/370. TYPE--PWR, MFG--WEST., AE--DUKE

CAUSE - FABRICATION DEFICIENCY. DURING PRE-ENERGIZATION INSPECTIONS AND CIRCUIT CHECKOUT OF 4 KV AND 7 KV METAL CLAD SWITCHGEAR, AN EPOXY ENCAPSULATED CURRENT TRANSFORMER WITH AN INTERNAL CENTER CONDUCTOR WAS FOUND WITH THE EPOXY CRACKED. INSPECTION OF ALL ITC IMPERIAL CURR. STYLE NO. MCL-21 AND MCR-15-AIS CURRENT TRANSFORMERS FOUND A TOTAL OF 58 WITH SIMILAR CRACKING. THE CAUSE WAS EITHER IMPROPER CLEANING OF THE CENTER CONDUCTOR INSULATION OR TEMPERATURE RISING DURING EMBEDDED PROPER LIMIT. ALL DEFECTIVE UNITS WILL BE REPLACED.

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112214 *CONTINUED*
CHARGE \$2.00)

FAILURE, FABRICATION ERROR * PLASTICS * INSULATION * CONSTRUCTION * MCQUIRE 2 (PWR) * MCQUIRE 1 (PWR) * CRACK * TRANSFORMERS

118207
125 VDC AUXILIARY RELAYS FAIL AT MCQUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, AUG. 12, 1976. DOCKETS 50-309/370. TYPE--PWR, NFG--BEST., AE--DUKE

CAUSE - INSUFFICIENT ARC GAP. DURING EQUIPMENT CHECKOUT, 3 48VDC AUXILIARY RELAYS FAILED IN CONTINUOUSLY ENERGIZED NON-SAFETY-RELATED CIRCUITS. THE PICKUP COIL OVERHEATED RESULTING IN THE OPENING OF THE COIL WINDINGS. THE CAUSE WAS INSUFFICIENT ARC GAP IN THE PICKUP COIL CLEARING CONTACT. ALL CUTLER-HAMMERS, CATALOG NO. 3280ND, TYPE N, RELAYS WILL BE TESTED AT THE SITE TO VERIFY PROPER ARC GAP CLEARANCE. THOSE WITH INSUFFICIENT GAPS WILL BE REPLACED.

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TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * EQUIPMENT * CONSTRUCTION * MCQUIRE 2 (PWR) * MCQUIRE 1 (PWR) * RELAYS

118208
PIPE SUPPORTS/RESTRAINTS DESIGN CONTROL DEFICIENCY FOUND AT MCQUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
* PGS. LTR W/RYPT TO NRC OFFICE OF I & E, AUG. 26, 1976. DOCKETS 50-309/370. TYPE--PWR, NFG--BEST., AE--DUKE

CAUSE - FAILURE TO FOLLOW PROCEDURES. DURING A NORMAL WORK PROGRESS REVIEW, IT WAS DISCOVERED THAT THERE WERE SEVERAL INSTANCES IN WHICH THERE WERE TWO VERSIONS OF THE SAME DESIGN DRAWING ISSUED FOR CONSTRUCTION. A DESIGN CONSULTANT WAS RESPONSIBLE FOR STRESS ANALYSIS AND PIPE SUPPORT/RESTRAINT DESIGN WITHIN THE REACTOR BUILDING. ANOTHER COMPANY FURNISHES MATERIAL AND PIPE SUPPORT/RESTRAINT DESIGN FOR THE BALANCE OF PLANT. THE SECOND COMPANY MADE REVISIONS TO DESIGN DRAWING FROM THE FIRST COMPANY WITHOUT OBTAINING THEIR APPROVAL. ALL DRAWINGS HAVE BEEN REVIEWED FOR PROPER STRESSES.

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DESIGN CRITERIA * STRESS ANALYSIS * MODIFICATION * SMOKE ABSORBER * FAILURE, DESIGN ERROR * SUPPORT STRUCTURE * QUALITY ASSURANCE * CONSTRUCTION * MCQUIRE 2 (PWR) * MCQUIRE 1 (PWR) * PIPES AND PIPE FITTINGS

119782
PIPE SUPPORT/RESTRAINT DEFICIENCIES FOUND AT MCQUIRE 1 AND 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR W/CONSTRUCTION DEFICIENCY RPT CD-309/76-7 -370/76-6 TO U.S. NRC, REGION II, OCT. 22, 1976. DOCKETS 50-309/370. TYPE--PWR, NFG--BEST., AE--DUKE

CAUSE - DESIGN ERRORS. DURING A QA AUDIT OF THE PIPE SUPPORT/RESTRAINT CONTRACTOR, BERGEN-PATERSON, THE AUDITOR CONCLUDED THAT CERTAIN SUPPORTING ENGINEERING CALCULATIONS WERE NOT AVAILABLE FOR DESIGNS. DOCUMENT CONTROLS WERE INADEQUATE, AND DESIGN ERRORS MIGHT RESULT. A SECOND VISIT FOUND THAT DESIGNS CONTAINED A NUMBER OF SIGNIFICANT AND MINOR ERRORS CONSIDERED UNACCEPTABLE. BERGEN-PATERSON HAS BEEN DIRECTED TO CEASE WORK ON ALL ENGINEERING AND SHOP FABRICATION. DUKE IS CONDUCTING A COMPREHENSIVE ENGINEERING CHECK AND REVISION OF ALL APPLICABLE DESIGNS. FURTHER ENGINEERING SERVICES WILL NOT BE REQUESTED OF BERGEN-PATERSON.

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MCQUIRE 1 (PWR) * MCQUIRE 2 (PWR) * CONSTRUCTION * SMOKE ABSORBER * SUPPORT STRUCTURE * PIPES AND PIPE FITTINGS * DESIGN CRITERIA * FAILURE, DESIGN ERROR * ANALYTICAL TECHNIQUE * QUALITY ASSURANCE

118255
INTERIM REPORT ON REACTOR VESSEL SURVEILLANCE CAPSULE HOLDER TUBE AT MIDLAND 1 AND 2
CONSUMERS POWER CO., JACKSON, MI
3 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, SEPT. 24, 1976. DOCKET 50-329/330. TYPE--PWR, NFG--B&B, AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. INSPECTIONS OF THE REACTOR VESSEL SURVEILLANCE SPECIMEN HOLDER TUBES HAVE BEEN COMPLETED AT ALL 6 AFFECTED OPERATING B&B PLANTS. RESULTS HAVE BEEN CONSIDERED IN DEVELOPING THE REDESIGN. PREOPERATIONAL VIBRATION TEST PROGRAM WILL BE PERFORMED ON THE REDESIGNED UNIT DURING HOT FUNCTIONAL TESTS AT DAVIS-BESSE 1. THE EXISTING SSMT DESIGN AT MIDLAND WILL BE REMOVED FROM THE REACTOR INTERNALS PRIOR TO INSTALLATION AND A REDESIGNED SSMT WILL BE INSTALLED.

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TESTING * SAMPLING * FAILURE, DESIGN ERROR * VIBRATION * CORE COMPONENTS * SURVEILLANCE PROGRAM * TUBING * FLOW * MIDLAND 1 (PWR) * MIDLAND 2 (PWR)

120044
 COMPONENT COOLING WATER PUMP DEFICIENCIES AT MIDLAND 1 AND 2
 CONSUMERS POWER CO., JACKSON, MI
 3 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, DEC. 10, 1970. DOCKETS 50-329/330. TYPE--PUR. NPG--G.L., AE--BECHTEL

CAUSE - DESIGN ERROR. AFTER HYDROSTATIC TESTING OF THE FIRST 2 OF 5 COMPONENT COOLING WATER PUMP CASINGS, PERSONNEL DETECTED A SLIGHT DRAG WHEN THE SHAFT OF ONE PUMP WAS ROTATED AND THE OTHER PUMP WAS DIFFICULT TO TURN BY HAND. THE PUMP CASINGS HAD BEEN PERMANENTLY DEFORMED DURING HYDROSTATIC PRESSURE TESTING. THE DEFORMATION WAS CAUSED BY A BASIC DESIGN ERROR IN THAT THE SUCTION NOZZLE END LOADING DUE TO HYDROSTATIC PRESSURE TEST WAS OVERLOOKED IN THE CASTING DESIGN. CORRECTIVE ACTION HAS NOT BEEN DETERMINED YET.

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MIDLAND 1 (PUR) + MIDLAND 2 (PUR) + CONSTRUCTION + PUMPS + COMPONENT COOLING SYSTEM + FAILURE, EQUIPMENT + TEST, PROOF + TEST, SYSTEM OPERABILITY + DEFORMATION + PRESSURE, INTERNAL + FAILURE, DESIGN ERROR

110031
 FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 1 AND 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS. LTR W/ETS-NR/50-245/76-01 AND ETS-NR/50-330/76-03 TO NRC OFFICE OF I & E, REGION 1, FEB. 5, 1970.
 DOCKETS 50-245/330. TYPE--BOR. NPG--G.L., AE--EBASCO

CAUSE - NO APPARENT CAUSE. DURING JANUARY, 41 WINTER SLATE GREATER THAN 6 INCHES IN LENGTH WERE IMPINGED ON THE INTAKE SCREENS OF UNIT 1 AND 32 ON UNIT 2 SCREENS. THE REPORTING LIMIT FOR EACH UNIT IS 25. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. UNIT 1 WAS AT FULL POWER WITH 4 CONDENSER CIRCULATING WATER PUMPS RUNNING AND UNIT 2 IN STARTUP TESTING MODE WITH 2 PUMPS RUNNING.

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FILTER, SCREEN + HILLSTONE 2 (PUR) + HILLSTONE 1 (PUR) + ANIMAL, FISH + MORTALITY + INTAKE + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

115037
 FISH IMPINGEMENT REPORT LIMITS EXCEEDED AT HILLSTONE 1 AND 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 5 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION 1, JULY 9, 1970. DOCKETS 50-245/330. TYPE--BOR. NPG--G.L., AE--EBASCO

CAUSE - INCREASED ABUNDANCE. DURING MAY 1970, ETS IMPINGEMENT REPORT LIMITS WERE EXCEEDED FOR SEVERAL FISH AND SHELLFISH SPECIES. REPORT LIMITS WERE EXCEEDED FOR 6 SPECIES AT UNIT 1 AND 7 SPECIES AT UNIT 2. AVAILABLE DATA SUGGESTS LIMIT OVERRUNS RESULTED FROM INCREASED ABUNDANCE AND SHIFTS IN DOMINANT SIZE CLASSES. IT IS WELL KNOWN THAT MARINE FISH POPULATIONS ARE SUBJECT TO EXTREME FLUCTUATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN + HILLSTONE 2 (PUR) + HILLSTONE 1 (BOR) + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

110190
 SHELLFISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 1 AND 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION 1, SEPT. 27, 1970. DOCKET 50-245/330. TYPE--BOR. NPG--G.L., AE--EBASCO

CAUSE - NO KNOWN CAUSE. IMPINGEMENT REPORT LIMITS WERE EXCEEDED FOR 2 SPECIES OF SHELLFISH. LEVELS FOR BLUE CRABS WAS EXCEEDED AT UNIT 1 AND FOR SPIDER CRABS AT UNIT 2 FOR JULY. BOTH SPECIES, HOWEVER, WERE RETURNED TO LONG ISLAND SOUND WITH A GREATER THAN 90% SURVIVAL RATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN + HILLSTONE 2 (PUR) + HILLSTONE 1 (BOR) + ANIMAL, INvertebrate + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

119009
 IODINE-131 ACTIVITY IN MILK SAMPLES FROM HILLSTONE 1 AND 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/ENV. TECH. SPEC. RPT ETS-NR/50-245/50-330/76-02 TO NRC OFFICE OF I & E, REGION 1, NOV. 15, 1970.
 DOCKETS 50-245/330. TYPE--BOR. NPG--G.L., AE--EBASCO

CAUSE - CHINESE NUCLEAR TEST. THE CHINESE NUCLEAR TEST RESULTED IN A SIGNIFICANT INCREASE IN RADIOACTIVE IODINE IN MILK (COW AND GOAT) STARTING ON OR ABOUT 10/2/70. THE RADIOACTIVE CLOUD

119886 (CONTINUED)

PAIRED OVER THE US AND LEVELS OF IODINE IN MILK OF 200 TO 400 PICOCURIES/L WERE OBSERVED AT LOCATIONS WELL BEYOND THE INFLUENCE OF THE HILLSTONE STATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 1 (RPP) + HILLSTONE 2 (RPP) + IODINE + MILK + CONCENTRATION + SAMPLING + FAILURE, INCIDENT + TEST, WEAPONS

120722

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 1 AND 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS, LTR W/ENV. MPT, ETS-NR/50-335/76-27 AND ETS-NR/50-245/76-23 TO NRC OFFICE OF I & E, REGION I, DEC. 23, 1976, DOCKETS 50-245/336, TYPE--RPP, NRC--G.E., AE--EBASCO

CAUSE - NO APPARENT CAUSE. DURING PCMR OPERATION WITH 4 MAIN CIRCULATING PUMPS OPERATING PER UNIT, JOI CRABBY, 3 TO 6 INCHES LONG, WERE IMPINGED AT UNIT 1 AND 200 AT UNIT 2 THROUGH DEC. 15. THE ETS LIMIT IS 200. ALL 003 WINTER PLOWERS WERE IMPINGED AT UNIT 1 THROUGH DEC. 15. THE ETS LIMIT IS 670. THERE WAS NO APPARENT CAUSE WHICH WAS RELATED TO CHANGES IN PLANT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 1 (RPP) + HILLSTONE 2 (RPP) + ANIMAL, FISH + MORTALITY + FILTER, SCREEN + CONDENSER COOLING SYSTEM + FAILURE, INCIDENT

140725

MONTHLY Sr-90 CONCENTRATION IN MILK EXCEEDS REPORT LIMIT AT HILLSTONE 1 AND 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS, LTR W/ENV. MPT, ETS-NR/50-245/50-336/76-03 TO NRC OFFICE OF I & E, REGION I, DEC. 23, 1976, DOCKETS 50-245/336, TYPE--RPP, NRC--G.E., AE--EBASCO

CAUSE - CHINESE NUCLEAR TEST. ANALYSIS OF MILK SAMPLES TAKEN OCT. 5 SHOW STRONTIUM-90 ACTIVITY MORE THAN 10 TIMES THE CONTROL VALUE. THE CHINESE NUCLEAR TEST OF LATE SEPTEMBER HAS RESULTED IN A SIGNIFICANT INCREASE IN Sr-90 IN MILK STARTING IN EARLY OCTOBER. COM: IN THE CONTROL AREA HAD GREATER USE OF STORED AND SUPPLEMENTAL FEED AND THEREFORE HAD LESS EFFECT FROM FALLOUT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 1 (RPP) + HILLSTONE 2 (RPP) + CONCENTRATION + STRONTIUM + MILK + FOOD CHAIN + TEST, WEAPONS + FAILURE, INCIDENT + SURVEILLANCE PROGRAM

169835

HIGHEST LEVEL CHANNEL SENSING LINES FOUND TO BE FROZEN AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PAGES, LETTER WITH NO-50-330/75-37 TO NRC OFFICE OF I & E, REGION I, JAN. 2, 1976, DOCKET 50-336, TYPE--RPP, NRC--CGO, AE--BECHTEL

CAUSE - INADEQUATE WIRING DESIGN. DURING A TEST WITH THE REACTOR AT 30% POWER, 2 OF THE 4 REFUELING WATER STORAGE TANK LEVEL CHANNELS WERE OFF SCALE HIGH. THE SENSING LINES WERE FOUND TO BE PARTIALLY FROZEN. FREEZING RESULTED FROM A WIRING ERROR IN THE THERMOSTAT CONTROLLING THE HEAT TRACING CIRCUITS. FURTHER INVESTIGATION DETERMINED THAT THE POWER SUPPLY TO THE HEAT TRACING CIRCUITS WAS DERIVED FROM A NON-VITAL SUPPLY. ALL AFFECTED HEAT TRACING CIRCUITS WERE MADE OPERABLE. CORRECTIVE ACTION WILL BE TAKEN TO CORRECT THE WIRING DEFICIENCIES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ELECTRIC POWER + REACTOR COOLANT + INSTRUMENT, SWITCH + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + TEST, SYSTEM OPERABILITY + FAILURE, DESIGN ERROR + TUBING + WEATHER, SEVERE + HILLSTONE 2 (RPP) + CABLES AND CONNECTORS + OVERHEATS + SENSORS, LEVEL

169810

MONTHLY FISH IMPINGEMENT LOSS EXCEEDS LIMIT AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS, LTR W/ETS-NR/50-336/76-02 TO NRC OFFICE OF I & E, REGION I, JAN. 9, 1976, DOCKET 50-336, TYPE--RPP, NRC--CORR., AE--BECHTEL

CAUSE - INCREASE IN LOCAL ABUNDANCE. DURING DECEMBER, 1210 SILVER HAKE IN THE 3 TO 6 INCH LENGTH CATEGORY AND 35 WINTER SHUTE LESS THAN 6 INCHES WERE IMPINGED EXCEEDING THE ETS LIMIT FOR BOTH SPECIES. NO APPARENT CAUSE WAS FOUND RELATED TO PLANT OPERATION. TRAWL CATCHES INDICATE AN INCREASE IN LOCAL ABUNDANCE DURING WINTER MONTHS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN + MONITORING PROGRAM, ENVIRONMENTAL + HILLSTONE 2 (RPP) + ANIMAL, FISH + MORTALITY +

109614 *CONTINUED*
CONDENSER COOLING SYSTEM * FAILURE, INHERENT

109634
ANOMALOUS ACTIVITY OBSERVED IN AQUATIC FLORA AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS. LTR W/RS-AR/50-336/70-01 TO NRC OFFICE OF I & E, REGION 1, JAN. 9, 1970, DCKET 50-336, TYPE--PDR, NRC--
-COND., AE--BECHTEL

CAUSE - WASTE DISCHARGED FROM UNIT 1. ANALYSIS OF SAMPLES COLLECTED OCTOBER 4 INDICATED LEVELS OF ACTIVITY IN AQUATIC FLORA TAKEN WITHIN 500 FEET OF THE DISCHARGE EXCEEDED CONTROL STATION VALUES BY OVER A FACTOR OF 10. UNIT 1 WAS OPERATING AT 100% POWER UNTIL MID-SEPTEMBER WHEN IT WAS SHUT DOWN FOR REFUELING. UNIT 2 WAS IN STARTUP PHASE AND DISCHARGED NO RADIOACTIVE LIQUID. THE LEVELS OF RADIOACTIVITY ARE OF NO CONSEQUENCE TO THE HEALTH AND SAFETY OF THE PUBLIC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WASTE DISPOSAL * SAMPLING * WASTE DISPOSAL, LIQUID * MONITORING PROGRAM, ENVIRONMENTAL * HILLSTONE 2 (PDR) * ECOSYSTEM, AQUATIC * CONCENTRATION * FAILURE, INHERENT

110247
SET POINT DRIFT IN PRESSURE DISTRIB AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS. LTR W/RO-50-336/75-36 TO NRC OFFICE OF I & E, REGION 1, JAN. 12, 1970, DCKET 50-336, TYPE--PDR, NRC--
-COND., AE--BECHTEL

CAUSE - INSTRUMENT DRIFT. DURING TESTING OF THE STEAM GENERATOR PRESSURE, CHANNEL A LOW PRESSURE BYPASS RESET WAS OUT OF SPECIFICATION HIGH AT 625 PSIA. THE UGA DISTABLE PART NO. ELU-240-0000-1F WAS SATISFACTORILY RESET. THE APPARENT CAUSE WAS INSTRUMENT DRIFT. THE UNIT WAS OPERATING AT 50% POWER AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * STEAM GENERATOR * RESET POINT * EMERGENCY COOLING SYSTEM * HILLSTONE 2 (PDR) * DRIFT * FAILURE, INHERENT * SENSORS, PRESSURE

110248
ROST SENSING LINE FOUND TO BE PARTIALLY FROZEN AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS. LTR W/RO-50-336/75-30 TO NRC OFFICE OF I & E, REGION 1, JAN. 12, 1970, DCKET 50-336, TYPE--PDR, NRC--
-COND., AE--BECHTEL

CAUSE - PIPE SECTION UNINSULATED. DURING TESTING WITH THE REACTOR AT 51% POWER, CHANNEL C REFUELING WATER STORAGE TANK SENSING LINE WAS FOUND TO BE PARTIALLY FROZEN. A SMALL SECTION OF THE PIPE WAS UNINSULATED AT THE JUNCTION OF THE ROST LEVEL TRANSMITTER. THE LINE WAS THAWED. ADDITIONAL INSULATION WILL BE ADDED TO SENSING LINES TO PREVENT RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, INSTALLATION ERROR * TUBING * WEATHER, SEVERE * HILLSTONE 2 (PDR) * INSULATION * SENSORS, LEVEL

110249
CONTAINMENT HYDROGEN ANALYZER FAILS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS. LTR W/RC-50-336/75-39 TO NRC OFFICE OF I & E, REGION 1, JAN. 22, 1970, DCKET 50-336, TYPE--PDR, NRC--
-COND., AE--BECHTEL

CAUSE - EXCESSIVE MOISTURE IN THE CELL. WHILE OPERATING AT 51% POWER, CONTAINMENT HYDROGEN ANALYZER CHANNEL B TROUBLE ALARM WAS RECEIVED. THE BENDIX PROCESS INSTRUMENTS DIV. PART NO. 5513-021-2, HYDROGEN DETECTOR CELL HAD FAILED DUE TO EXCESSIVE MOISTURE. THE SOURCE OF THE MOISTURE IS UNKNOWN. THE DETECTOR WAS REPLACED AND THE ANALYZER RESTORED TO OPERABILITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * HYDROGEN * WATER * FAILURE, INSTRUMENT * MONITOR * REACTOR STARTUP EXPERIENCE * HILLSTONE 2 (PDR) * FAILURE, INHERENT

110245
DIESEL GENERATOR INOPERABLE DUE TO SWITCH FAILURE AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS. LTR W/RO-50-336/75-01 TO NRC OFFICE OF I & E, REGION 1, JAN. 22, 1970, DCKET 50-336, TYPE--PDR, NRC--

110245 (CONTINUED)
 COMB.. AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. WHILE OPERATING AT 20% POWER, A DIESEL TROUBLE ALARM WAS RECEIVED CAUSED BY FAILURE OF THE LUBE OIL TEMPERATURE SWITCH. FAILURE NEGATED A START SIGNAL. THE UNITED ELECTRIC CONTROLS, MODEL NO. 000 0-22, PRESSURE SWITCH WAS JUMPED. A DESIGN CHANGE IS BEING PROCESSED TO PERMANENTLY BYPASS ALL NON-EMERGENCY DIESEL TRIPS THAT MIGHT PREVENT AN EMERGENCY START SIGN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • MODIFICATION • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • HILLSTONE 2 (PWR) • SENSORS, TEMPERATURE • ENGINES, INTERNAL COMBUSTION • GENERATOR, DIESEL

110246
 THREE TRIP BYPASS FUNCTIONS NOT MET AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/NO-50-336/75-02 TO NRC OFFICE OF I & E, REGION 1, JAN. 22, 1976, DOCKET 50-336, TYPE--PWR, NRC--
 COMB.. AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. DURING A REVIEW OF TECH SPECS, IT WAS DETERMINED THAT THE LOCAL POWER DENSITY, TURBINE TRIP/REACTOR TRIP, AND HIGH STARTUP RATE BYPASS REQUIREMENTS COULD NOT BE MET BECAUSE ALL 3 FUNCTIONS ARE PROVIDED BY THE SAME DISTABLE. THE CAUSE IS ATTRIBUTED TO DESIGN ERROR AND IMMEDIATE PROCEEDURE REVISED FOR IMPLEMENTATION OF TECH SPECS. A CHANGE WAS SUBMITTED TO CHANGE THE HIGH SRR BYPASS LIMIT TO 12%. THE DISTABLE HAS BEEN SET AT 14.5% TO ALLOW A .5% TOLERANCE TO 15% POWER REQUIRED FOR THE OTHER SAFETY FUNCTIONS. THIS FULFILLS ALL REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM • INSTRUMENT, SWITCH • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • REVISED • SHARED COMPONENTS • SET POINT • BYPASS • HILLSTONE 2 (PWR)

110247
 DIESEL GENERATOR TRIPS AFTER AUTOMATIC START AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/NO-50-336/75-00 TO NRC DIRECTORATE OF I & E, REGION 1, JAN. 20, 1976, DOCKET 50-336, TYPE--PWR,
 NRC--COMB.. AE--BECHTEL

CAUSE - TIME DELAY RELAY SET POINT DRIFT. FOLLOWING A REACTOR TRIP, DIESEL GENERATOR 13U STARTED ALTERNATELY BUT TRIPPED AFTER ABOUT 20 SECONDS. DURING TESTING THE NEXT DAY, IT TRIPPED AGAIN. THE SET POINT OF 1 OF THE 4 1TR TIME DELAY RELAYS HAD DRIFTED EXCESSIVELY. CONTINUED TESTING OF THESE RELAYS INDICATED A SET POINT DRIFT PROBLEM. ALL AFFECTED RELAYS ON BOTH DIESELS HAVE BEEN REPLACED WITH AGASTAT, MODEL NUMBERS 2422 PC, 2412 PD, AND 1422 PE, RELAYS. THESE WILL BE TESTED SIMULTANEOUSLY FOR 1 MONTH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE • FAILURE, INSTRUMENT • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • SET POINT • HILLSTONE 2 (PWR) • DRIFT • FAILURE, COMMON MODE • ENGINES, INTERNAL COMBUSTION • GENERATOR, DIESEL • RELAYS

111491
 DESIGN DEFICIENCY IN CORE PROTECTION CALCULATOR AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 4 PGS. LTR W/NO-50-336/76-03 TO NRC OFFICE OF I & E, REGION 1, JAN. 27, 1976, DOCKET 50-336, TYPE--PWR, NRC--
 COMB.. AE--BECHTEL

CAUSE - DESIGN WIRING ERROR. A CR REVIEW OF THE APS DETERMINED THAT THE CORE PROTECTOR CALCULATOR 1 IN EACH OF THE 4 CHANNELS MIGHT NOT GENERATE A CONSERVATIVE NUMBER FOR THE THERMAL MARGIN/LOW PRESSURE TRIP UNDER ALL CONDITIONS. A DESIGN WIRING ERROR WAS DISCOVERED IN AN INPUT TO THE CIA POSITION FUNCTION ADDER/SUBTRACTOR. THE INPUT WAS CONNECTED TO A NEGATIVE INPUT VICE A POSITIVE INPUT. THE ERROR WAS CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM • MODIFICATION • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • HILLSTONE 2 (PWR) • CABLES AND CONNECTORS • FAILURE, COMMON MODE • INSTRUMENTS, MISC.

111486
 NO SAMPLE FLOW THROUGH HYDROGEN ANALYZER AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS. LTR W/NO-50-336/76-02 TO NRC OFFICE OF I & E, REGION 1, JAN. 20, 1976, DOCKET 50-336, TYPE--PWR, NRC--
 COMB.. AE--BECHTEL

CAUSE - FROZEN AIR DRYER CHILLER. DURING POWER ASCENSION TESTING, IT WAS DETERMINED THAT THERE

111409 *CONTINUED*

DAS NO SAMPLE FLOW THROUGH CONTAINMENT POST INCIDENT SAMPLING HYDROGEN ANALYZER @. THE ANALYZER CABINET REFRIGERATOR AIR DRYER CHILLER WAS FROZEN ON THE SAMPLE SIDE. THE AIR DRYER COMPRESSOR HOT GAS BYPASS VALVE WAS READJUSTED TO PREVENT FREEZUP. APPARENTLY, THIS VALVE WAS IMPROPERLY SET BY THE FACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT * HYDROGEN * MONITOR * REACTOR STARTUP EXPERIENCE * FAILURE, FABRICATION ERROR * FLOW BLOCKAGE * HILLSTONE 3 (PWR) * AIR DRIERS

111408

DRIFT FOUND IN LEVEL INSTRUMENT AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR N/RO 50-336/76-04 TO NRC OFFICE OF I & E, REGION 1, JAN. 29, 1976, DCKET 50-336, TYPE--PWR, NRC--
CORR., AE--BECHTEL

CAUSE - TRANSMITTER DRIFT. DURING A TEST WITH THE REACTOR AT 50% POWER, 1 OF THE 3 REFUELING WATER STORAGE TANK LEVEL CHANNELS WAS NOTED TO BE OFF WHILE THE OTHER CHANNELS WERE ON-ON. THERE HAD BEEN A DRIFT IN THE GE MODEL NO. 6E/RA/ 551, S/N 10003, LEVEL TRANSMITTER. THE TRANSMITTER WAS RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR COOLANT * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * HILLSTONE 2 (PWR) * DRIFT * SENSORS, LEVEL

111410

SET POINT DRIFT IN DIFFERENTIAL PRESSURE INSTRUMENT AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR N/RO 50-336/76-05 TO NRC OFFICE OF I & E, REGION 1, FEB. 20, 1976, DCKET 50-336, TYPE--PWR, NRC--
CORR., AE--BECHTEL

CAUSE - AIR OR DIRT IN SENSING LINE. DURING ROUTINE TESTING WHILE OPERATING AT 50% POWER, 1 OF THE 4 STEAM GENERATOR CHANNELS READ 60 PSID VERSUS 35 PSID ON THE REMAINING CHANNELS. THE HANTRON INSTRUMENT CO. DP TRANSMITTER, MODEL NO. 300, FAILED THE CALIBRATION CHECK. IT WAS FLUSHED. A RETEST WAS SATISFACTORY, INDICATING THE PRESENCE OF AIR OR OTHER FOREIGN MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * CRUD * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * SET POINT * HILLSTONE 2 (PWR) * DRIFT * SENSORS, PRESSURE

111617

DIESEL GENERATORS REMOVED FROM SERVICE WITHOUT PROPER TESTING AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR N/RO 50-336/76-06 TO NRC OFFICE OF I & E, REGION 1, FEB. 20, 1976, DCKET 50-336, TYPE--PWR, NRC--
CORR., AE--BECHTEL

CAUSE - OPERATOR ERROR. DURING POWER ASCENSION TESTING, DIESEL GENERATORS 12U AND 13U WERE ALTERNATELY TAGGED OUT OF SERVICE FOR PREVENTIVE MAINTENANCE WITHOUT PERFORMING SURVEILLANCE TESTING. ONE WAS OUT FOR 6.5 HOURS AND THE OTHER FOR 3 HOURS. THE OPERATOR INCORRECTLY INTERPRETED THE REQUIREMENTS FOR TESTING. THE REQUIRED TESTS WERE THEN PERFORMED SATISFACTORYLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * MAINTENANCE AND REPAIR * TESTING * REACTOR STARTUP EXPERIENCE * HILLSTONE 2 (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

111628

INSTRUMENT TUBING SOCKET WELD LEAKS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR N/RO 76-09 TO NRC OFFICE OF I & E, REGION 1, MARCH 2, 1977, DCKET 50-336, TYPE--PWR, NRC--CORR.,
AE--BECHTEL

CAUSE - IMPROPER INSTALLATION OF CLAMP. DURING AN INSPECTION, A VERY SMALL LEAK WAS FOUND IN AN INSTRUMENT TUBING SOCKET WELD DOWNSTREAM OF THE ISOLATION VALVE FOR SAFETY INJECTION HEAVY-TO-LEAD 1A PRESSURE TRANSDUCER. THE LEAK WAS AT THE BASE OF THE SOCKET WELD FILLET. THE INITIAL SURFACE WELD REPAIR FAILED FROM FATIGUE STRESS. A TUBING CLAMP WAS IMPROPERLY INSTALLED PREVENTING HORIZONTAL MOVEMENT OF THE LINE DURING NORMAL HEATUP AND COOLDOWN. THE WELD WAS GROUND OUT AND A NEW ONE MADE. THE CLAMP WAS INSTALLED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

111020 CONTINUED
 WELDS • REACTOR STARTUP EXPERIENCE • FAILURE, FATIGUE • SUPPORT STRUCTURE • FAILURE, INSTALLATION ERROR • FAILURE, TUBING • TUBING • LEAK • HILLSTONE 2 (PWR) • IENSCFS, PRESSURE

111025
 TEMPORARY THERMAL INSULATION NOT AN ACCEPTABLE TYPE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 1 PG. LTR W/NO-50-330/76-07 TC NRC OFFICE OF I & E, REGION I, MARCH 8, 1976. DCKET 50-330, TYPE--PWR, NRC--
 COMD., AE--BECHTEL

CAUSE - NO VIOLATION. TEMPORARY THERMAL INSULATION INSTALLED WITHIN THE CONTAINMENT WAS NOT ONE OF THE ACCEPTABLE TYPES. ALL HAS BEEN REMOVED EXCEPT THAT LOCATED WITHIN THE PRESSURIZER COMPARTMENT. THIS DEFICIENCY IS NOT A VIOLATION OF TECH SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT • DESIGN CRITERIA • REACTOR STARTUP EXPERIENCE • THERMAL INSULATION • HILLSTONE 2 (PWR) • INSTALLATION

111022
 DIESEL GENERATOR FOUND INOPERABLE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS. LTR W/NO-50-330/76-00/3L TC NRC OFFICE OF I & E, REGION I, MARCH 15, 1976. DCKET 50-330, TYPE--PWR, NRC--
 COMD., AE--BECHTEL

CAUSE - BEARING FAILURE. DURING TESTING, THE DIESEL GENERATOR FAILED TO START TWICE BECAUSE OF DIRTY FULL OIL FILTERS. THEN IT TRIPPED TWICE DUE TO CARBON DEPOSITS ON THE CRANKCASE AIR EXHAUST MUFFLER. THE CONDUCTOR WAS CLEARED. IT FAILED AGAIN DUE TO A ROD BEARING FAILURE. THE BEARING SHELL HAD ROTATED CAUSING A BLOCKAGE OF LUBE OIL TO THE NUMBER 1 CYLINDER UPPER PISTON. THE CAUSE OF ROTATION WAS NOT DETERMINED. REPAIRS WERE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • REACTOR STARTUP EXPERIENCE • TEST, SYSTEM OPERABILITY • FAILURE, INSTALLATION ERROR • LUBRICATION • BEARING • HILLSTONE 2 (PWR) • ENGINES, INTERNAL COMBUSTION • GENERATOR, DIESEL

111022
 DIESEL FUEL OIL SAMPLES NOT ANALYZED ON TIME AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS. LTR W/NO-50-330/76-10/3L TC NRC OFFICE OF I & E, REGION I, MARCH 15, 1976. DCKET 50-330, TYPE--PWR, NRC--
 COMD., AE--BECHTEL

CAUSE - TEST EQUIPMENT INOPERABLE. ROUTINE DIESEL FUEL OIL SAMPLE TAKEN JAN. 23, FEB. 2, AND FEB. 19 AND FORWARDED TO A VENDOR FOR ANALYSIS. ON FEB. 24, IT WAS DETERMINED THAT THE SAMPLES HAD NOT BEEN ANALYZED. THE TEST EQUIPMENT WAS INOPERABLE. THE VENDOR OBTAINED APPROPRIATE EQUIPMENT AND ANALYZED THE SAMPLES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CHEMICAL ANALYSIS • REACTOR STARTUP EXPERIENCE • FAILURE, ADMINISTRATIVE CONTROL • TEST INTERVAL • HILLSTONE 2 (PWR) • FUEL, FOSSIL • ENGINES, INTERNAL COMBUSTION • GENERATOR, DIESEL

111025
 FLANGE SOCKET WELD LEAKS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 1 PG. LTR W/NO-50-330/76-10/3L TC NRC OFFICE OF I & E, REGION I, MARCH 17, 1976. DCKET 50-330, TYPE--PWR, NRC--
 COMD., AE--BECHTEL

CAUSE - HIGH-CYCLE FATIGUE. DURING A CONTAINMENT INSPECTION, A LEAK WAS DISCOVERED IN A FLANGE SOCKET WELD ON REACTOR COOLANT PUMP A MIDDLE SEAL PRESSURE SENSING LINE. A CRACK PROPAGATED THROUGH A PORTION OF THE WELD AND THE FLANGE NECK DUE TO HIGH-CYCLE FATIGUE. ANALYSIS INDICATED HIGH STRESSES DUE TO THERMAL GROWTH. THE PLANT WAS COOLED DOWN, THE WELD GROUND OUT, AND A NEW FLANGE WELDED IN. PERMANENT CORRECTIVE ACTION INVOLVING ALTERATION OF THE INSTRUMENT TUBING SUPPORT CLAMP TO ALLOW FOR GREATER THERMAL FLEXIBILITY WILL BE INSTALLED DURING THE NEXT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THERMAL MECHANICAL EFFECT • WELDS • REACTOR STARTUP EXPERIENCE • FAILURE, FATIGUE • FAILURE, DESIGN ERROR • SUPPORT STRUCTURE • LEAK • HILLSTONE 2 (PWR) • REACTOR SHUTDOWN • CRACK • PIPES AND PIPE FITTINGS

111030
 TWO MINOR SOCKET WELD LEAKS FOUND ON CHANGING PUMP LINE AT HILLSTONE 2

112154 CONTINUED
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR W/RO-50-330/75-15/3L TO NRC OFFICE OF I & E, REGION 1, MARCH 17, 1976, DOCKET 50-330, TYPE--PWR,
 NRC-COMB., AE--DECHTEL

CAUSE - FATIGUE FAILURES. DURING A ROUTINE INSPECTION WHILE OPERATING AT 452 PPM, 2 MINOR
 SOCKET WELD LEAKS WERE DISCOVERED IN CHARGING PUMP A RELIEF VALVE INLET LINE. BOTH WERE
 CLASSIFIED AS FATIGUE TYPE FAILURES. THE AFFECTED PIPING IS MARGINALLY SUPPORTED COMPARED TO THE
 PIPING INSTALLED ON THE OTHER 2 CHARGING PUMPS. THE LEAKING FITTINGS WERE REWELDED. A COMPLETE
 STRESS ANALYSIS WILL BE PERFORMED ON THE AFFECTED PIPING AND SUPPORTS WILL BE MODIFIED AS
 NECESSARY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

STRESS + BUBBLES + REACTOR STARTUP EXPERIENCE + FAILURE, FATIGUE + FAILURE, DESIGN ERROR + MAIN COOLING SYSTEM
 + LEAK + HILLSTONE 2 (PWR) + FUELWATER + PIPES AND PIPE FITTINGS

112232
 WINTER SLATE KILLED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS, LTR W/RO-50-330/76-17/00 TO NRC OFFICE OF I & E, REGION 1, MARCH 23, 1976, DOCKET 50-330, TYPE--PWR,
 NRC-COMB., AE--DECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, 27 WINTER SLATE IN THE GREATER THAN 0
 INCH CATEGORY WERE IMPINGED AS OF MARCH 18, EXCEEDING THE 25 PPM MONTH LIMIT. THE UNIT WAS
 OPERATING WITH BETWEEN 2 AND 4 CONDENSER CIRCULATING WATER PUMPS. THERE WAS NO APPARENT CAUSE
 FOR THIS RELATED TO CHANGES IN PLANT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + INTAKE +
 CONDENSER COOLING SYSTEM + FAILURE, INHERENT

112232
 FISH KILLED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS, LTR W/RO-50-330/76-19/01 TO NRC OFFICE OF I & E, REGION 1, MARCH 30, 1976, DOCKET 50-330, TYPE--PWR,
 NRC-COMB., AE--DECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, 55 NORTHERN PIPEFISH 3-0 INCHES AND 01
 AMERICAN SMELT 3-0 INCHES HAD BEEN IMPINGED AS OF MARCH 23, EXCEEDING THE LIMITS OF 50 AND 50 PPM
 MONTH, RESPECTIVELY. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. THESE
 FISH OCCUR MOST ABUNDANTLY DURING LATE WINTER AND EARLY SPRING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + INTAKE +
 CONDENSER COOLING SYSTEM + FAILURE, INHERENT

112265
 FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS, LTR W/RO-50-330/76-19/01 TO NRC OFFICE OF I & E, REGION 1, MARCH 30, 1976, DOCKET 50-330, TYPE--PWR,
 NRC-COMB., AE--DECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, 55 NORTHERN PIPEFISH, 3-0 INCHES, AND
 03 AMERICAN SMELT, 3-0 INCHES, WERE IMPINGED AS OF MARCH 23 EXCEEDING THE LIMITS OF 50 AND 50
 RESPECTIVELY. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + INTAKE +
 CONDENSER COOLING SYSTEM + FAILURE, INHERENT

112907
 HYDROGEN ANALYZER HAS NO FLOW AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR W/RO-50-330/76-11/3L TO NRC OFFICE OF I & E, REGION 1, APRIL 1, 1976, DOCKET 50-330, TYPE--PWR, NRC-
 COMB., AE--DECHTEL

CAUSE - AIR DRYER FROZEN. DURING A REACTOR STARTUP, CONTAINMENT POST INCIDENT SAMPLING HYDROGEN
 ANALYZER A WAS FOUND TO HAVE NO FLOW. THE ANALYZER CABINET REFRIGERATOR AIR DRYER (MARLSON
 MODEL E-10) CHILLER WAS FROZEN ON THE SAMPLE SIDE. THE COMPRESSOR HOT GAS BYPASS VALVE WAS
 READJUSTED (ORIGINALLY FACTORY SET) TO PREVENT FREEZING. A SIMILAR FAILURE OCCURRED ON ANALYZER B
 IN JANUARY 1976. A CHANGE WILL BE MADE TO MONITOR COMPRESSOR SUCTION PRESSURE TO PREVENT

11297 - CONTINUED
RECURRENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HYDROGEN + SAMPLING + MONITOR + REACTOR STARTUP EXPERIENCE + FAILURE, FABRICATION ERROR + CONTAINMENT ATMOSPHERE + FLOW + HILLSTONE 2 (PWR) + PAIR DRIVERS

11298
ADDITIONAL DATA ON DIESEL GENERATOR MALFUNCTION AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS. LTR N/RO-50-336/76-80/30 TO NRC OFFICE OF I & E, REGION I, APRIL 2, 1976, DOCKET 50-336, TYPE--PWR, NRC-COMB., AE--BECHTEL

CAUSE - LOOSE WIRES IN CONTROL BOX. AS REPORTED ON MARCH 19, DIESEL GENERATOR 120 FAILED TO START DURING TESTING AFTER AN OVERMUL. THIS FAILURE WAS PROBABLY RELATED TO A LOSS OF FUEL PUMP. DURING A TEST PROGRAM TO VERIFY RELIABILITY, THE DIESEL FAILED TO RESPOND TO REMOTE GOVERNOR CONTROL. THE SPEED CONTROL MALFUNCTION WAS TRACED TO SEVERAL LOOSE WIRES AT TERMINAL POINTS OF THE FORWARD EG-A CONTROL BOX. ALL THE TERMINALS WERE TIGHTENED. THE UNIT TESTS WERE SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC + FAILURE, EQUIPMENT + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + HILLSTONE 2 (PWR) + CABLES AND CONNECTORS + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL

11299
RBCO COOLER DISCHARGE TEMPERATURE LOW AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS. LTR N/RO-50-336/76-12/31 TO NRC OFFICE OF I & E, REGION I, APRIL 2, 1976, DOCKET 50-336, TYPE--PWR, NRC-COMB., AE--BECHTEL

CAUSE - TEMPERATURE CONTROL VALVE FAILURE. THE OUTLET TEMPERATURE FROM REACTOR BUILDING CLOSED COOLING WATER HEAT EXCHANGER B WAS FOUND TO BE 62 F. THE TEMPERATURE WAS RETURNED TO NORMAL BY TRIPPING A MANUAL DISCHARGE VALVE ON COOLER B SEAWATER JUTLET. A TENSION PIN HAD SNEAKED BETWEEN THE VALVE OPERATOR AND THE SEAWATER TEMPERATURE CONTROL VALVE. KILLEY WHEELER, 10 INCH BUTTERFLY VALVE, PART NO. 7540. THE PIN WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + CONTROL + REACTOR STARTUP EXPERIENCE + COMPONENT COOLING SYSTEM + HILLSTONE 2 (PWR) + TEMPERATURE + VALVES

11292
SET POINT DRIFT IN DIFFERENTIAL PRESSURE SWITCH AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS. LTR N/RO-50-336/76-13/31 TO NRC OFFICE OF I & E, REGION I, APRIL 7, 1976, DOCKET 50-336, TYPE--PWR, NRC-COMB., AE--BECHTEL

CAUSE - POTENTIOMETER FAILURE. DURING TESTING WITH THE REACTOR AT 614 PWR, 1 OF THE 4 STEAM GENERATOR DP CHANNELS WAS FOUND READING HIGH OUT OF SPECIFICATIONS. THE INDICATION WAS ERRATIC WHILE ADJUSTING THE ZERO ADJUST POTENTIOMETER. THE SPECIFIC MODEL 530, 10 TURN, 2 K OHM, POTENTIOMETER WAS FOUND TO HAVE AN INTERMITTENT OPEN AND WAS REPLACED. THE TRANSMITTER WAS THEN SATISFACTORILY RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT + INSTRUMENT CALIBRATION + INSTRUMENT, SWITCH + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + STEAM GENERATOR + SET POINT + HILLSTONE 2 (PWR) + DRIFT + SENSORS, PRESSURE

11296
AUXILIARY FEEDWATER TURBINE STEAM VALVE FAILS TO OPEN AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS. LTR N/RO-50-336/76-16/31 TO NRC OFFICE OF I & E, REGION I, APRIL 7, 1976, DOCKET 50-336, TYPE--PWR, NRC-COMB., AE--BECHTEL

CAUSE - LOOSE CONTACT BLOCK IN SWITCH. DURING PREVENTIVE MAINTENANCE ON THE AUXILIARY FEEDWATER TURBINE WITH THE REACTOR AT 808 PWR, THE STEAM INLET VALVE WAS CYCLED BUT WOULD NOT REOPEN. IN A HANDSWITCH GE CR 2940 U203A WITH TANDERBLOCK U207, THE NUT-BOLT COMBINATION HOLDING THE MAIN AND ADDO TANDER BLOCKS TOGETHER HAD LOOSENED, DISABLING THE VALVE. THE SWITCH WAS REPAIRED AND LOCKWASHER INSTALLED TO PREVENT RELOOSENING. A CHECK OF 40 OF THE 100 SWITCHES OF THIS TYPE SHOWED ALL TO BE TIGHT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

112904 (CONTINUED)

FAILURE, EQUIPMENT + INSTRUMENT, SWITCH + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FAILURE, INSTALLATION ERROR + TURBINE + HILLSTONE 2 (PWR) + AUXILIARY + PPELOWATER + VALVES

112742

CONTAINMENT HYDROGEN ANALYZER FOUND OUT OF SPECIFICATIONS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS., LTR D/PD-50-336/70-20/3L TO NRC OFFICE OF ICE, REGION 1, APRIL 9, 1976, DCKET 50-336, TYPE--PWR, WFG--COMB--
AE--BECHTEL

CAUSE - INSUFFICIENT SAMPLE FLOW. DURING TESTING, WHILE THE PLANT WAS SHUT DOWN, CONTAINMENT HYDROGEN ANALYZER WAS FOUND TO BE OUT OF SPECIFICATIONS LOW BY 0.1% AT 1% H₂ CONCENTRATION. IT WAS RECALIBRATED. DURING THIS TIME, A LEAKY SAMPLE LINE DRAIN VALVE WAS DISCOVERED. AFTER REPAIRING THE VALVE, SUFFICIENT SAMPLE FLOW COULD NOT BE RESTORED THROUGH THE DETECTOR. THE CAUSE WAS FLOW RESISTANCE THROUGH THE 200-FT-LONG SAMPLE LINE. BYPASS PIPING IN THE INSTRUMENT WAS BLANDED OFF. SUFFICIENT SAMPLE FLOW WAS THEN OBTAINED. IT IS BELIEVED THIS PROBLEM EXISTED SINCE INSTALLATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT + HYDROGEN + MONITOR, AID + PERMITTER + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FAILURE, DESIGN ERROR + CONTAINMENT ATMOSPHERE + FLOW + HILLSTONE 2 (PWR)

112902

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS., LTR D/PD-50-336/70-20/4T TO NRC OFFICE OF I & E, REGION 1, APRIL 12, 1976, DCKET 50-336, TYPE--PWR, WFG--COMB., AE--BECHTEL

CAUSE - UNKNOWN. DURING POWER ASCENSION TESTING, 20 WINTER SKATE GREATER THAN 6 INCHES LONG HAD BEEN IMPINGED AS OF APRIL 7 THEREBY EXCEEDING THE 25 PER MONTH LIMIT. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. TECH SPEC LIMITS ARE BEING REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

113222

VARIABLE HIGH POWER TRIP DOES NOT ALWAYS MEET LIMITS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
4 PGS., LTR D/PD-50-336/70-21/1T TO NRC OFFICE OF I & E, REGION 1, APRIL 20, 1976, DCKET 50-336, TYPE--PWR, WFG--COMB., AE--BECHTEL

CAUSE - EQUIPMENT DEFICIENCY. WHILE CALIBRATING THE RPS VARIABLE HIGH POWER TRIP FOLLOWING INCORPORATION OF VENDOR RECOMMENDED CHANGES TO PROCEDURES, IT WAS DETERMINED THAT THE TRIP SET POINT WOULD NOT ALWAYS MEET THE TECH SPEC LIMIT OF LESS THAN OR EQUAL TO 0.002 ABOVE THE RAMP POWER. THE CAUSE IS IDENTIFIED AS AN EQUIPMENT DEFICIENCY ASSOCIATED WITH THE POINT OF MEASUREMENT OF THE VARIABLE HIGH POWER TRIP DISTANCE INPUT VOLTAGE LEVEL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS + REACTOR PROTECTION SYSTEM + MODIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + INSTRUMENT, POWER RANGE + SET POINT + HILLSTONE 2 (PWR)

113221

FIRE OCCAS IN CHARGING PUMP CONTROLLER AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS., LTR D/PD-50-336/70-22/3L TO NRC OFFICE OF I & E, REGION 1, APRIL 21, 1976, DCKET 50-336, TYPE--PWR, WFG--COMB., AE--BECHTEL

CAUSE - ARCING OF A SUPPLY LEAD. WITH THE PLANT IN HOT STANDBY, A FIRE OCCURRED IN CHARGING PUMP A CONTROLLER LOCATED IN MCC 051 WHICH IS POWERED FROM 480V EMERGENCY BUS 22E. THE FIRE WAS EXTINGUISHED BY DEENERGIZING MCC 051. THE DEENERGIZATION RESULTED IN POTENTIAL OR ACTUAL LOSS OF SEVERAL PIECES OF EQUIPMENT. THE FIRE RESULTED FROM ARCING OF A SUPPLY LEAD. THERE WAS EVIDENCE OF AN IMPROPER FACTORY CRIMP ON 1 OF THE 2 PHASE C LEADS. THE CONTROLLER WAS COMPLETELY REPAIRABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM + FIRE + REACTOR STARTUP EXPERIENCE + FAILURE, FABRICATION ERROR + MAIN COOLING SYSTEM + HILLSTONE 2 (PWR) + CABLES AND CONNECTORS + BREAKER + PPELOWATER + PUMPS

11222
 DIESEL GENERATOR NOT TESTED ON TIME AFTER FIRE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR D/RU-50-330/76-23/3L TO NRC OFFICE OF I & E, REGION 1, APRIL 21, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - VERIFICATION OF OTHER EQUIPMENT. UNLESS THE PLANT WAS IN HOT STANDBY, DIESEL GENERATOR 12V WAS DECLARED INOPERABLE AS A RESULT OF A FIRE. V MCC 051. BECAUSE OF THE INVOLVED CORRECTIVE ACTIONS REQUIRED AS A RESULT OF THE FIRE, DIESEL 12V WAS NOT TESTED WITHIN THE 1 HOUR LIMIT. IT WAS TESTED IN 8 HOURS. THE CAUSE WAS DIRECTLY RELATED TO THE TIME NECESSARY TO ENSURE THAT THERE WERE NO DETRIMENTAL RESULTS FROM DEENERGIZING BUS B5 TO EXTINGUISH THE FIRE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR + TESTING + REACTOR STARTUP EXPERIENCE + TEST INTERVAL + HILLSTONE 2 (PWR) + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL

11230
 FISH IMPINGED ON INTAKE SCREEN AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR D/RU-50-330/76-20/4T TO NRC OFFICE OF I & E, REGION 1, APRIL 22, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, IMPINGEMENT OF NORTHEAST PIPEFISH, NORSEMAKE CRABS, AND THREESPINE STICKLEBACKS EXCEEDED THE REPUTING LIMIT FOR APRIL. NO APPARENT CAUSE THAT WAS RELATED TO CHANGES IN PLANT OPERATION WAS FOUND. IMPINGEMENT LOSSES ARE GREATER FOR UNIT 2 THAN FOR UNIT 1. THE DESIGN DIFFERENCES IN THE INTAKE STRUCTURES WILL BE STUDIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM

11286
 FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR D/RU-50-330/76-20/4T TO NRC OFFICE OF I & E, REGION 1, MAY 7, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, THE NUMBERS OF SWEET, YANTOGA, NORTHEAST SEAROBIN, AND SPEED CRAB IMPINGED ON THE SCREENS EXCEEDED THE ETS LIMITS FOR THE MONTH OF APRIL. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. AN INVESTIGATION OF THE DIFFERENCE BETWEEN UNIT 2 AND UNIT 1 IS CONTINUING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

11340
 RADIOACTIVE CONCENTRATES TANK LEAKS IN WELL AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR D/RU-50-330/76-25/3L TO NRC OFFICE OF I & E, REGION 1, MAY 7, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - CHLORIDE INDUCED STRESS CORROSION. DURING POWER ASCENSION TESTING WITH THE REACTOR AT 100% POWER, WATER WAS DISCOVERED LEAKING FROM A WELD AT THE BASE OF THE AERATED RADIOACTIVE CONCENTRATES TANK. INSPECTION REVEALED CRACKS IN THE WELD AREAS WITH SEVERAL THROUGH WELD FAILURES. PITTING AND CRACKING INDICATIONS WERE FOUND IN THE BOTTOM TANK HEAD NEAR THE STRIP PATENS. FAILURE MECHANISM WAS CHLORIDE INDUCED STRESS CORROSION CRACKING AND CHLORINE PITTING. THE TANK WAS WELD REPAIRED WITH SEVERAL INTERNAL PATCHES OVER AFFECTED WELDS. THE TANK WILL BE REPLACED OR MODIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WASTE STORAGE + WELDS + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + FAILURE, DESIGN ERROR + STRESS CORROSION + CHLORIDE + LEAK + HILLSTONE 2 (PWR)

11378
 SODIUM ACID STORAGE TANK LEVEL BELCH LIMITS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR D/RU 76-27/3L TO NRC OFFICE OF I & E, REGION 1, MAY 11, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

113768 (CONTINUED)

CAUSE - LEVEL SENSING LINE PLUGGED. DURING POWER ASCENSION TESTING WITH THE REACTOR AT 20% POWER, BERIC ACID STORAGE TANK B WAS FOUND TO BE BELOW THE MINIMUM REQUIRED LEVEL OF 60% FOR THE EXISTING CONCENTRATION. THE LEVEL INDICATED HIGH BECAUSE THE LEVEL TRANSMITTER DIP TUBE WAS PLUGGED WITH CRYSTALLIZED BERIC ACID. THE SENSING LINE WAS BLOWN CLEAN. THIS AND SIMILAR TRANSMITTERS HAVE BEEN PLACED ON SCHEDULE MAINTENANCE BECAUSE CLEANING...

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

POISON, SOLUBLE * FAILURE, INSTRUMENT * CROW * REACTOR STARTUP EXPERIENCE * SYSTEMS CONTAINER * BEST SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * CHEMICAL SPIN * TUBING * SYSTEM CAPACITY * HILLSTONE 2 (PWR) * SENSORS, LEVEL

114092

LEAK FOUND IN BERIC ACID PUMP DISCHARGE LINE AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS. LTR B/WO-50-330/78-20/3L TC NRC OFFICE OF I & E, REGION 1, MAY 21, 1978, JACKET 50-330, TYPE--PWR, RW--
COMB., AE--DECTEL

CAUSE - POSSIBLE CHLORIDE STRESS CORROSION. DURING MAINTENANCE, LEAKAGE WAS DISCOVERED ON THE BERIC ACID CONCENTRATES PUMP DISCHARGE LINE. IT WAS A PIN HOLE LEAK IN A 1-1/2-INCH TYPE 304 SS 90 STAINLESS STEEL PIPE DOWNSTREAM OF THE PLANGED CONNECTION COMMON TO BOTH CONCENTRATES PUMPS DISCHARGE LINES. THE CAUSE IS POSSIBLY CHLORIDE STRESS CORROSION. A PATCH WAS WELDED OVER THE LEAK. FURTHER INVESTIGATION IS IN PROGRESS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * POISON, SOLUBLE * STEEL, STAINLESS * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * CHEMICAL SPIN * STRESS CORROSION * CHLORIDE * PEAR * HILLSTONE 2 (PWR) * PIPES AND PIPE FITTINGS

114093

CHARGING PUMP FAILS TO PROVIDE FLOW AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS. LTR B/WO-50-330/78-20/3L TC NRC OFFICE OF I & E, REGION 1, MAY 21, 1978, JACKET 50-330, TYPE--PWR, RW--
COMB., AE--DECTEL

CAUSE - PACKING FAILURE. DURING POWER ASCENSION TESTING WITH THE REACTOR AT 35% POWER, CHARGING PUMP A FAILED TO PROVIDE FLOW WHEN STARTED AUTOMATICALLY. PUMP A WAS RUNNING CONTINUOUSLY AND PUMP B WAS OUT OF SERVICE FOR PACKING REPLACEMENT. PUMP A HAD A WUSS PACKING LEAK. PUMP B PACKING WAS REPLACED AND THE PUMP RESTORED TO SERVICE. FAILURE WAS DUE TO WEAR DURING NORMAL SERVICE. THE PUMP IS ANGLE STEEL COMP., MODEL J-531-400P AND PACKING IS VTEC COMP. PART NO. 6423203, 6423204. INVESTIGATION IS IN PROGRESS TO DISCOVER PACKING MATERIAL WITH A LONGER LIFE-SPAN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * PICAL * MAIN COOLING SYSTEM * LEAK * HILLSTONE 2 (PWR) * WEAR * RECORDER * PUMPS

114752

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR B/WO-50-330/78-33/AT TC NRC OFFICE OF I & E, REGION 1, MAY 27, 1978, JACKET 50-330, TYPE--PWR, RW--
COMB., AE--DECTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, A TOTAL OF 30 MURRESHEL CHAIRS IN THE GREATER THAN 6 INCH LENGTH CATEGORY HAD BEEN IMPINGED AS OF MAY 6 EXCEEDING THE LIMIT OF 30. 41 TALOG AS OF MAY 10 EXCEEDING THE 40 LIMIT, AND 34 NORTHEAST PUFFER EXCEEDING THE 30 LIMIT AS OF MAY 18. THERE WAS NO APPARENT CAUSE. A COARSE SCREEN PLACED OVER THE LATERAL FISH PASSAGES ON MAY 7 APPEARS TO HAVE REDUCED THE IMPINGEMENT RATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN * MODIFICATION * REACTOR STARTUP EXPERIENCE * HILLSTONE 2 (PWR) * ANIMAL, INVENTORATE * ANIMAL, FISH * MORTALITY * CONDENSED COOLING SYSTEM * FAILURE, INCIDENT

114751

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR B/WO-50-330/78-33/AT TC NRC OFFICE OF I & E, REGION 1, JUNE 3, 1978, JACKET 50-330, TYPE--PWR, RW--
COMB., AE--DECTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, 51 SUMMER FLOUNDER IN THE GREATER THAN 6 INCH CATEGORY WERE IMPINGED AS OF MAY 25 EXCEEDING THE 30 REPORT LIMIT AND 121 NORTHEAST SEARCHIN WERE IMPINGED AS OF MAY 26 EXCEEDING THE 120 LIMIT. THERE WAS NO APPARENT CAUSE RELATED

114751 (CONTINUED)
TO CHANGES IN PLANT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

114750

SQUID AND SCUP IMPINGED ON SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR D/RD 50-336/76-38/AT TO NRC OFFICE OF I & E, REGION 1, JUNE 8, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER ASCENSION TESTING, 700 SQUID IN THE GREATER THAN 6 INCH CATEGORY HAD BEEN IMPINGED AS OF MAY 30 EXCEEDING THE 750 ETS LIMIT AND 20 SCUP WERE IMPINGED AS OF MAY 30 EXCEEDING THE 25 LIMIT. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATIONS. IT APPEARS THAT SQUID WERE SIGNIFICANTLY MORE ABUNDANT THIS YEAR THAN IN PRIOR YEARS. A SHIFT IN THE DOMINANT SIZE CLASS HAS ALSO OCCURRED. THERE ARE MORE IN THE GREATER THAN 6 INCH CLASS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PWR) + ANIMAL, INVERTEBRATE + ANIMAL, FISH + MORTALITY + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

115123

MINOR CODING ERRORS FOUND IN STRIKIN-II CODE AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR D/RD 50-336/76-35/IT TO NRC OFFICE OF I & E, REGION 1, JUNE 10, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - ERROR IN LOCA ANALYSIS CODE. NNECO WAS INFORMED BY THE NSSS VENDOR THAT CERTAIN MINOR CODING ERRORS FOUND IN THE STRIKIN-II CODE, WHICH IS USED TO CALCULATE HOT AND COLD CLAD TEMPERATURE AND LOCAL ORIENTATION, REDUCE THE ALLOWABLE PEAK LINEAR HEAT GENERATION RATE FROM 17.0 KW/FT TO 16.3 KW/FT. THE CAUSE WAS AN ERROR IN THE LOCA ANALYSIS CODE WHICH ANALYZES THE CAPABILITY OF THE ECCS. THE INCORE DETECTOR MONITORING SYSTEM SURVEILLANCE REQUIREMENT HAS BEEN LOWERED FROM 16.3 KW/FT TO 16.1 KW/FT TO COMPENSATE FOR THE ERROR PLUS AN ADDITIONAL PENALTY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER PROGRAM + ANALYTICAL MODEL + HOT SPOT FACTOR ANALYSIS + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + HILLSTONE 2 (PWR)

115124

DAILY SURVEILLANCE NOT COMPLETED DURING REQUIRED TIME AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR D/RD 50-336/76-32/3L TO NRC OFFICE OF I & E, REGION 1, JUNE 17, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - PLANT IN TRANSIENT CONDITION. DURING POWER ASCENSION TESTING, A DAILY SURVEILLANCE WAS NOT COMPLETED DURING THE REQUIRED TIME. A REMOVED TRANSIENT PREVENTED AN ACCURATE CALIBRATION OF THE NUCLEAR INSTRUMENTS. CALIBRATION IN A NONSTEADY STATE CONDITION COULD HAVE RESULTED IN AN ACTUAL INSTRUMENT DECALIBRATION. SURVEILLANCE HAS BEEN RESCHEDULED FROM THE DAY SHIFT TO THE MID SHIFT TO PROVIDE MAXIMUM TIME TO REACH THE REQUIRED STEADY STATE CONDITIONS FOLLOWING ANY PERTURBATIONS INDUCED BY TESTS PERFORMED ON THE DAY SHIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, NUCLEAR + TESTING + REMOVED + INSTRUMENT CALIBRATION + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + INSTRUMENT, POWER RANGE + TEST INTERVAL + HILLSTONE 2 (PWR) + TRANSIENT

115601

SAFETY INJECTION TEST HEADER DESIGN DEFICIENCY AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR D/RD 50-336/76-38/IT TO NRC OFFICE OF I & E, REGION 1, JUNE 25, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - INADEQUATE ANALYSIS OF SMALL BREAK. DURING AN ENGINEERING REVIEW, A DESIGN ERROR WAS FOUND IN THE SAFETY INJECTION HEADER. THE EFFECTS OF A SMALL-BREAK CONDITION WERE NOT ADEQUATELY ANALYZED FOR THE ESP PUMP RECIRCULATION REQUIREMENTS. PIPING ANALYSIS IS IN PROGRESS AND MODIFICATIONS NECESSARY TO UPGRADE THE ENTIRE HEADER TO SEISMIC CLASS 1 WILL BE DONE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

115043 (CONTINUED)

ACCIDENT ANALYSIS • DESIGN CRITERIA • ACCIDENT, LOSS OF COOLANT • MODIFICATION • FAILURE, DESIGN ERROR • HILLSTONE 2 (PWR) • SEISMIC DESIGN • PIPES AND PIPE FITTINGS

115428

FISH IMPINGED ON SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
4 PGS, LTR W/RO-50-336/76-48/AT TO NRC OFFICE OF I & E, REGION 1, JUNE 26, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING NORMAL OPERATION, A TOTAL OF 78 FLUKE, 54 TAUTOG, AND 49 CUNNER GREATER THAN 6 INCHES HAD BEEN IMPINGED AS OF JUNE 19 AND 26 SCUP AS OF JUNE 20. REPORT LIMITS FOR THESE ARE 50, 40, 25, AND 25 RESPECTIVELY. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. THESE SPECIES APPEAR TO BE MORE ABUNDANT THAN IN PAST YEARS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN • HILLSTONE 2 (PWR) • ANIMAL, FISH • MORTALITY • CONDENSER COOLING SYSTEM • FAILURE, INHERENT

115429

DIESEL GENERATOR TRIPS ON HIGH CRANKCASE PRESSURE AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR W/RO-50-336/76-37/3L TO NRC OFFICE OF I & E, REGION 1, JULY 1, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - DIRTY CRANKCASE AIR EJECTOR. DURING A BEERLY TEST RUN OF DIESEL GENERATOR 13U, THE EXLINE TRIPPED ON HIGH CRANKCASE PRESSURE 11 MINUTES AFTER STARTING. THE REACTOR WAS AT 100% POWER. THE CRANKCASE AIR EJECTOR WAS FOUND TO BE DIRTY. IT WAS CLEANED. THIS IS A PAIRBANKS-HORSE, 30TDS-178, 12 CYLINDER, AIR START, 2750 KW CONTINUOUS DIESEL. THE HIGHER THAN NORMAL NUMBER OF DIESEL STARTS AND SUBSEQUENT PERIODS OF RUNNING UNDER NO-LOAD CONDITIONS ACCELERATED THE RATE OF EJECTOR FOULING. A DESIGN CHANGE IS BEING PROCESSED TO REDUCE THE FREQUENCY OF DIESEL STARTS AND NO-LOAD OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • CRUD • MODIFICATION • TEST, SYSTEM OPERABILITY • FAILURE, DESIGN ERROR • HILLSTONE 2 (PWR) • ENGINES, INTERNAL COMBUSTION • GENERATOR, DIESEL

115039

SPIDER CRAB IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS, LTR W/ETS-NR/50-336/76-21 TO NRC OFFICE OF I & E, REGION 1, JULY 8, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER OPERATION WITH 4 CIRCULATING WATER PUMPS IN OPERATION, 78 SPIDER CRAB 3 TO 6 INCHES LONG HAD BEEN IMPINGED AS OF JUNE 29, EXCEEDING THE REPORT LIMIT OF 50 PER MONTH. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. THIS YEAR SIZE CLASS DOMINANCE IS QUITE DIFFERENT FROM THE YEARS ON WHICH ETS IMPINGEMENT REPORT LIMITS ARE BASED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN • HILLSTONE 2 (PWR) • ANIMAL, INVERTEBRATE • MORTALITY • CONDENSER COOLING SYSTEM • FAILURE, INHERENT

115044

SPIDER CRAB IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS, LTR W/ETS-NR/50-336/76-22 TO NRC OFFICE OF I & E, REGION 1, JULY 9, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING STEADY STATE POWER OPERATIONS WITH 4 CIRCULATING WATER PUMPS IN OPERATION, 78 SPIDER CRAB 3 TO 6 INCHES LONG HAD BEEN IMPINGED AS OF JULY 2 EXCEEDING THE ETS REPORT LIMIT OF 50 PER MONTH. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN • HILLSTONE 2 (PWR) • ANIMAL, INVERTEBRATE • MORTALITY • CONDENSER COOLING SYSTEM • FAILURE, INHERENT

115040

THERMAL MARGIN/LOW PRESSURE TRIP SET POINT ERRATIC AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

115640 CONTINUED
 3 PGS, LTR W/NO 50-336/76-41/3L TC NRC OFFICE OF I & E, REGION I, JULY 13, 1976, DOCKET 50-336, TYPE--PUR, NRC--
 -COMB., AE--BECHTEL

CAUSE - FAILED DUAL BIPOLAR AMPLIFIER. DURING 100% POWER OPERATION, CHANNEL B THERMAL MARGIN/LOW
 PRESSURE TRIP SET POINT (VARIABLE) BECAME ERRATIC LEAVING A NON-CONSERVATIVE (LOW) SET POINT. ITS
 TRIPS WERE BYPASSED. THE THERMAL MARGIN/LOW PRESSURE CALCULATOR HAD FAILED DUE TO FAILURE OF A
 BELL AND HOWELL DUAL BIPOLAR AMPLIFIER. AN ISOLATION AMPLIFIER WITHIN CORE PROTECTION CALCULATOR
 NO. 1. THE AMPLIFIER WAS REPLACED AND TESTED SATISFACTORILY. SINCE THE AMPLIFIER IS A SEALED
 UNIT THE TYPE OF FAILURE IS UNKNOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, COMPONENT + REACTOR PROTECTION SYSTEM + INSTRUMENT, SWITCH + SET POINT + HILLSTONE 2 (PUR) +
 FAILURE, INHERENT + ELECTRONIC PROTECTION UNITS

115915
 JW STANOVY LUBE OIL PUMP TRIPS MAKING CG IMPERMISSIBLE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR W/NO 50-336/76-39/3L TC NRC OFFICE OF I & E, REGION I, JULY 16, 1976 DOCKET 50-336, TYPE--PUR, NRC--
 -COMB., AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. DURING 100% POWER OPERATION, DIESEL GENERATOR STANDBY LUBE OIL PUMP
 TRIPPED ALLOWING DIESEL LUBE OIL TEMPERATURE TO DROP. LOW LUBE OIL TEMPERATURE WOULD HAVE
 PREVENTED THE DIESEL GENERATOR FROM STARTING. THE LUBE OIL PUMP WAS RESTARTED AND, AFTER A FEW
 MINUTES RUNNING TIME, THE LOW TEMPERATURE ALARM CLEARED. A DESIGN CHANGE WILL BE IMPLEMENTED
 WHICH WILL BYPASS ALL NON-EMERGENCY TRIPS ON AN EMERGENCY DIESEL START SIGNAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTROL SYSTEM + EMERGENCY POWER, ELECTRIC + MODIFICATION + FAILURE, DESIGN ERROR + PLUMBING + HILLSTONE 2
 (PUR) + TEMPERATURE + PUMPS + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL

116211
 SPIDER CRAB IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS, LTR W/NO 50-336/76-23 TC NRC OFFICE OF I & E, REGION I, JULY 30, 1976, DOCKET 50-336, TYPE--PUR,
 NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING STEADY STATE POWER OPERATION WITH 4 CIRCULATING WATER PUMPS IN
 OPERATION, 201 SPIDER CRAB, 8 TO 3 INCHES LONG, HAD BEEN IMPINGED AS OF JULY 17, EXCEEDING THE
 ETS REPORT LIMIT OF 200. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FILTER, SCREEN + REACTOR STARTUP EXPERIENCE + HILLSTONE 2 (PUR) + ANIMAL, INVERTEBRATE + MORTALITY +
 CONDENSER COOLING SYSTEM + FAILURE, INHERENT

116212
 MOTOR CONTROL CENTER CONTROLLER COMPONENTS FAIL ON LOW VOLTAGE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 2 PGS, LTR W/NO 50-336/76-42/1T TC NRC OFFICE OF I & E, REGION I, AUG. 3, 1976, DOCKET 50-336, TYPE--PUR, NRC--
 -COMB., AE--BECHTEL

CAUSE - DESIGN DEFICIENCY. MCC CONTROL POWER FUSES DISCOVERED AFTER A PLANT TRIP ON JULY 5 LED
 TO AN INVESTIGATION WHICH REVEALED THAT NOT ALL 480 VOLT MOTOR CONTROL CENTER CONTACTORS COULD BE
 RELIED UPON TO OPERATE AT ALL VOLTAGES ABOVE THE UNDERVOLTAGE TRIP SET POINTS. THE CONTROLLER
 COMPONENTS WERE NOT DESIGNED TO OPERATE AT AS LOW A VOLTAGE AS THE UNDERVOLTAGE TRIP SET POINTS.
 CORRECTIVE ACTION IS SPECIFIED IN AMENDMENT 16 TO THE OPERATING LICENSE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

INSTRUMENT, PROTECTIVE + ELECTRIC POWER + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + EQUIPMENT +
 SET POINT + HILLSTONE 2 (PUR) + TRANSIENT + RELAYS

116481
 DISCREPANCY FOUND IN VENTILATION SYSTEM SUPPORTS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS, LTR W/NO 50-336/76-43/1T TC NRC OFFICE OF I & E, REGION I, AUG. 5, 1976, DOCKET 50-336, TYPE--PUR, NRC--
 -COMB., AE--BECHTEL

CAUSE - SUBCONTRACTOR INSTALLATION ERROR. DURING AN AE DESIGN DRAWING REVIEW OF THE VENTILATION
 SYSTEM, AN APPARENT DISCREPANCY WAS IDENTIFIED IN THE DUCTWORK SUPPORTS FOR 2 DC SWITCHGEAR ROOM
 FANS. THE SEISMIC SUPPORTS AT THE FIRST HANGERS WERE INSTALLED INCORRECTLY BY THE SUBCONTRACTOR.
 THEY HAVE BEEN CORRECTED TO COMPLY WITH DESIGN SPECIFICATIONS.

116001 *CONTINUED*

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

VENTILATION SYSTEM * SUPPORT STRUCTURE * FAILURE, INSTALLATION ERROR * ENGINEERED SAFETY FEATURE * HILLSTONE 2 (PWR) * SEISMIC DESIGN * COMPARTMENT * BREAKER

116200

LEAK FOUND IN INSTRUMENT LINE SOCKET WELD AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR D/RD-50-336/70-45/17 TC NRC OFFICE OF I & E, REGION I, AUG. 12, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - FATIGUE FAILURE. FOLLOWING A PLANT HEATUP TO RATED TEMPERATURE AND 1700 PSIA, A LEAK WAS DISCOVERED IN AN ELBOW SOCKET WELD IN THE 1 INCH O.D. INSTRUMENT LINE UPSTREAM OF THE ISOLATION VALVE ON REACTOR COOLANT PUMP B DISCHARGE PIPING. THE PLANT WAS COOLED DOWN AND DEPRESSURIZED. THE LEAK RATE WAS LESS THAN 0.1 GPH THROUGH A 3/8 INCH CIRCUMFERENTIAL CRACK ON THE WELD SURFACE. THIS OCCURRENCE IS IN THE SAME LINE LOCATION AS PREVIOUSLY REPORTED OCCURRENCES. IT IS CONCLUDED THAT A SIGNIFICANT PORTION OF THE FATIGUE LIFE WAS EXPENDED PRIOR TO COMPLETING FINAL CORRECTIVE ACTION. THE LEAKING WELD WAS GROUND OUT AND REWELDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * WELDS * FAILURE, FATIGUE * FAILURE, DESIGN ERROR * VIBRATION * MAIN COOLING SYSTEM * LEAK * HILLSTONE 2 (PWR) * CRACK * SENSORS, PRESSURE * PIPES AND PIPE FITTINGS

117001

AUXILIARY FEED PUMP INLET STEAM VALVE FAILS TO OPEN AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR D/RD-50-336/70-44/3L TC NRC OFFICE OF I & E, REGION I, AUG. 23, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - VALVE SHAFT SHEARED. WHILE ATTEMPTING TO OPERATE THE STEAM DRIVEN AUXILIARY FEED PUMP, THE INLET STEAM TRIP VALVE WOULD NOT OPEN. IT HAD BEEN SATISFACTORILY OPERATED PRIOR TO PLANT COOLDOWN 3 DAYS EARLIER. INSPECTION SHOWED THAT THE VALVE OPERATING SHAFT HAD SHEARED. THE CAUSE OF SHEARING IS UNKNOWN. THE INVESTIGATION IS STILL IN PROGRESS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * STEAM * HILLSTONE 2 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS * VALVES

117002

WEL. LEAK FOUND IN CHARGING PUMP DISCHARGE RELIEF VALVE LINE AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR D/RD-50-336/70-46/3L TC NRC OFFICE OF I & E, REGION I, AUG. 23, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - FATIGUE. DURING A ROUTINE INSPECTION WHILE OPERATING AT 97% POWER, A WELD LEAK WAS DISCOVERED IN CHARGING PUMP DISCHARGE RELIEF VALVE INLET LINE IN THE ELBOW JUST BELOW THE RELIEF LINE FLANGE ON THE UPSTREAM SOCKET WELD. THIS IS A 3/4 INCH TYPE 316 STAINLESS STEEL LINE. THE LEAKING WELD WAS GROUND OUT AND REWELDED. TWO PREVIOUS FAILURES IN THE SAME PLACE WERE CLASSIFIED AS FATIGUE FAILURES. STRE'S ANALYSIS ON THE PIPING IS BEING MADE. ANY CORRECTIVE ACTION INDICATED WILL BE TAKEN AFTER THE ANALYSIS IS COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * WELDS * FAILURE, FATIGUE * MAIN COOLING SYSTEM * LEAK * HILLSTONE 2 (PWR) * FEEDWATER * PIPES AND PIPE FITTINGS

117003

SET POINT DRIFT IN PRESSURIZER PRESSURE TRANSMITTER AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS. LTR D/RD-50-336/70-47/3L TC NRC OFFICE OF I & E, REGION I, AUG. 23, 1976, DOCKET 50-336, TYPE--PWR, NRC--
-COMB., AE--BECHTEL

CAUSE - INSTRUMENT DRIFT. WHILE THE PLANT WAS SHUT DOWN AND DEPRESSURIZED, TESTING ON THE PRESSURIZER PRESSURE TRANSMITTERS SHOWED THE OUTPUT ON ONE HAD DRIFTED ENOUGH TO EXCEED THE 1000 PSIA LIMIT. THE CAUSE OF DRIFT IS UNKNOWN. THE TRANSMITTER TRIP SET POINT WAS RESET. THIS WAS A FORBID. MODEL E118, TRANSMITTER WITH A +/- 0.5% ACCURACY. THE DRIFT WAS +/- 1.0%.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * TEST, SYSTEM OPERABILITY * SET POINT * HILLSTONE 2 (PWR) * DRIFT * SENSORS, PRESSURE

117943
 SET POINT DRIFT IN STEAM GENERATOR HIGH LEVEL DISTABLE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR N/RO-50-336/76-00-3L TC NRC OFFICE OF I & E, REGION I, SEPT. 3, 1976. DOCKET 50-336. TYPE--PWR, NFG-
 -COMB., AE--BECHTEL

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR AT 100% POWER, CHANNEL A STEAM GENERATOR HIGH LEVEL DISTABLE WAS FOUND TO TRIP AT 85.5% INSTEAD OF 85.0% PER TECH SPECS. THE CAUSE WAS INSTRUMENT W/ T. THE DISTABLE TRIP UNIT, GGA PART NO. ELO-200-0000-1F, WAS RECALIBRATED TO PREVENT RECURRANCE. TOLERANCES ON CALIBRATION SET POINTS HAVE BEEN NARROWED. THIS WIDENING THE MARGIN FOR DRIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * SET POINT * HILLSTONE 2 (PWR) * DRIFT * FAILURE, INHERENT * ELECTRONIC FUNCTION UNITS * SENSORS, LEVEL

117544
 OFF SITE POWER LOST AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR N/RO-50-336/76-00-3L TC NRC OFFICE OF I & E, REGION I, SEPT. 3, 1976. DOCKET 50-336. TYPE--PWR, NFG-
 -COMB., AE--BECHTEL

CAUSE - HURRICANE BELLE. DURING HURRICANE BELLE, THE REACTOR TRIPPED FROM 100% POWER DUE TO A LOSS OF OFF SITE POWER. ALL SYSTEMS OPERATED AS DESIGNED. DURING THE HURRICANE, SEVERAL FAILURES OF EQUIPMENT OCCURRED IN THE SWITCHYARD RESULTING IN NUMEROUS PROTECTIVE RELAY OPERATIONS. FAILURE RESULTED FROM SEVERE SALT CONTAMINATION OF THE ENTIRE SWITCHYARD CAUSED BY SALT SPRAY BLOWN FROM LONG ISLAND SOUND. THERE WAS INSUFFICIENT WASHING BY RAIN. WITHIN 26 HOURS, 1 LINE WAS RESTORED FOLLOWING THE WASHING DOWN OF INSULATORS AND OTHER SWITCHYARD EQUIPMENT. THE OTHER LINE WAS OPERABLE IN 72 HOURS FOLLOWING REPAIR OF DAMAGED CIRCUIT BREAKERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * ACCIDENT, LOSS OF POWER * SCRAM, REAL * ELECTRIC POWER * CONTAMINATION * SALT * EQUIPMENT * WEATHER, SEVERE * OFF SITE * HILLSTONE 2 (PWR) * W/ T * FAILURE, INHERENT * BREAKER * RELAYS

117945
 SAFETY INJECTION TANK LEVEL FOUND BELOW LIMIT AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR N/RO-50-336/76-50/3L TC NRC OFFICE OF I & E, REGION I, SEPT. 3, 1976. DOCKET 50-336. TYPE--PWR, NFG-
 -COMB., AE--BECHTEL

CAUSE - OPERATOR ERROR. DURING ROUTINE SURVEILLANCE WITH THE REACTOR AT 100% POWER, THE LEVEL OF SAFETY INJECTION TANK 4 WAS FOUND TO BE 54.25%. TECH SPECS REQUIRE 55% TO 56%. PROCEDURES ALLOW RE-CIRCULATION OF THE TANK FILL LINE FOR 1 HOUR TO EQUALIZE BURON CONCENTRATION. THIS PRECLUDED RESTORING THE TANK TO FULLY OPERABLE STATUS WITHIN 1 HOUR. THE CAUSE WAS OPERATOR ERROR IN FAILING TO INITIATE FILLING AND RECIRCULATION PROCEDURES IN TIME. PROCEDURES HAVE BEEN REVISED TO REQUIRE A 15 MINUTE RECIRCULATION TIME TO ALLOW MORE RAPID REFILLING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * SAFETY INJECTION * STORAGE CONTAINER * SYSTEM CAPACITY * HILLSTONE 2 (PWR)

117942
 DIESEL GENERATOR FAILS TO START AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 5 PGS. LTR N/RO-50-336/76-51/3L TC NRC OFFICE OF I & E, REGION I, SEPT. 15, 1976. DOCKET 50-336. TYPE--PWR, NFG-
 -COMB., AE--BECHTEL

CAUSE 1 - BOOSTER SERVO MOTOR MALFUNCTION. DURING TESTING, DIESEL GENERATOR 12U FAILED TO START. SINCE NO DEFINITE CAUSE WAS IDENTIFIED, IT WAS DECLARED INOPERABLE. NEXT TEST ALSO FAILED TO START. FAILURE WAS TRACED TO A FAULTY FUEL OIL BOOSTER SERVO MOTOR. IT WAS CLEANED AND THE DIESEL PA. RETURNED TO SERVICE. HOWEVER, A LEATHER WASHER WITHIN THE SERVO MOTOR HAD SHOWN SIGNS OF WEAR. NEW WASHERS WERE ORDERED. LATER, THE DIESEL AGAIN FAILED TO START. THE NEW WASHER WAS RECEIVED AND INSTALLED. A MARKED IMPROVEMENT IN SERVO MOTOR PERFORMANCE WAS NOTED. THE LEATHER WASHER IN OG 12U WAS FOUND TO BE DEGRADED AND WAS ALSO CHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * TEST, SYSTEM OPERABILITY * HILLSTONE 2 (PWR) * FAILURE, INHERENT * WEAR * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

118790

118798 (CONTINUED)

SMALL FIRE OCCURS ON DIESEL GENERATOR EXHAUST MANIFOLD AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/NO 50-336/70-52/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 30, 1970. DOCKET 50-336. TYPE--PWR.
 NRC--COMB., AE--BECHTEL

CAUSE - FUEL OIL UNDER INSULATION. DURING A TEST OF DIESEL GENERATOR 13U WITH THE REACTOR AT 100% POWER, A SMALL FIRE OCCURRED ON THE EXHAUST MANIFOLD ON THE CONTROL END OF THE ENGINE. THE OPERATOR SECURED THE ENGINE AND EXTINGUISHED THE FIRE. THE FIRE WAS DUE TO LUBE AND FUEL OIL WHICH HAD ACCUMULATED UNDER THE INSULATION AT ONE POINT ON THE EXHAUST MANIFOLD. THERE WAS EVIDENCE OF AN INJECTOR LEAK IN THE VICINITY OF THE FIRE. THE AREA WAS CLEANED OUT AND THE SUSPECTED LEAKING FITTINGS WERE TIGHTENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * FIRE * THERMAL INSULATION * LEAK * HILLSTONE 2 (PWR) * FUEL, FOSSIL * FAILURE, INCIDENT * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL * PIPES AND PIPE FITTINGS

118272

BLUE CRAB IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 1 PG. LTR W/NO. RPT. ETS/NA-50-336/70-24 TO NRC OFFICE OF I & E, REGION I, OCT. 5, 1970. DOCKET 50-336. TYPE--PWR. NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER OPERATION WITH 4 CIRCULATING PUMPS IN OPERATION, 64 BLUE CRABS GREATER THAN 6 INCHES IN LENGTH HAD BEEN IMPINGED AS OF 9/26/70, EXCEEDING THE ETS LIMIT OF 60. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN * HILLSTONE 2 (PWR) * ANIMAL, INVERTEBRATE * MORTALITY * CONDENSER COOLING SYSTEM * FAILURE, INHERENT

118958

OIL LEAK DISCOVERED ON DIESEL GENERATOR AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 1 PGS. LTR W/NO 50-336/70-53/3L TO NRC OFFICE OF I & E, REGION I, OCT. 19, 1970. DOCKET 50-336. TYPE--PWR. NRC--COMB., AE--BECHTEL

CAUSE - OIL FILTER GASKET FAILURE. FOLLOWING A REACTOR TRIP CAUSED BY LOSS OF ELECTRICAL BUSES 24A AND 24C, DIESEL GENERATOR A STARTED. AN OIL LEAK WAS DISCOVERED WHICH RESULTED IN 50 GALLONS OF OIL BEING SPILLED ONTO THE FLOOR OF THE DIESEL ROOM. THE DIESEL WAS SECURED. A LUBE OIL FILTER GASKET WAS FOUND TO BE LEAKING. IT WAS REPLACED AND THE DIESEL RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * LUBRICATION * LEAK * HILLSTONE 2 (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL * FILTERS

118959

ADDITIONAL INFORMATION ON AUXILIARY FEED PUMP VALVE FAILURE AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/NO 50-336/70-44/3O TO NRC OFFICE OF I & E, REGION I, OCT. 22, 1970. DOCKET 50-336. TYPE--PWR. NRC--COMB., AE--BECHTEL

CAUSE - IMPROPER TORQUE SWITCH SETTING. WHILE ATTEMPTING TO OPERATE THE STEAM DRIVEN AUXILIARY FEED PUMP, THE INLET STEAM TRIP VALVE WOULD NOT OPEN BECAUSE THE VALVE SPINDLE HAD SMEARED AS REPORTED EARLIER. THE SPINDLE FAILED IN TENSION AT A NARROW PORTION OF THE SHAFT. THE MOTOR OPEN LIMIT SWITCH WAS INCORRECTLY ADJUSTED AND DID NOT CUT OUT THE MOTOR. THE BACKUP TORQUE SWITCH WAS SET AT TOO HIGH A VALUE. THE SPINDLE COUPLING WAS BRONZE. WHEN THE SWITCHES FAILED TO CUT THE MOTOR OFF, THE COUPLING AND SHAFT HEATED CAUSING STRESS FROM DIFFERENTIAL THERMAL EXPANSION OF THE SPINDLE AND ITS COUPLING. SWITCHES WERE RESET PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * THERMAL MECHANICAL EFFECT * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * FAILURE, MAINTENANCE ERROR * SET POINT * HILLSTONE 2 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * VALVES

118960

COOLING WATER FLOD TO DIESEL GENERATOR LOW AT HILLSTONE 2
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/NO 50-336/70-54/3L TO NRC OFFICE OF I & E, REGION I, OCT. 22, 1970. DOCKET 50-336. TYPE--PWR. NRC--COMB., AE--BECHTEL

110900 (CONTINUED)

CAUSE - NATURE BUSSELS IN HEAT EXCHANGER. DURING TESTING OF DIESEL GENERATOR 120, A LOW COOLING WATER FLOW ALARM WAS RECEIVED. THE ENGINE WAS SECURED. AN EXCESSIVE NUMBER OF RELATIVELY NATURE BUSSELS WERE FOUND WITHIN THE HEAT EXCHANGER ON THE SERVICE WATER SIDE. THE HEAT EXCHANGER WAS CLEANED. THE ROOT CAUSE IS INADEQUATE CHLORINATION SCHEDULE FOR THE INTAKE WATER. THE CHLORINATION SYSTEM HAS EXPERIENCED MECHANICAL AND SEVERE CORROSION PROBLEMS. CORRECTIVE ACTION IS IN PROGRESS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + WATER TREATMENT + FAILURE, DESIGN ERROR + FLOW OBSTRUCTION + EQUIPMENT + COOLING + HILLSTONE 2 (PWR) + ANIMAL, INVENTORATE + ENGINE, INTERNAL COMBUSTION + GENERATOR, DIESEL + HEAT EXCHANGERS

110901

CONTROL ELEMENT ASSEMBLY DROPPED AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR W/NO 50-330/76-95/3L TO NRC OFFICE OF I & E, REGION I, OCT. 22, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - BLOWN FUSE. DURING A CEA PARALLELING OPERATION, CEA 09 WAS DROPPED INTO THE CORE DUE TO A BLOWN FUSE. CAUSE OF THE BLOWN FUSE IS UNKNOWN. REACTOR POWER WAS REDUCED FROM 100% TO LESS THAN 70% AND THE CEA WAS FULLY WITHDRAWN WITHIN 1 HOUR. AS A RESULT OF THE DROPPED CEA, AZIMUTHAL POWER TILT EXCEEDED 0.10 AND POWER WAS REDUCED TO MAINTAIN LIMITS. T SW 0 WAS REDUCED TO LESS THAN 0.10 IN LESS THAN 2 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, PROTECTIVE + POWER DISTRIBUTION + FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + PLUG TILT + HILLSTONE 2 (PWR) + FAILURE, INHERENT + CONTROL RODS

119000

WIDE RANGE NUCLEAR INSTRUMENTATION FAILS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR W/NO 50-330/76-56/3L TO NRC OFFICE OF I & E, REGION I, NOV. 5, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - RELAY IN PREAMPLIFIER FAILS. WHILE TESTING THE WIDE RANGE NUCLEAR INSTRUMENTATION WITH THE REACTOR AT 100% POWER, CHANNEL 0 PREAMPLIFIER FAILED MAKING THE EXPECTED CHANNEL INOPERABLE. THE GULF GENERAL ATOMIC PREAMPLIFIER, MODEL PA-6A, FAILED DUE TO FAILURE OF THE INTERNAL RELAY R1. THE FAILED PREAMPLIFIER WAS REPLACED ON THE NEXT REACTOR SHUTDOWN. CAUSE OF THE RELAY FAILURE HAS NOT BEEN DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT + TEST, SYSTEM OPERABILITY + INSTRUMENT, POWER RANGE + INSTRUMENT, WIDE RANGE + HILLSTONE 2 (PWR) + RELAYS

119701

JUTLET PIPE FROM VOLUME CONTROL TANK LEAKS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

3 PGS, LTR W/NO 50-330/76-57/3L TO NRC OFFICE OF I & E, REGION I, NOV. 12, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - DEFICIENT DESIGN OF SUPPORT. DURING A ROUTINE INSPECTION WHILE OPERATING AT 100% POWER, A LEAK WAS FOUND IN THE 4-INCH SCH 40, TYPE 304 STAINLESS STEEL OUTLET FROM THE VOLUME CONTROL TANK. INSPECTION REVEALED A HAIRLINE CRACK IN THE PIPE IN THE AREA OF A PIPE SADDLE TYPE HANGER. THE CRACK WAS GROUND OUT AND WELD REPAIRED. THE PIPE SUPPORT DESIGN WAS IMPROPER. IT CONSISTED OF A CARBON STEEL SADDLES WELDED TO THE STAINLESS STEEL PIPE AND LOOSELY ENCLOSED IN AN I-BEAM BOX. THE LOOSE FIT PERMITTED EXCESSIVE VIBRATION AND RESULTED IN FATIGUE FAILURE ALONG A BI-METALLIC WELD. THE HANGER CONFIGURATION WAS CHANGED TO A CLAMP TYPE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HILLSTONE 2 (PWR) + LEAK + PIPES AND PIPE FITTINGS + COOLANT PURIFICATION SYSTEM + STORAGE CONTAINER + WELDS + FAILURE, PIPE + FAILURE, FATIGUE + FAILURE, DESIGN ERROR + SUPPORT STRUCTURE + MODIFICATION

120203

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT

2 PGS, LTR W/NO, RPT, ETS/NO-50-330/76-25 TO NRC OFFICE OF I & E, REGION I, NOV. 29, 1976, DOCKET 50-330, TYPE--PWR, NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER OPERATION WITH 4 CIRCULATING PUMPS OPERATING, 31 SILVER HARE 3 TO 6 INCHES LONG WERE IMPINGED AS OF 11/7/76. THE ALLOWABLE LIMIT IS 25. THE EST LIMIT

120203 *CONTINUED*

OF 23 HERRIT CRABS, 0-3 INCHES LONG, WAS EXCEEDED BY 13 ON 11/2/70. ALL HERRIT CRABS WERE RETURNED ALIVE TO MIAMTIC BAY. THERE WAS NO APPARENT CAUSE FOR THIS WHICH WAS RELATED TO CHANGES IN PLANT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 2 (PWR) * ANIMAL, FISH * MORTALITY * FILTER, SCREEN * CONDENSER COOLING SYSTEM * ANIMAL, INVERTEBRATE * FAILURE, IMMINENT

120492

FISH IMPINGED ON INTAKE SCREENS AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
1 PG, LTR W/ENV. RPT. ETS-NR/50-330/70-20 TO NRC OFFICE OF I & E, REGION 1, DEC. 7, 1970. DOCKET 50-330, TYPE--
PWR, NRC--COMB., AE--BECHTEL

CAUSE - NO APPARENT CAUSE. DURING POWER OPERATION WITH 4 MAIN CIRCULATING PUMPS OPERATING, 26 SILVER HAKE (3 TO 8 INCHES) WERE IMPINGED AS OF DEC. 3. THE ETS ALLOWABLE LIMIT IS 25. THERE WAS NO APPARENT CAUSE RELATED TO CHANGES IN PLANT OPERATION. THERE APPEARS TO BE AN INCREASED ABUNDANCE OF THIS SPECIES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 2 (PWR) * ANIMAL, FISH * MORTALITY * FILTER, SCREEN * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

120497

CONDENSATE STORAGE TANK LEVEL DECREASES BELOW LIMIT AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS, LTR W/NO-50-330/70-50/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 17, 1970. DOCKET 50-330, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - EXCESSIVE BLOWDOWN RATES. DURING 80% POWER OPERATION, THE CONDENSATE STORAGE TANK LEVEL WAS BELOW THE 150000 GALLON TECH SPEC LIMIT. CONDENSER TUBE LEAKAGE RESULTED IN EXCESSIVE BLOWDOWN RATES TO CONTROL STEAM GENERATION CHEMISTRY. TANK LEVEL COULD NOT BE MAINTAINED DURING THESE HIGH RATES. TUBES WERE PLUGGED, SG CHEMISTRY RESTORED, AND THE STORAGE TANK REFILLED WITHIN THE REQUIRED 7 HOUR PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 2 (PWR) * SYSTEMS CAPACITY * STORAGE CONTAINER * FEEDWATER * COOLING SYSTEM, SECONDARY * FAILURE, IMMINENT * FAILURE, EQUIPMENT * BLOWDOWN * RATE * COOLANT QUALITY

120741

ALL OF AERATED WASTE DISCHARGE NOT RECORDED AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
2 PGS, LTR W/ENV. RPT ETS/NR-50-330/70-20 TO NRC OFFICE OF I & E, REGION 1, DEC. 23, 1970. DOCKET 50-330, TYPE--
PWR, NRC--COMB., AE--BECHTEL

CAUSE - RECORDER PLACED IN TEST. WHILE PERFORMING AN AERATED WASTE DISCHARGE, THE RECORDING DEVICE WHICH RECORDS THE ACTIVITY LEVEL FOR THE LIQUID RADIATION MONITOR CHANNEL MONITORING THE DISCHARGE WAS PLACED IN TEST. THIS RESULTED IN THE FINAL 15 MINUTES OF THE DISCHARGE NOT BEING RECORDED. THE PROCEDURE THAT REQUIRED THE RECORDER TO BE PLACED IN TEST DID NOT MENTION AS A PREREQUISITE THAT THERE BE NO DISCHARGE IN PROGRESS. A PREREQUISITE WILL BE ADDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 2 (PWR) * RECORDERS * RADIATION MONITORS * WASTE DISPOSAL * WASTE DISPOSAL, LIQUID * FAILURE, ADMINISTRATIVE CONTROL * PROCEDURES AND MANUALS * TESTING

120742

DIESEL GENERATOR SERVICE WATER COOLING FLOW BLOCKED AT HILLSTONE 2
NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
3 PGS, LTR W/LEA 70-59/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 29, 1970. DOCKET 50-330, TYPE--PWR, NRC--
COMB., AE--BECHTEL

CAUSE - RUSSELS WITHIN HEAT EXCHANGERS. DURING DIESEL GENERATOR 13V WHEELY TESTING WHILE THE REACTOR WAS AT 100% POWER, IT WAS FOUND TO HAVE NO SERVICE WATER COOLING FLOW AND WAS IMMEDIATELY SECURED. AN EXCESSIVE BUILDUP OF RUSSELS WERE FOUND WITHIN THE HEAT EXCHANGERS ON THE SERVICE WATER SIDE. THE IMMEDIATE ACTION WAS TO CLEAN THE HEAT EXCHANGERS AND RETURN THE DIESEL TO SERVICE. THE CAUSE OF THE RAPID ACCUMULATION IS NOT KNOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HILLSTONE 2 (PWR) * FLOW BLOCKAGE * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * TEST, SYSTEM

110702 *CONTINUED*
 OPERABILITY * SERVICE WATER * ANIMAL, INVERTEBRATE * HEAT EXCHANGERS

111622
 DEFICIENCY IN PIPE MANUFACTURER'S QA PROGRAM AT HILLSTONE 3
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 3 PGS. LTR W/PT TO NRC OFFICE OF I & E, FEB. 18, 1976. DOCKET 50-423. TYPE--PUR, MFG--BEST, AE--STUNE &
 WEBSTER

CAUSE - ADMINISTRATIVE DEFICIENCY. A HIGH FINAL PRODUCT REJECTION RATE OF SHOP FABRICATED PIPING (BY TUBCO, INC.) LED TO SPECULATION ABOUT A POSSIBLE BREAKDOWN IN THE MANUFACTURER'S QUALITY ASSURANCE PROGRAM. AN AUDIT CONCLUDED THAT THE MANUFACTURER WAS GENERALLY NOT IN COMPLIANCE WITH ALL REQUIREMENTS. WHEN A RESOLUTION WAS NOT REACHED WITHIN 30 DAYS, A STOP WORK ORDER WAS ISSUED UNTIL PROBLEMS WERE RESOLVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * FABRICATION * FABRICATION FACILITY * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * CONSTRUCTION * HILLSTONE 3 (PUR) * PIPES AND PIPE FITTINGS

111784
 POSSIBLE BREAKDOWN IN VENDOR QA PROGRAM AT HILLSTONE 3
 NORTHEAST NUCLEAR ENERGY CO., HARTFORD, CT
 5 PGS. LTR W/PT TO NRC OFFICE OF I & E, REGION 1, FEB. 18, 1976. DOCKET 50-423. TYPE--PUR, MFG--BEST, AE--
 STONE & WEBSTER

CAUSE - PURCHASE ORDER DEFICIENCIES. A ROUTINE PROCUREMENT QUALITY CONTROL AUDIT OF TUBCO, INC. FACILITY REVEALED THAT ALL REQUIREMENTS OF THE PURCHASE ORDER AND THE QA PROGRAM WERE NOT BEING MET. A STOP WORK ORDER WAS ISSUED. SINCE THAT TIME, COMMERCIAL OPERATION DATE OF THE REACTOR HAS BEEN DELAYED FROM MAY 1979 TO MAY 1982. BECAUSE OF THIS DELAY, SUFFICIENT PIPE HAS NOT BEEN RECEIVED TO CONCLUDE THAT THE MODIFICATIONS TO THE QA PROGRAM ARE SUFFICIENT TO PREVENT RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

*FABRICATION * FABRICATION FACILITY * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * CONSTRUCTION * HILLSTONE 3 (PUR) * PIPES AND PIPE FITTINGS

115427
 POLAR CRANE CAB CONTACTS LIFT RIG AT NORTH ANNA 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 2 PGS. LTR W/PT TO NRC OFFICE OF I & E, JUNE 2, 1976. DOCKET 50-330. TYPE--PUR, MFG--BEST, AE--STUNE &
 WEBSTER

CAUSE - CONSTRUCTION ERROR. THE LOWER PORTION OF THE POLAR CRANE CAB CONTACTED THE UPPER END OF THE HEAD LIFT RIG WHICH WAS ATTACHED TO THE REACTOR VESSEL CLOSURE HEAD. THE CRANE HAD BEEN USED TO MOVE THE HEAD TO ANOTHER STORAGE LOCATION. IT WAS BEING REPOSITIONED FOR ANOTHER LIFT WHEN CONTACT OCCURRED. AN INVESTIGATION WAS MADE TO ASSURE THAT THE CAB'S WERE NOT DAMAGED. THEY WERE NOT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

*TRANSPORTATION AND HANDLING * FAILURE, FABRICATION ERROR * NORTH ANNA 1 (PUR) * CRANE * PRESSURE VESSELS * CONTROL ROD DRIVES

111874
 CONDENSATE STORAGE TANK LINER DEFECTIVE AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 2 PGS. LTR W/PT TO NRC OFFICE OF I & E, FEB. 27, 1976. DOCKETS 50-330/339. TYPE--PUR, MFG--BEST, AE--STUNE &
 WEBSTER

CAUSE - IMPROPER CURING. THE INTERNAL LINING OF THE FIELD FABRICATED 110,000 GALLON CONDENSATE STORAGE TANK WAS APPLIED BY A SUBCONTRACTOR. AFTER THE TANK WAS FILLED AND DRAINED, BUBBLES, 1 TO 2 INCHES IN DIAMETER APPEARED IN THE LINING. THESE CONTAINED A LIQUID WHICH APPEARED TO BE THE COATING SOLVENT. FAILURE WAS CAUSED BY IMPROPER CURING OF THE COATING. THE ENTIRE LINING WILL BE COMPLETELY REMOVED BY SANDBLASTING. PRIMER AND FINAL COATS WILL BE REAPPLIED AT A TIME WHEN ARTIFICIAL HEATING WILL NOT BE REQUIRED. THIS APPLIES TO THE TANKS FOR BOTH UNITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONDENSATION * COATING * STORAGE CONTAINER * FAILURE, INSTALLATION ERROR * HEAT TREATMENT * NORTH ANNA 1 (PUR) * NORTH ANNA 2 (PUR) * CONSTRUCTION

111927

FINAL REPORT ON RUSTING OF STAINLESS STEEL PIPE ASSEMBLIES AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 2 PGS. LTR W/RPT TO NRC OFFICE OF I & E, MARCH 1, 1976. DOCKETS 50-330/339. TYPE--PWR. MFG--WEST., AE--STONE &
 WEBSTER

CAUSE - UNKNOWN. ALL RUSTED STAINLESS STEEL PIPE SECTIONS (NOT BENDS) WERE REMOVED AND RETURNED TO THE FABRICATOR FOR CLEANING BY ACID PICKING. PIPE SECTIONS WITH WELDS WILL BE SOLUTION ANNEALED AND QUENCHED TO ASSURE HOMOGENEITY OF THE BASE METAL STRUCTURE IN AREAS ADJACENT TO WELDS. SECTIONS WILL THEN BE DESCALED AND PICKLED TO ASSURE REMOVAL OF ALL CONTAMINANTS. THE PIPE SHOWS NO DETRIMENTAL EFFECTS FROM THE RUSTED CONDITION EXCEPT FOR SOME LIGHT PITTING OF MINOR DEPTH ON A FEW PIECES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

STEEL, STAINLESS * CORROSION * CONTAMINATION * FAILURE, FABRICATION ERROR * HEAT TREATMENT * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * PIPES AND PIPE FITTINGS

112908

CONTROL SWITCH OPERATION SLUGGISH AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG. LTR W/RPT TO NRC OFFICE OF I & E, MARCH 5, 1976. DOCKETS 50-330/339. TYPE--PWR. MFG--WEST., AE--STONE &
 WEBSTER

CAUSE - SUBSTANDARD SPRINGS. TEN GE 50M CONTROL SWITCHES WERE OBSERVED TO BE SLUGGISH IN OPERATION AND THE HANDLES DID NOT RETURN TO THEIR PROPER ALIGNMENT WHEN RELEASED FROM THE SPRING LOADED POSITIONS. OBSERVATIONS WERE MADE ON SWITCHES IN UNENERGIZED CIRCUITS. INSPECTION OF DEFECTIVE SWITCHES BY GE INDICATED THE USE OF SUBSTANDARD SPRINGS WITHIN THE SWITCH. A PROGRAM TO REPLACE ALL SUBSTANDARD SPRINGS IS BEING ESTABLISHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * INSTRUMENT, SWITCH * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * ENGINEERED SAFETY FEATURE * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION

112221

PREDICTION IN GROUNDWATER LEVEL REVISED AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/RPT TO NRC OFFICE OF I & E, MARCH 15, 1976. DOCKETS 50-330/339. TYPE--PWR. MFG--WEST., AE--STONE &
 WEBSTER

CAUSE - ADDITIONAL DATA RECEIVED. STRUCTURES FOR UNITS 1 AND 2 WERE DESIGNED AND ANALYZED USING A UNIFORM GROUNDWATER LEVEL AT ELEVATION 250 FT. LATER DATA INDICATE THE LEVEL MAY BE AS HIGH AS 270 FT WITHIN THE STATIC AREA. REANALYSIS INDICATES THAT ALL STRUCTURES HAVE SUFFICIENT STRUCTURAL CAPACITY EXCEPT POSSIBLY THE INTAKE STRUCTURES. IF ANALYSIS SHOWS A DEFICIENCY, MODIFICATIONS CAN BE MADE TO CORRECT THE DEFICIENCY. UNITS 3 AND 4 WERE DESIGNED FOR THE HIGHER LEVELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * GROUND WATER * CONTAINMENT INTEGRITY * BUILDING * FAILURE, DESIGN ERROR * STRUCTURAL INTEGRITY * NORTH ANNA 1 (PWR) * SEISMIC DESIGN * NORTH ANNA 2 (PWR) * CONSTRUCTION

113219

FINAL REPORT ON SLUGGISH OPERATION OF CONTROL SWITCHES AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG. LTR W/RPT TO NRC OFFICE OF I & E, APRIL 6, 1976. DOCKETS 50-330/339. TYPE--PWR. MFG--WEST., AE--STONE &
 WEBSTER

CAUSE - FABRICATION DEFICIENCY. ONE OF THE DESIGNERS OF THE GE TYPE 50M CONTROL SWITCHES PERSONALLY INSPECTED EACH 50M SWITCH EXCEPT 7 IN NON-SAFETY RELATED CIRCUITS. TWO WOULD NOT SPRING RETURN TO THE NEUTRAL POSITION. FOUR DEFECTIVE SWITCHES HAD BEEN SENT TO GE. GE WILL REPLACE ALL 6 DEFECTIVE SWITCHES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * INSTRUMENT, SWITCH * FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION

113220

VIBRATION DISCONNECTS TERMINAL BLOCK AT NORTH ANNA 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG. LTR W/RPT TO NRC OFFICE OF I & E, APRIL 15, 1976. DOCKETS 50-330/339. TYPE--PWR. MFG--WEST., AE--STONE &
 WEBSTER

112220 *CONTINUED*

CAUSE - DESIGN DEFICIENCY. VIBRATION IN THE AREA OF THE FLASH EVAPORATOR FOR UNIT 1 CAUSED A CONNECTION TERMINAL BLOCK TO WORK LOOSE IN A FLOCKNER-MJELLER ROTOR CONTROL CENTER LEADING TO INSUFFICIENT CONTACT BETWEEN THE MALE AND FEMALE CONTACTS OF THE TERMINAL BLOCK. IN THE PRESENT DESIGN, VIBRATION OR NUMEROUS PLUG-IN/PLUG-OUT OPERATIONS CAUSED THE FINGERS OF THE FEMALE CONTACT TO SEPARATE RESULTING IN A POOR CONNECTION WITH THE MALE CONTACT. ALL TERMINAL BLOCKS WILL BE REPLACED WITH ONES OF A MODIFIED DESIGN PRIOR TO FUEL LOADING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MODIFICATION * FAILURE, DESIGN ERROR * VIBRATION * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS * BREAKER

114745

TIMING RELAYS ON DIESEL GENERATORS DEFECTIVE AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
1 PG, LTR W/PT TO NRC OFFICE OF I & E, MAY 28, 1976, DOCKETS 50-330/339, TYPE--PWR, HFG--WEST., AE--STONE & WEBSTER

CAUSE - MANUFACTURED IMPROPERLY. DURING AN OPERATIONAL TEST ON THE EMERGENCY DIESEL GENERATORS, IT WAS FOUND THAT SOME OF THE TIMING RELAYS WERE NOT OPERATING AT THE CORRECT TIME. THE DIAGRAMS ON THESE ITC PNEUMATIC TYPE J-13 TIMERS FOR DIRECT CURRENT OPERATION WERE NOT MANUFACTURED PROPERLY AND WOULD NOT HOLD THE AIR PRESSURE NECESSARY TO PERMIT CORRECT TIMING OPERATION. ALL OF THESE TIMING UNITS ARE TO BE REPLACED. THE REPLACEMENTS ARE UNDERGOING SHOP TESTING PRIOR TO INSTALLATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL * RELAYS

115481

TURBINE BUCH B AND C LINE WALL FOOTINGS SETTLE AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
6 PGS, LTR W/PT TO NRC OFFICE OF I & E, JUNE 9, 1976, DOCKETS 50-330/339, TYPE--PWR, HFG--WEST., AE--STONE & WEBSTER

CAUSE - LOWERING OF THE GROUNDWATER TABLE. TURBINE ROOM B- AND C-LINE WALL FOOTING HAVE SETTLED. THE MAXIMUM DIFFERENTIAL SETTLEMENT ALONG EITHER LINE AMOUNTS TO ABOUT 0.13 FT IN 32 FEET. MAXIMUM DIFFERENTIAL SETTLEMENT ACROSS THE LINES IS 0.13 FT IN 135 FT. ABOUT 3 IN OF ABSOLUTE SETTLEMENT HAS OCCURRED AT ONE COLUMN. SETTLEMENT WAS CAUSED BY LOWERING THE GROUNDWATER TABLE BY 30 FT FOR UNITS 3 AND 4 EXCAVATION AND THE FACT THAT AN OPEN EXCAVATION LOCATED ONLY 50 FT FROM ONE COLUMN HAS EXISTED FOR 2 YEARS. THE EFFECT OF SETTLEMENT HAS BEEN MINIMAL. THE TURBINE ROOM CRANE RAILS MAY NEED SHIMMING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

GROUND WATER * FAILURE, INSTALLATION ERROR * SUBSIDENCE * INTERACTION, SOIL AND STRUCTURE * TURBINE * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * CRANE * STRUCTURE

117787

POSSIBLE DESIGN DEFICIENCY IN SPENT FUEL POOL AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
2 PGS, LTR W/PT TO NRC OFFICE OF I & E, REGION II, AUG. 10, 1976, DOCKETS 50-330/339, TYPE--PWR, HFG--WEST., AE--STONE & WEBSTER

CAUSE - CHANGE IN FUEL RACKS. A RECENT REVIEW OF THE STRUCTURAL DESIGN COMPUTATIONS REVEALED CONDITIONS WHICH GIVE PRELIMINARY INDICATIONS THAT THE COMPLETED SPENT FUEL POOL MAY NOT MEET DESIGN CRITERIA. THE ORIGINAL COMPUTATIONS WERE EXAMINED TO DETERMINE HOW MUCH ADDITIONAL LOAD THE RACKS AND MAT COULD CARRY FROM THE NEW, HIGH DENSITY SPENT FUEL RACKS. COMPUTATIONS OMITTED A CHECK FOR COMPATIBILITY OF FORCES AND MOMENTS ALONG BOUNDARIES. A MODEL OF THE ENTIRE REINFORCED CONCRETE SPENT FUEL POOL IS BEING DEVELOPED USING THE FINITE ELEMENT CAPABILITY OF THE STROUD II COMPUTER PROGRAM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COMPUTER PROGRAM * ANALYTICAL MODEL * STRESS ANALYSIS * MODIFICATION * FAILURE, DESIGN ERROR * SUPPORT STRUCTURE * NORTH ANNA 1 (PWR) * SEISMIC DESIGN * NORTH ANNA 2 (PWR) * CONSTRUCTION * CONCRETE, REINFORCED * SPENT FUEL POOL

117941

ERRORS FOUND IN ACCIDENT ANALYSIS AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
6 PGS, LTR W/PT TO NRC OFFICE OF I & E, REGION II, SEPT. 10, 1976, DOCKET 50-330/339, TYPE--PWR, HFG--WEST., AE--STONE & WEBSTER

117901 (CONTINUED)

CAUSE - INCORRECT ASSUMPTIONS. TWO DEFICIENCIES WERE FOUND IN THE ACCIDENT ANALYSIS FOR LUNA. THE UPPER HEAVY FLUID TEMPERATURE IS HIGHER THAN EXPECTED. THIS APPEARS TO RESULT IN AN INCREASE IN PEAK CLAD TEMPERATURE OF 80 F WHICH IS WITHIN THE 70 F MARGIN OF THE PRESENT ANALYSIS. A REANALYSIS WILL BE MADE. THERE IS A GREATER THAN ANTICIPATED EFFECT ON DRAIN OF FUEL RODS DURING IN-TUBULE CELLS. A NEW CONSERVATIVE BURNUP-DEPENDENT ROD BOW PENALTY ON DWRB HAS BEEN DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BURNING * ACCIDENT, LOSS OF COOLANT * JMO * FAILURE, DESIGN ERROR * FUEL ROD * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * TEMPERATURE

118202

TRAIN ORIENTED CABLES ROUTED TO INPUT CABINETS AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
2 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION II, SEPT. 13, 1976, DOCKETS 50-330/339, TYPE--PWR, RFG--BEST.,
AE--STONE & WEBSTER

CAUSE - DESIGN DEFICIENCY. DURING AN ENGINEERING INSPECTION OF THE SOLID-STATE PROTECTION SYSTEM CABINETS, IT WAS NOTED THAT IN CHANNELS I, II, AND III OF THE INPUT CABINET THERE WERE TRAIN ORIENTED CABLES ROUTED, PULLED, AND TERMINATED. REVISIONS TO THE MANUFACTURER'S DRAWINGS HAD NOT BEEN INCORPORATED ON THE PE DRAWINGS. THE REVISIONS LEFT ONLY CHANNEL CABLES IN THE INPUT CABINET AND TRAIN CABLES IN THE LOGIC CABINET. THE CABLES ARE BEING REVISED TO REFLECT THE REVISIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * MODIFICATION * FAILURE, ADMINISTRATIVE CONTROL * REDUNDANCE * INDEPENDENCE * CONTROL PANEL/RCCB * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS

118271

RHR PUMP MOTOR UPPER BEARING LEAKS AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
1 PG, LTR R/PT TO NRC OFFICE OF I & E, REGION II, SEPT. 21, 1976, DOCKETS 50-330/339, TYPE--PWR, RFG--BEST.,
AE--STONE & WEBSTER

CAUSE - MISSING LOCKWASHER RETAINER. DURING A TEST RUN, RESIDUAL HEAT REMOVAL PUMP IA MOTOR UPPER BEARING LEAKED LUBRICATING OIL. A LOCKWASHER RETAINING DEVICE WAS MISSING. THIS ALLOWED THE NUT TO LOOSEN, RESULTING IN BEARING OIL LEAKAGE. LOCKWASHERS ARE SECURED WITH A NYLON INSERT. ALL NYLON INSERTS ON THIS VINTAGE PUMP WILL BE REPLACED WITH SEPARATE METALLIC TABLOC WASHERS BEFORE THE PUMPS ARE PLACED IN SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MODIFICATION * FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * SHUTDOWN COLLISION SYSTEM * LEAK * BEARING * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * MOTORS * PUMPS

118276

FINAL REPORT ON TERMINATIONS CONTAINING CRACKS AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
2 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION II, SEPT. 23, 1976, DOCKETS 50-330/339, TYPE--PWR, RFG--BEST.,
AE--STONE & WEBSTER

CAUSE - UNEVEN TAPE STRESS DISTRIBUTION. AN INSPECTION WHICH INCLUDED ALL CATEGORY I TERMINATIONS FOUND 14 OUT OF 1197 PIECES WITH CRACKING. THESE 14 WILL BE STRIPPED OF THE JOL TAPE AND RE-TERMINATED USING MATCHER W/SP HEAT-SHRINK TERMINATING RIPS NOW BEING USED ON ALL NEW TERMINATIONS. RESULTS OF INTENSIVE LABORATORY TESTS BY ORONITE INDICATED THAT THE CAUSE OF THE CRACKING WAS DUE TO UNEVEN TAPE STRESS DISTRIBUTION. BASED ON TESTS, NO CRACKING IN EXISTING TERMINATIONS CAN BE EXPECTED BEYOND 24-48 HOURS AFTER THE COMPLETION OF THE TERMINATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * ELECTRIC POWER * FAILURE, INSTALLATION ERROR * NORTH ANNA 1 (PWR) * INSULATION * NORTH ANNA 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS * CRACK

118289

REACTOR COOLANT PUMP MOTORS DRAW EXCESS POWER AT NORTH ANNA 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
1 PG, LTR R/PT TO NRC OFFICE OF I & E, REGION II, SEPT. 20, 1976, DOCKETS 50-330/339, TYPE--PWR, RFG--BEST.,
AE--STONE & WEBSTER

CAUSE - OVERSIZED PUMP IMPELLERS. DURING INITIAL REACTOR COOLANT PUMP OPERATION, THE RCP MOTORS WERE FOUND TO BE DRAWING EXCESS POWER. THE LEVELS WERE MORE THAN 10% GREATER THAN EXPECTED AND WERE IN EXCESS OF MOTOR CAPACITIES FOR LONG TERM OPERATION. AFTER A REVIEW OF SITE PUMP REQUIREMENTS, PUMP HYDRAULIC PERFORMANCE CALCULATIONS AND TEST DATA, AND MOTOR PERFORMANCE

119265 UNCONTINUED

CALCULATIONS AND TEST DATA. IT WAS CONCLUDED THAT THE SOLE CAUSE WAS OVERSIZED PUMP IMPELLERS. UNIT 1 IMPELLERS HAVE BEEN TRIMMED. MOTOR INPUT POWER WILL BE MEASURED DURING PREOPERATIONAL TESTING. UNIT 2 IMPELLERS WILL BE TRIMMED PRIOR TO INSTALLATION OF THE PUMPS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MODIFICATION • TEST, PREOPERATIONAL • TEST, SYSTEM OPERABILITY • FAILURE, DESIGN ERROR • MAIN COOLING SYSTEM • SYSTEM CAPACITY • NORTH ANNA 1 (PWR) • NORTH ANNA 2 (PWR) • CONSTRUCTION • MACHINES • PUMPS

119536

A TEST HORIZONTAL GRAB DRILLED INTO SB RESERVOIR DIKE AT NORTH ANNA 1 AND 2 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, OCT. 12, 1976. DOCKETS 50-330/339. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - DRILL DEPARTED FROM PLANNED GRADE. IN RESPONSE TO NRC POSITION FOR MAINTAINING GROUNDWATER LEVEL UNDER THE SERVICE WATER RESERVOIR PUMP HOUSE AT EL 275 FT. A DECISION WAS MADE TO INSTALL A TEST HORIZONTAL GRAB EXTENDING BENEATH THE SERVICE WATER RESERVOIR PUMP HOUSE. ULTIMATE DRILLING. THE DRILL HOLE PENETRATED THE CLAY LINE OF THE SERVICE WATER RESERVOIR. THIS RESULTED FROM THE DRILL HOLE DEPARTING FROM THE PLANNED 1.25' GRADE AND FROM AN INCOMPLETE MEASUREMENT OF THE DRILL HOLE LENGTH. THE RESERVOIR WAS UNDAINED. THE HOLE GRATED AS THE HOLE WAS REMOVED, AND THE CLAY LINE AND GRAB REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DAMAGE • FAILURE, INSTALLATION ERROR • IMPROVEMENT • NORTH ANNA 1 (PWR) • NORTH ANNA 2 (PWR) • CONSTRUCTION • JAM • SERVICE WATER

119408

SEISMIC DESIGN OF AUXILIARY PANELS MAY NOT BE CONSERVATIVE AT NORTH ANNA 1 AND 2 VIRGINIA ELECTRIC & POWER COMPANY, RICHMOND, VA
2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, OCT. 21, 1976. DOCKETS 50-330/339. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - NONCONSERVATIVE MATHEMATICAL MODEL. DURING A REVIEW OF SEISMIC ANALYSIS DATA FOR A RECENTLY PROCURED AUXILIARY PANEL, IT WAS DETERMINED THAT THE MATHEMATICAL MODEL USED MAY NOT HAVE BEEN CONSERVATIVE ENOUGH. A PHYSICAL INSPECTION OF THE ACTUAL INSTALLATION OF THE 35 SEISMIC CATEGORY 1 PANELS WAS PERFORMED. MANY 1 TALLATIONS HAVE SUBSTANTIAL STIFFNESS AND CAN BE CONFIRMED AS ACCEPTABLE. FIFTEEN PANELS OF OPEN-BACK CONSTRUCTION ADDITIONAL STRUCTURAL BRACING WAS ADDED TO THE TOP TO PROVIDE THE NECESSARY RIGIDITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ANALYTICAL MODEL • MODIFICATION • FAILURE, DESIGN ERROR • CONTROL PANEL/HOUSING • NORTH ANNA 1 (PWR) • SEISMIC DESIGN • NORTH ANNA 2 (PWR) • CONSTRUCTION

119820

PIPE HANGER INSTALLATION FOUND DEFICIENT AT NORTH ANNA 1 AND 2 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
2 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 8, 1976. DOCKETS 50-330/339. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - INSTALLATION ERROR. DURING AN INVESTIGATION OF PIPE HANGERS IN UNIT 2 AUXILIARY FEEDWATER PUMP HOUSE, IT WAS FOUND THAT A HANGER HAD ONE ANCHOR BOLT WHICH DID NOT EXTEND INTO THE CONCRETE AND THAT THE REMAINING 3 BOLTS WERE ABOUT 2 INCHES SHORTER THAN SPECIFIED BY THE DRAWINGS. ADDITIONAL MEASUREMENTS MADE IN UNITS 1 AND 2 AUXILIARY FEEDWATER PUMP HOUSE DISCLOSED THAT 39 HANGERS WERE NOT IN ACCORDANCE WITH THEIR DRAWINGS. SOCKET TYPE ANCHORS HAD BEEN USED INSTEAD OF THE SPECIFIED CINCH ANCHOR BOLTS. ALL QA CATEGORY 1 PIPE SUPPORTS WILL BE INSPECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NORTH ANNA 1 (PWR) • NORTH ANNA 2 (PWR) • CONSTRUCTION • SUPPORT STRUCTURE • PIPES AND PIPE FITTINGS • FAILURE, INSTALLATION ERROR • FASTENERS

12007

SPENT FUEL POOL DEFICIENCY AT NORTH ANNA 1 AND 2 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
22 PGS. LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 19, 1976. DOCKETS 50-330/339. TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - DESIGN DEFICIENCY. THE ORIGINAL STRUCTURAL DESIGN COMPUTATIONS FOR THE REINFORCED CONCRETE SPENT FUEL POOL WERE REVIEWED TO DETERMINE HOW MUCH ADDITIONAL LOAD FROM THE HIGH DENSITY FUEL WACKS COULD BE CARRIED BY THE WALLS. ANALYSIS SHOWED THAT THE POOL DESIGN AS IT PRESENTLY EXISTS IS MARGINALLY UNDER-REINFORCED FOR THE DESIGN OPERATING CONDITIONS. THE

120467 CONTINUED

ADDITION OF A COUNTERFACE WILL REDUCE STRESS ALONG THE NORTH WALL TO WITHIN BOUNDS OF THE ALLOWABLE CRITERIA AND CONSTITUTES THE ONLY CORRECTIVE STRUCTURAL ACTION REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT BOARD, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NORTH ANNA 1 (PWR) + NORTH ANNA 2 (PWR) + CONSTRUCTION + STRESS + CONCRETE REINFORCED + EXPENT FUEL PUMP + FAILURE, DESIGN ERROR + MODIFICATION + MATHEMATICAL TREATMENT

120200

NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES AT NORTH ANNA 1 AND 2

U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC

29 PGS. LTR D/MT TO VIRGINIA ELECTRIC & POWER CO., DEC. 8, 1976, DDCRETS 50-330/334, TYPE--PWR, NRC--WEST, AE--STONE & WEBSTER

CASE - ADMINISTRATIVE DEFICIENCIES. BASED ON THE RESULTS OF NRC INVESTIGATIONS, IT APPEARS THAT CERTAIN OF THE PIPING INSTALLATION ACTIVITIES WERE NOT CONDUCTED IN COMPLIANCE WITH NRC REQUIREMENTS. IMPROVEMENTS ARE NEEDED IN THE MANAGEMENT OF THE CONSTRUCTION PROGRAM. AFTER EVALUATION OF THE ITEMS OF NONCOMPLIANCE, NRC PROPOSES TO IMPOSE CIVIL PENALTIES OF \$31000-

AVAILABILITY - NRC PUBLIC DOCUMENT BOARD, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NORTH ANNA 1 (PWR) + NORTH ANNA 2 (PWR) + CONSTRUCTION + COMPLIANCE + PIPES AND PIPE FITTINGS + CODES AND STANDARDS + LEGALISTICS + ECONOMICS + FAILURE, ADMINISTRATIVE CONTROL + INSTALLATION + QUALITY ASSURANCE + DESIGN CRITERIA

120455

DEFICIENCY IN CONTACT PRESSURES IN SOIL BENEATH FOUNDATION AT NORTH ANNA 1 AND 2

VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA

2 PGS. LTR D/MT TO NRC OFFICE OF I & E, REGION II, DEC. 7, 1976, DDCRETS 50-330/334, TYPE--PWR, NRC--WEST, AE--STONE & WEBSTER

CASE - DESIGN DEFICIENCY. AN EXAMINATION OF THE DESIGN CALCULATIONS INDICATES AN APPARENT MISUNDERSTANDING OF THE MAXIMUM ALLOWABLE CONTACT PRESSURE IN THE SOIL BENEATH THE RAY FOUNDATION, SINCE ALLOWABLE BEARING PRESSURES PERMITTED FOR A LOADING CONDITION OF THE SERVICE WATER PUMP HOUSE EXCEEDED THE DESIGN CRITERIA OF 3000 PSF. MAXIMUM CALCULATED TBE PRESSURE WAS 3920 PSF. A RE-EVALUATION OF SOIL BEARING CAPACITY SHOWS THAT A MINIMUM VALUE OF ALLOWABLE BEARING CAPACITY IS 4200 PSF. AN FSAN AMENDMENT WILL BE INITIATED TO CHANGE THE DESIGN CRITERIA TO 4200 PSF.

AVAILABILITY - NRC PUBLIC DOCUMENT BOARD, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NORTH ANNA 1 (PWR) + NORTH ANNA 2 (PWR) + CONSTRUCTION + DESIGN CRITERIA + SOIL PROPERTY, IN SITU + FOUNDATION ENGINEERING + PROPERTY, PHYSICAL + SERVICE WATER SYSTEM + FAILURE, DESIGN ERROR + COMMUNICATION + BUILDING

120751

CRACKS DETECTED IN SERVICE WATER RESERVOIR SPRAY HEADEND AT NORTH ANNA 1 AND 2

VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA

2 PGS. LTR D/MT TO NRC OFFICE OF I & E, REGION II, DEC. 10, 1976, DDCRETS 50-330/334, TYPE--PWR, NRC--WEST, AE--STONE & WEBSTER

CASE - UNKNOWN. AFTER OBSERVING BUBBLE INDICATIONS ON THE WATER SURFACE, UNDERWATER INVESTIGATION OF THE SERVICE WATER RESERVOIR SPRAY PIPING REVEALED CRACKS COMPRISED TO ONE (2) FT. LONG SECTION OF 19 INCH DIAMETER FIBERGLASS PIPE. THE PIPE HAD BEEN HYDROSTATICALLY TESTED AT 110% OF DESIGN PRESSURE. THE SERVICE WATER RESERVOIR WILL BE DRAINAGE TO A DEPTH OF ONE FOOT TO REPLACE THE DAMAGED SECTION AND TO BRANKE THE ENTIRE SPRAY PIPING SYSTEM.

AVAILABILITY - NRC PUBLIC DOCUMENT BOARD, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NORTH ANNA 2 (PWR) + CONSTRUCTION + PIPES AND PIPE FITTINGS + SERVICE WATER SYSTEM + PUMP + COILING PIPE + FAILURE, PIPE + CRACK + NORTH ANNA 1 (PWR)

113900

HIGHER RESERVOIR WATER LEVELS PREDICTED DURING PMF AT NORTH ANNA 1, 2, 3, AND 4

VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA

4 PGS. LTR D/MT TO NRC OFFICE OF I & E, APRIL 30, 1976, DDCRETS 50-330/330/000/005, TYPE--PWR, NRC--WEST, AE--STONE & WEBSTER

CASE - INADEQUATE RUNOFF MODEL. HIGHER WATER LEVELS MAY OCCUR DURING THE PROBABLE MAXIMUM FLOOD THAN HAD BEEN ORIGINALLY PREDICTED FOR LAKE ANNA RESERVOIR. FOUR STORMS, INCLUDING HURRICANE AGNES, WERE UTILIZED IN THE MOST RECENT INVESTIGATION OF THE DRAINAGE BASIN RESPONSE TO PRECIPITATION. ALL THESE HIGHER RAINFALL (INFLUENCE) BEARS THAN THOSE PREDICTED BY THE ORIGINAL RUNOFF MODEL. THERE IS NO EFFECT WHATSOEVER ON THE RELIABILITY OF THE NORTH ANNA DAM IN THE SAFE OPERATION OF THE NORTH ANNA UNITS.

111902 *CONTINUED*

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN * SITING, REACTOR * COMPARISON, THEORY AND EXPERIENCE * ANALYTICAL MODEL * FAILURE, DESIGN ERROR * FLG * IMPLOSION * BEHAVIOR, SEVERE * FLOOD * NORTH ANNA 1 (PWR) * NORTH ANNA 2 (PWR) * CONSTRUCTION * NORTH ANNA 3 (PWR) * NORTH ANNA 4 (PWR)

114402

DEFICIENCY IN MINIMUM PRESSURIZATION TEMPERATURE ON CORE FLOOD TANKS AT NORTH ANNA 3 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
14 PGS, LTR W/HPT TO NRC OFFICE OF I & E, MAY 3, 1976, DOCKETS 50-404, TYPE--PWR, NRC--B&B, AE--STONE & WEBSTER

CAUSE - SPECIFICATION ERROR. FOR THE CORE FLOOD TANKS, EQUIPMENT SPECS MISTAKENLY DEFINED THE LOWEST SERVICE METAL TEMPERATURE TO BE 100 F WHEN IN REALITY THE TEMPERATURE CAN BE AS LOW AS 70 F DURING NORMAL OPERATING CONDITIONS. THE ERROR WAS IDENTIFIED DURING MANUFACTURING. CORRECTIVE ACTION CONSISTED OF REDEFINING THE IMPACT TEST TEMPERATURE. MATERIALS WHICH HAD NOT BEEN TESTED WERE TESTED AT THE NEW TEMPERATURE. MATERIALS ALREADY TESTED WERE RETESTED AT THE LOWER TEMPERATURE EXCEPT FOR THE LOWER SHELL PLATE OF TANK 2 WHERE SAMPLES WERE NOT AVAILABLE. TWO TEST METHODS DEMONSTRATED THAT THESE MATERIALS EXCEED TOUGHNESS REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN CRITERIA * TESTING * STORAGE CONTAINER * FAILURE, ADMINISTRATIVE CONTROL * FRACTURE TOUGHNESS * CONSTRUCTION * COMPARISON * TEMPERATURE * CORE REFLOOING * NORTH ANNA 3 (PWR)

111400

PROCEDURE FOR CONTROL OF AMPLIFIED RESPONSE SPECTRA DATA AT NORTH ANNA 3 AND 4 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR W/HPT TO NRC OFFICE OF I & E, JAN. 19, 1976, DOCKETS 50-404/05, TYPE--PWR, NRC--B&B, AE--STONE & WEBSTER

CAUSE - PROCEDURAL DEFICIENCY. DESCRIBES PROCEDURES TO BE USED FOR CONTROL OF SEISMIC AMPLIFIED RESPONSE SPECTRA DATA. SOME SAFETY-RELATED EQUIPMENT HAD BEEN MANUFACTURED BASED ON SPECIFICATIONS CONTAINING PRELIMINARY DATA. PROCEDURES SHOULD PREVENT A RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN CRITERIA * PROCEDURES AND MANUALS * FAILURE, ADMINISTRATIVE CONTROL * EQUIPMENT * RESPONSE SPECTRUM * SEISMIC DESIGN * CONSTRUCTION * NORTH ANNA 3 (PWR) * NORTH ANNA 4 (PWR)

111930

DIESEL GENERATOR FUEL OIL DAY TANK HAVE DEFECTIVE NOZZLES AT NORTH ANNA 3 AND 4 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
1 PG, LTR W/HPT TO NRC OFFICE OF I & E, MARCH 8, 1976, DOCKETS 50-404/05, TYPE--PWR, NRC--B&B, AE--STONE & WEBSTER

CAUSE - FABRICATION ERROR. THE FABRICATOR OF THE DIESEL GENERATOR FUEL OIL DAY TANKS ADVISED THAT 4 OF THE TANKS WERE MANUFACTURED USING NOZZLE FITTINGS THAT DID NOT MEET MATERIAL SPECIFICATIONS. THESE TANKS WERE RETURNED TO THE VENDOR FOR REPLACEMENT OF THE DEFECTIVE NOZZLES USING APPROVED PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN CRITERIA * MATERIAL * FAILURE, FABRICATION ERROR * STORAGE CONTAINER * NOZZLE * CONSTRUCTION * FUEL, FOSSIL * NORTH ANNA 3 (PWR) * NORTH ANNA 4 (PWR)

111214

STABILIZATION OF INTAKE AND CONTAINMENT AUXILIARY STRUCTURES AT NORTH ANNA 3 AND 4 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
12 PGS, LTR W/HPT TO NRC OFFICE OF I & E, MARCH 30, 1976, DOCKETS 50-404/05, TYPE--PWR, NRC--B&B, AE--STONE & WEBSTER

CAUSE - DESIGN DEFICIENCIES. TRANSLATION OF THE INTAKE STRUCTURE DURING THE OBE WILL BE ACCOMMODATED BY FLEXIBILITY IN PIPING AND ELECTRICAL CONNECTIONS. ROCK ANCHORS AND SHEAR KEYS WILL BE UTILIZED TO PRECLUDE ANTICIPATED TRANSLATION AND ROTATION OF THE CONTAINMENT AUXILIARY STRUCTURES. A SIMILAR ROCK ANCHOR SYSTEM HAS BEEN SUCCESSFULLY USED ON OTHER CATEGORY I STRUCTURES FOUNDED ON LESS COMPETENT ROCK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT DESIGN * MODIFICATION * FAILURE, DESIGN ERROR * FOUNDATION ENGINEERING * SEISMIC DESIGN * CONSTRUCTION * STABILITY * STRUCTURE * NORTH ANNA 3 (PWR) * NORTH ANNA 4 (PWR)

113502

MINOR DESIGN DEFICIENCIES CORRECTED AT NORTH ANNA 3 & SURRY 3
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 9 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, APRIL 27, 1976. DUCKETS 50-404/405/436/435. TYPE--PWR, MFG--
 -B&B, AE--STONE & WEBSTER

CAUSE - DESIGN DEFICIENCIES. THREE MINOR DESIGN DEFICIENCIES WERE FOUND AND CORRECTED. (1) FOR THE MAKEUP/HIGH PRESSURE INJECTION PUMP, THE AUXILIARY LUBE OIL PUMP STARTING INTERLOCK WAS REMOVED AND A CONTINUOUS RUNNING LUBE OIL PUMP INSTALLED. (2) TO PREVENT OVER-COOLING OF THE LUBE OIL FOR THE MAKEUP/HIGH PRESSURE INJECTION PUMP, COOLING WATER FLOW WILL BE AUTOMATICALLY CONTROLLED. (3) THE CENTRAL ROD DRIVE POWER CABINETS AND REACTOR TRIP BREAKER CABINETS CONTAINING BOTH CLASS 1E AND NON-CLASS 1E CIRCUITS, THE POWER CABINETS WILL BE RECLASSIFIED TO NON-CLASS 1E. THE BREAKER CABINETS WILL HAVE PHYSICAL ISOLATION ADDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MODIFICATION + FAILURE, DESIGN ERROR + LUBRICATION + CONTROL PANEL/ROOM + EMERGENCY COOLING SYSTEM + CONSTRUCTION + NORTH ANNA 3 (PWR) + NORTH ANNA 4 (PWR) + SURRY 3 (PWR) + SURRY 4 (PWR) + PUMPS

119242

POSSIBLE DEVIATION IN RADIOGRAPHIC COVERAGE OF CASTINGS AT NORTH ANNA 3 AND 4
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 2 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, OCT. 20, 1976. DUCKETS 50-404/405. TYPE--PWR, MFG--B&B, AE--
 -STONE & WEBSTER

CAUSE - IMMINENT DIFFICULTIES. THE AVE REPORTED THAT THE CASTING INDUSTRY IN GENERAL IS NOT IN FULL COMPLIANCE WITH THE RADIOGRAPHY COVERAGE REQUIREMENT ESTABLISHED FOR CASTINGS BEING FABRICATED TO ASME CODE, SEC. III. THIS WAS NOTED DUE TO EXCESSIVE DENSITY DEVIATIONS IN THE FILMS TAKEN. THE CONDITIONS ARE THE RESULT OF IMMINENT DIFFICULTIES ASSOCIATED WITH RADIOGRAPHING COMPONENTS EXHIBITING ABRUPT AND EXTENSIVE CHANGES IN WALL THICKNESSES. AN INVESTIGATION DETERMINED THAT A GENERIC, INDUSTRY-WIDE DEFICIENCY IN CASTING RADIOGRAPHY DOES NOT EXIST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CODES AND STANDARDS + TEST, NONDESTRUCTIVE + RADIOGRAPHY + STRUCTURAL INTEGRITY + COMPONENTS + CONSTRUCTION + FAILURE, IMMINENT + NORTH ANNA 3 (PWR) + NORTH ANNA 4 (PWR) + PUMPS + VALVES

109254

REACTOR BUILDING ISOLATION VALVE FAILS TO CLOSE AT OCCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, JAN. 6, 1976. DUCKETS 50-209. TYPE--PWR, MFG--B&B, AE--
 DUKE

CAUSE - PAINT ON PISTON STEM. DURING REACTOR BUILDING ISOLATION TESTING WITH THE REACTOR AT 75% POWER, A PRESSURIZER SAMPLE ISOLATION VALVE FAILED TO CLOSE AS REQUIRED. AFTER SEVERAL ATTEMPTS, IT WAS SUCCESSFULLY CLOSED. THIS IS ONE OF SEVERAL ES ACTUATED VALVES THAT HAD RECENTLY BEEN PAINTED. IT IS A PISTON-OPERATED VALVE. APPARENTLY SOME PAINT HAD GOTTEN ON THE PISTON STEM PREVENTING THE VALVE FROM FUNCTIONING. AFTER THE PAINT WAS REMOVED AND THE STEM LUBRICATED, THE VALVE OPERATED NORMALLY. ALL ES VALVES WHICH HAVE BEEN RECENTLY PAINTED WILL BE INSPECTED FOR PAINT ON THE PISTON.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + SAMPLING + SURFACE, PAINTED + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + OCCONEE 1 (PWR) + VALVE OPERATIONS + VALVES

109295

BORATED WATER STORAGE TANK LEVEL INDICATION FAILS AT OCCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, JAN. 7, 1976. DUCKETS 50-209. TYPE--PWR, MFG--B&B, AE--DUKE

CAUSE - ICE IN THE IMPULSE LINES. WHILE OPERATING AT 100% POWER, BOTH CHANNELS OF THE BOST LEVEL INSTRUMENTATION FAILED WHEN MOISTURE IN THE IMPULSE LINES TO THE LEVEL TRANSMITTERS FROZE. A SHUTDOWN WAS INITIATED. A SEPARATE LINE WAS RUN TO ONE TRANSMITTER AND THE SHUTDOWN WAS TERMINATED. AN ELECTRICAL SHORT HAD OCCURRED IN ONE OF THE TRACE HEATING LINES. SINCE BOTH LINES ARE CONNECTED IN SERIES, THE OTHER LINE WAS ELECTRICALLY OPEN. THE LOW AMBIENT AIR TEMPERATURE (10 F) CAUSED MOISTURE IN THE LINES TO FREEZE. POWER FOR EACH HEAT TRACING WILL BE PROVIDED FOR AN INDEPENDENT SOURCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER + FAILURE, DESIGN ERROR + REDUNDANCE + INDEPENDENCE + REATHEN, SEVERE + OCCONEE 1 (PWR) + THEATERS + SENSORS, LEVEL

110300
 REACTOR OPERATION EXCEEDS ERROR ADJUSTED REACTOR POWER IMBALANCE LIMIT AT OCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR W/RO-209/70-1 TO U.S. NRC, REGION II, JAN. 27, 1970. DOCKET 50-209. TYPE--PWR, NRC--B&B, AE--DUKE

CAUSE - OPERATOR MISUNDERSTANDING. AS REACTOR POWER WAS BEING ESCALATED FROM 65 TO 90%, THE REACTOR POWER IMBALANCE WAS SLOWLY INCREASING. THE POSITIVE POWER IMBALANCE APPROACHED THE LIMIT SPECIFIED ON THE PERIODIC INSTRUMENT SURVEILLANCE GRAPH. THE LIMIT SPECIFIED WAS ESTABLISHED TO TAKE INTO ACCOUNT THE STATISTICAL AND INSTRUMENT ERRORS. THE OPERATOR MISUNDERSTOOD THE INTENDED USE OF THE GRAPH AND OPERATED FOR 3 HR 45 MIN OUTSIDE THE ERROR ADJUSTED POWER IMBALANCE LIMITS. EACH SHIFT SUPERVISOR HAS BEEN INSTRUCTED IN USE OF THE GRAPH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * REACTOR POWER * PERFORMANCE LIMIT * OCONEE 1 (PWR) * COMMUNICATION

111410
 ES PUMPS INCOMPABLE DUE TO SPARE BREAKER FAILURE AT OCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS. LTR W/RO-209/70-2 TO U.S. NRC, REGION II, FEB. 20, 1970. DOCKET 50-209. TYPE--PWR, NRC--B&B, AE--DUKE

CAUSE - PROCEDURE DEFICIENCY. DURING MAINTENANCE ON ES ELECTRICAL BREAKERS, SPARE BREAKERS WERE PLACED IN 3 PUMP MOTOR CIRCUITS. EACH PUMP WAS VERIFIED TO BE OPERABLE. HOWEVER, THEY WOULD NOT START THE NEXT DAY. THE SPARE BREAKERS WERE SIMILAR IN APPEARANCE TO THE ORIGINAL BUT LACKED A 220 OHM 50 WATT RESISTOR NECESSARY FOR THE BREAKER TO COMPLETELY CYCLE. THE PROCEDURE DID NOT CLEARLY IDENTIFY THE CORRECT SUBSTITUTE BREAKERS. THE ORIGINAL BREAKERS WERE REINSTALLED. A COLOR CODING SCHEME IS BEING DEVISED TO ASSURE BREAKERS ARE PROPERLY MATCHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR * PROCEDURES AND MANUALS * TEST, SYSTEM AVAILABILITY * FAILURE, ADMINISTRATIVE CONTROL * ENGINEERED SAFETY FEATURE * OCONEE 1 (PWR) * BREAKER

112300
 LIQUID WASTE DISPOSAL MONITORING DEFICIENT AT OCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 1 PGS. LTR W/RO-209/70-3 TO U.S. NRC, REGION II, MARCH 11, 1970. DOCKET 50-209. TYPE--PWR, NRC--B&B, AE--DUKE

CAUSE - EXCESSIVE BACKGROUND READINGS. DURING AN NRC/JIC INSPECTION, IT WAS DISCOVERED THAT, DUE PRIMARILY TO EXCESSIVE INSTRUMENT BACKGROUND READINGS, PROCEDURES CONCERNING LIQUID WASTE DISPOSAL DO NOT ENABLE 2 RADIATION MONITORS TO ACCURATELY MONITOR AND CONTROL EFFLUENT RELEASE. THIS IS UNDER REVIEW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT * WASTE DISPOSAL * WASTE DISPOSAL, LIQUID * OCONEE 1 (PWR) * OVEREXPOSURE, BACKGROUND * RADIATION MONITORS

113300
 ACTIVITY RELEASE EXCEEDS TECH SPEC LIMITS AT OCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR W/RO-209/70-4 TO U.S. NRC, REGION II, APRIL 21, 1970. DOCKET 50-209. TYPE--PWR, NRC--B&B, AE--DUKE

CAUSE - PROCEDURAL DEFICIENCY. IT WAS DETERMINED THAT, DUE TO A PROCEDURAL DEFICIENCY, LIQUID WASTE ACTIVITY HAD BEEN RELEASED WITH RESULTING INSTANTANEOUS CONCENTRATIONS ABOVE THE AVERAGE ANNUAL LIMITATIONS. PROCEDURE USED FOR CALCULATING AN AVERAGE MPC LIMIT WAS INCORRECT BECAUSE IT ALLOWED RELEASES TO BE MADE IN WHICH CERTAIN ISOTOPES ARE PRESENT IN CONCENTRATIONS ABOVE THEIR PRESCRIBED MPC LIMITS. THE PROCEDURE HAS BEEN CHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT * MPC * PROCEDURES AND MANUALS * RELEASE RATE * WASTE DISPOSAL * WASTE DISPOSAL, LIQUID * FAILURE, ADMINISTRATIVE CONTROL * MATHEMATICAL TREATMENT * OCONEE 1 (PWR)

113700
 CORE FLOOD TANK OVERPRESSURIZED AT OCONEE 1
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR W/RO-209/70-5 TO U.S. NRC, REGION II, APRIL 27, 1970. DOCKET 50-209. TYPE--PWR, NRC--B&B, AE--DUKE

CAUSE - ADDITION VALVE STEM FAILURE. DURING A ROUTINE ADDITION OF NITROGEN TO CORE FLOOD TANK IA WHILE OPERATING AT 80% POWER, THE NITROGEN MANUAL ADDITION VALVE FAILED IN AN OPEN POSITION. PRESSURE INCREASED ABOVE THE 625 PSIG LIMIT TO 849 PSIG BEFORE A SECOND VALVE COULD BE CLOSED. THE VALVE STEM HAD SEPARATED FROM THE VALVE DISC AND HAD NOT ALLOWED THE VALVE TO SEAT PROPERLY. ALSO, THE PRESSURE REGULATOR HAD DRIFTED ABOVE ITS SET POINT OF 625 PSIG. THE FAILED VALVE WAS

113301 *CONTINUED*

REPAIRED. SET POINT ON THE PRESSURE REGULATOR WILL BE CHECKED PRIOR TO USE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * STORAGE CONTAINER * PRESSURE, INTERNAL * OCONEE 1 (PWR) * FAILURE, INHERENT * CLAR REFLUDDING * VALVES

114301

SAMPLE VALVE IN RD PURGE SYSTEM FAILS AT OCONEE 1

DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR W/RO-209/70-6 TO U.S. NRC, REGION II, MAY 13, 1970, Docket 50-209, TYPE--PWR, NRG--BWR, AE--DUKE

CAUSE - LIMIT AND TORQUE SWITCHES FAIL. DURING TESTING WITH THE REACTOR AT 60% POWER, A CONTAINMENT ISOLATION VALVE IN THE AIR SAMPLE LINE FOR THE REACTOR BUILDING PURGE SYSTEM FAILED IN THE CLOSED POSITION AFTER BEING CYCLED FROM OPEN TO CLOSED. WHEN IT WAS OPENED TO INVESTIGATE THE PROBLEM, IT WOULD NOT RECLOSE. IT WAS ISOLATED. THE LIMIT SWITCH AND TORQUE SWITCH WERE INOPERABLE AND THE VALVE SPINDLE WAS BROKEN. THE VALVE WAS REPAIRED AND ITS OPERABILITY VERIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT PURGE * CONTAINMENT ISOLATION * SAMPLING * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * OCONEE 1 (PWR) * FAILURE, INHERENT * VALVES

114009

RC FLOW MEASUREMENT ERRORS NOT INCLUDED IN SET POINT ANALYSIS AT OCONEE 1

DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR W/RO-209/70-7 TO U.S. NRC, REGION II, MAY 17, 1970, Docket 50-209, TYPE--PWR, NRG--BWR, AE--DUKE

CAUSE - CALCULATIONAL ERROR. DURING A REVIEW OF UNIT 2 CALCULATIONAL METHODS FOR DETERMINING THE FLOW/FLOW TRIP SET POINT, IT WAS DETERMINED THAT THE UNIT 1 SET POINT HAD BEEN ESTABLISHED BASED ON THE ASSUMPTION THAT THE FLOW MEASUREMENT ERRORS WERE CALIBRATED OUT OF THE SYSTEM. THE CALCULATION DID NOT INCLUDE AN ALLOWANCE FOR POSSIBLE ERRORS. A RE-ANALYSIS OF THE UNIT 2 TRIP SET POINT TAKING INTO ACCOUNT POSSIBLE ERRORS INDICATED THE PRESENT SET POINT TO BE CONSERVATIVE. NO CORRECTIVE ACTION IS REQUIRED FOR UNIT 1 SET POINT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MEASUREMENT * REACTOR PROTECTION SYSTEM * FAILURE, ADMINISTRATIVE CONTROL * MAIN COOLING SYSTEM * MATHEMATICAL TREATMENT * FLOW * SET POINT * OCONEE 1 (PWR)

115000

REACTOR SHUTDOWN STATION INADVERTENTLY OFF LINE AT OCONEE 1

DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR W/RO-209/70-9 TO U.S. NRC, REGION II, JUNE 23, 1970, Docket 50-209, TYPE--PWR, NRG--BWR, AE--DUKE

CAUSE - ANALYZER CONNECTED IMPROPERLY. WITH UNITS 1 AND 3 AT FULL POWER AND UNIT 2 IN REFUELING SHUTDOWN, REACTOR 1 WAS TAKEN OUT OF SERVICE FOR ELECTRICAL BREAKER PREVENTATIVE MAINTENANCE. IN THE PROCESS OF TESTING THE BREAKER, REACTOR 2 BREAKER TRIPPED SEPARATING UNIT 2 FROM THE FEEDER CIRCUIT. THIS OCCURRED TWICE. EACH TIME IT WAS OUT OF SERVICE FOR ABOUT 1.5 MINUTES. THE ANALYZER USED TO TEST THE UNIT 1 BREAKER WAS MISTAKENLY CONNECTED TO A 110 VAC SOURCE ON THE BREAKER RATHER THAN TO THE FUSED POSITIVE BATTERY CONNECTION. PROCEDURES WERE REVISED TO MEASURE OPERATING TERMINAL VOLTAGES BEFORE CONNECTING EQUIPMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D.C. 20545

EMERGENCY POWER, ELECTRIC * MAINTENANCE AND REPAIR * TESTING * FAILURE, MAINTENANCE ERROR * OCONEE 1 (PWR) * BREAKER

115071

REACTIVITY BALANCE PROCEDURE DOES NOT CONFORM WITH PSAR AT OCONEE 1

DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR W/RO-209/70-11 TO U.S. NRC, REGION II, JULY 7, 1970, Docket 50-209, TYPE--PWR, NRG--BWR, AE--DUKE

CAUSE - PROCEDURAL DEFICIENCY. FOLLOWING A REVIEW OF THE REACTIVITY BALANCE PROCEDURES CURRENTLY IN USE, IT WAS IDENTIFIED THAT THE SHUTDOWN MARGIN CALCULATION PROCEDURE TO DETERMINE THE SUBCRITICALITY MARGIN WHEN THE REACTOR IS SHUTDOWN DID NOT PROVIDE FOR EXCLUDING THE REACTIVITY BIRTH OF THE MOST REACTIVE CONTROL ROD FROM THE REACTIVITY BIRTH OF THE INSERTED CONTROL RODS AS REQUIRED BY THE PSAR. THE CAUSE WAS A DEFICIENCY IN THE PREPARATION, REVIEW, AND APPROVAL PROCESS FOR APPLICABLE PROCEDURE. THE PROCEDURE WAS REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * SHUTDOWN MARGIN * FAILURE, ADMINISTRATIVE CONTROL * MATHEMATICAL TREATMENT * OCONEE 1 (PWR)

115872

KEOWEE 1 UNAVAILABLE TO OVERHEAD LINE AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR #/NO-269/78-8 TO U.S. NRC, REGION II, JULY 7, 1978. DOCKET 50-209, TYPE--PWR, NRC--DLG, AE--DURE

CAUSE - BEARING FAILURE. FOLLOWING ROUTINE PRELATIVE MAINTENANCE ON KEOWEE 1 AIR CIRCUIT BREAKER, THE OPEN/CLOSE INDICATOR FLAG WAS FOUND TO BE HITTING A NUT ON THE LINKAGE ARM. IT AND THE LINKAGE ARM WERE STRAIGHTENED. LATER, THE FIELD BREAKER AND SUPPLY BREAKER FAILED TO TRIP WHEN ACB WAS TRIPPED. THE LINKAGE ARM TO THE AUXILIARY SWITCH WAS BENT AND THE INDICATOR FLAG JAMMED THROUGH THE BEND OF THE FLAG HOUSING. WHEN THE FLAG WAS BENT AWAY FROM THE NUT, IT THEN STRUCK THE HOUSING WHICH CAUSED ADDITIONAL BENDING. THE END OF THE FLAG WAS CUT OFF. A NEW LINKAGE ARM WAS MADE AND INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC + ELECTRIC POWER + FAILURE, MAINTENANCE ERROR + OCONEE 1 (PWR) + BREAKER

115873

KEOWEE 1 REMOVED FROM SERVICE DUE TO CLOGGED OIL STRAINER AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR #/NO-269/78-10 TO U.S. NRC, REGION II, JULY 9, 1978. DOCKET 50-209, TYPE--PWR, NRC--DLG, AE--DURE

CAUSE - LEAKING HEAT EXCHANGER. WHILE KEOWEE HYDRO UNIT 1 WAS OPERATING TO SUPPLY SYSTEM LOAD, MULTIPLE ALARMS RELATED TO THE OIL SYSTEM WERE RECEIVED. AN OIL STRAINER WAS CLOGGED WITH A WATER/OIL MIXTURE WHICH PREVENTED FLOW TO THE BEARING OIL PUMPS. THE UNIT WAS REMOVED FROM SERVICE FOR 13 MINUTES TO CLEAN THE FILTER. THE NEXT DAY, THE UNIT WAS REMOVED FROM SERVICE FOR 2 HOURS TO CHANGE OIL. A HEAT EXCHANGER IN THE TURBINE BEARING OIL SYSTEM WAS LEAKING, ALLOWING WATER TO MIX WITH THE OIL. IT WAS BYPASSED UNTIL A NEW STAINLESS STEEL UNIT CAN BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC + FAILURE, EQUIPMENT + LUBRICATION + LEAK + TURBINE + BEARING + OCONEE 1 (PWR) + FAILURE, INCIDENT + HEAT EXCHANGERS + FILTERS

116261

RADIOACTIVITY IN COMPONENT COOLING SYSTEM INCREASES AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR #/NO-269/78-12 TO U.S. NRC, REGION II, JULY 21, 1978. DOCKET 50-209, TYPE--PWR, NRC--DLG, AE--DURE

CAUSE - LEAK IN LETDOWN COOLER. ROUTINE RADIOCHEMISTRY MONITORING REVEALED AN INCREASING LEVEL OF RADIOACTIVITY IN THE COMPONENT COOLING SYSTEM. BY ISOLATING LETDOWN COOLERS SIMILY, THE SOURCE OF RADIOACTIVITY WAS IDENTIFIED AS LETDOWN COOLER A FROM WHICH PRIMARY COOLANT LEAKED INTO THE CCS. THE COOLER WAS ISOLATED. IT WILL BE REPAIRED OR REPLACED DURING THE NEXT OUTAGE OF SUFFICIENT DURATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + REACTOR COOLANT + COOLANT PURIFICATION SYSTEM + LEAK + COMPONENT COOLING SYSTEM + OCONEE 1 (PWR) + CONCENTRATION + HEAT EXCHANGERS

117899

SUPPLEMENTAL INFORMATION ON TRANSMISSION LINE TRIPS AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
1 PG. LTR #/NO-269/78-13 TO U.S. NRC, REGION II, AUG. 16, 1978. DOCKET 50-209, TYPE--PWR, NRC--DLG, AE--DURE

CAUSE - INDUCED VOLTAGE SPIRES. AS REPORTED EARLIER, KEOWEE HYDRO STATION 2 WAS INADVERTENTLY SEPARATED FROM THE UNDERGROUND AND OVERHEAD TRANSMISSION LINES. INVESTIGATION INDICATED THAT ONE PROBABLE CAUSE WAS THE RESULT OF INDUCED VOLTAGE SPIRES OCCURRING IN THE KEOWEE CONTROL CIRCUIT WIRING AND THE KEOWEE SECURITY SYSTEM WIRING. THE SECURITY SYSTEM WIRING USES CONDUCTORS IN THE CABLING TO THE ELECTRICAL SWITCHGEAR AND BREAKERS. THE CLOSE PROXIMITY OF THE WIRING RESULTED IN INDUCED VOLTAGE SPIRES. ALSO, THE CONTROL CIRCUIT WIRING WAS NOT ELECTRICALLY TERMINATED IN THE BEST MANNER TO PREVENT STRAY VOLTAGE SPIRES. CORRECTIVE ACTION WAS TAKEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER + FAILURE, INSTALLATION ERROR + OCONEE 1 (PWR) + CABLES AND CONNECTORS + POWER TRANSMISSION + BREAKER

118205

REACTOR BUILDING PURGE VALVE FOUND INOPERABLE AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR #/NO-269/78-14 TO U.S. NRC, REGION II, SEPT. 4, 1978. DOCKET 50-209, TYPE--PWR, NRC--DLG, AE--DURE

CAUSE - RUPTURED DIAPHRAGM IN CONTROL. PRIOR TO PURGING THE REACTOR BUILDING WHILE OPERATING

118295 (CONTINUED)

AT 75% POWER, THE VALVE, WHICH IS LOCATED OUTSIDE THE REACTOR BUILDING IN THE PUMPLE PIPING, WAS DISCOVERED TO BE IN THE INTERMEDIATE POSITION AND COULD NOT BE CYCLED TO FULL-OPEN OR FULL-CLOSED. THE EMMASTEN IN THE AIR SUPPLY TO THE VALVE, WHICH REMOVES AIR WHEN THE VALVE IS CLOSED, CONTAINED A RUPTURED DIAPHRAGM RESULTING IN INSUFFICIENT AIR PRESSURE TO ACTIVATE THE VALVE. THE VALVE WAS REPAIRED AND ITS OPERABILITY VERIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT PURGE * CONTAINMENT ISOLATION * CONTROL * PNEUMATIC SYSTEM * OCONEE 1 (PWR) * FAILURE, INHERENT * VALVE OPERATORS * VALVES

119449

230 KV YELLOW BUS ISOLATED DURING ELECTRICAL BREAKER TESTING AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-249/76-15 TO U.S. NRC, REGION II, OCT. 25, 1976. DOCKET 50-269. TYPE--PWR, RFG--B60, AE--DUKE

CAUSE - LOGIC MODULE FAILURE. DURING TESTING OF ELECTRICAL BREAKER PWR-30 CIRCUITS FOLLOWING A STATION MODIFICATION WITH THE REACTOR AT 100% POWER, THE BREAKER FAILURE RELAY MALFUNCTIONED ISOLATING THE 230 KV YELLOW BUS. THE LOGIC MODULE OF THE SOLID STATE BREAKER FAILURE RELAY FAILED. THE DEFECTIVE LOGIC MODULE WAS REPLACED AND THE RELAY SUCCESSFULLY TESTED. NORMAL CONDITIONS WERE RESTORED WITHIN 32 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * SOLID STATE DEVICE * ELECTRIC POWER * TEST, SYSTEM OPERABILITY * OCONEE 1 (PWR) * FAILURE, INHERENT * BREAKER * ELECTAGNIC FUNCTION UNITS

119705

POWER LEVEL INADVERTENTLY INCREASED ABOVE CUTOFF LIMIT AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-249/76-16 TO U.S. NRC, REGION II, NOV. 10, 1976. DOCKET 50-269. TYPE--PWR, RFG--J60, AE--DUKE

CAUSE - FEEDWATER TRANSIENT. THE REACTOR WAS OPERATING BELOW THE POWER LEVEL CUTOFF VALUE OF 92.5% POWER WHILE ADAPTING Xenon REACTIVITY CONDITIONS REQUIRED BY TECH SPECS. WHILE AT 95% POWER, A FEEDWATER HEATER WHICH HAD BEEN ISOLATED FOR MAINTENANCE WAS PLACED INTO SERVICE. THIS RESULTED IN A FEEDWATER TRANSIENT WHICH CAUSED A REACTOR POWER INCREASE OF 8%, EXCEEDING THE CUTOFF LIMIT BY 0.5%. THE OPERATOR PROMPTLY REDUCED POWER AT 15 MW/MIN. A PROCEDURE CHANGE WILL BE IMPLEMENTED WHICH WILL REQUIRE POWER TO BE REDUCED BY A MINIMUM OF 10% BELOW CUTOFF WHEN THE REACTOR IS IN A TRANSIENT Xenon CONDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCONEE 1 (PWR) * REACTOR POWER * FEEDWATER * TRANSIENT * FAILURE, INHERENT * Xenon

120214

PRIMARY-TO-SECONDARY SYSTEM LEAKAGE OCCURS AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-249/76-17 TO U.S. NRC, REGION II, NOV. 15, 1976. DOCKET 50-269. TYPE--PWR, RFG--B60, AE--DUKE

CAUSE - CRACK IN STEAM GENERATOR TUBE. WHILE OPERATING AT 100% POWER, AN ALARM WAS RECEIVED ON THE AIR EJECTOR OFF-GAS MONITOR. CHECKING CONFIRMED THAT PRIMARY-TO-SECONDARY LEAKAGE WAS OCCURRING IN ONCE-THROUGH STEAM GENERATOR IA. A REACTOR SHUTDOWN WAS INITIATED. IT WAS COMPLETED WITHIN 7 HOURS. A TUBE WAS DISCOVERED TO HAVE A LONGITUDINAL CRACK NEAR THE INTERFACE OF THE TUBE WITH THE BOTTOM OF THE UPPER TUBE SHEET. THE CRACK EXTENDED 150 TO 180 DEGREES OF THE CIRCUMFERENCE. A QUESTIONABLE SIGNAL WAS OBTAINED ON 1 OF 15 OTHER TUBES INSPECTED. BOTH TUBES WERE PLUGGED. THE CAUSE OF CRACKING IS UNDETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCONEE 1 (PWR) * TUBING * STEAM GENERATOR * LEAK * MAIN COOLING SYSTEM * COOLING SYSTEM, SECONDARY * CRACK * FAILURE, TUBING * FAILURE, INHERENT * REACTOR SHUTDOWN

120537

VENT PARTICULATE MONITOR INOPERABLE DURING GASEOUS WASTE RELEASE AT OCONEE 1
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-249/76-18 TO U.S. NRC, REGION II, DEC. 6, 1976. DOCKET 50-269. TYPE--PWR, RFG--B60, AE--DUKE

CAUSE - BURNED OUT CAPACITOR. WITH THE REACTOR IN COLD SHUTDOWN, A ROUTINE CONTROLLED GASEOUS WASTE RELEASE WAS MADE FROM GASEOUS WASTE DECAY TANK 10 TO THE VENT. THE NEXT DAY PARTICULATE MONITOR RIA-43 WAS FOUND INOPERABLE DUE TO A BURNED OUT CAPACITOR IN THE LOG-HATE WELCH CAM. THE MONITOR IS CHECKED DAILY BUT ITS OPERABILITY WAS NOT VERIFIED PRIOR TO THE RELEASE. THE BURNED OUT CAPACITOR WAS REPLACED. PROCEDURES WERE CHANGED TO INCLUDE VERIFICATION OF MONITOR OPERABILITY.

120537 OCJTNHJJP
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

UCJNCE 1 (PWR) * MCNTON * OPERATOR * GAS * WASTE DISPOSAL * WASTE DISPOSAL * GAS * PARTICLES, RADIOACTIVE *
 FAILURE, OPERATOR ERROR * FAILURE, INSTRUMENT

120650
 PRIMARY TO SECONDARY SYSTEM LEAK OCCURS IN STEAM GENERATOR AT UCJNCE 1
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/RT TO U.S. NRC, REGION II, DEC. 22, 1976, DOCKET 50-209, TYPE--PWR, NRC--060, AE--DUKE

CAUSE - TUBE FAILURE. WHILE OPERATING AT 100% POWER, AN INCREASE IN RADIATION LEVELS AS REGISTERED
 ON AIN EJECTION MONITOR INDICATED A POSSIBLE PRIMARY-TO-SECONDARY SYSTEM LEAK. SAMP NG AND
 MONITORING SHOWED THE LEAK TO BE IN ONCE-THROUGH STEAM GENERATOR 10. THE REACTOR WAS SHUT DOWN.
 EDDY CURRENT TESTING IDENTIFIED TUBE 100 IN ROW 11A TO BE LEAKING. THE LEAK WAS NEAR THE
 INTERFACE OF THE TUBE WITH THE SECOND SUPPLY PLATE FROM THE UPPER TUBE SHEET. BECAUSE THE FIBER
 OPTICS PROBES CAN NOT EXTEND TO THIS DEPTH, THE EXACT NATURE OF THE DEFECT COULD NOT BE
 DETERMINED. THE FAILED TUBE AND 2 OTHERS WITH POSSIBLE DEFECTS WERE PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

UCJNCE 1 (PWR) * TUBING * STEAM GENERATOR * LEAK * FAILURE, TUBING * AIRBORNE RELEASE * CONTAINMENT
 INTEGRITY * REACTOR SHUTDOWN

189451
 TRITIUM LEVEL IN SAMPLES EXCEED FOUR TIMES THE CONTROL LEVEL AT UCJNCE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/RT TO U.S. NRC, REGION II, JAN. 5, 1976, DOCKETS 50-209/270/207, TYPE--PWR, NRC--060, AE--DUKE

CAUSE - WASTE DISPOSAL. ANALYTICAL RESULTS OF COMPOSITE WATER SAMPLES COLLECTED OVER THE PERIOD
 JULY 1 TO SEPTEMBER 30, 1975 AND A MILK SAMPLE COLLECTED ON OCTOBER 7, 1975 INDICATED TRITIUM
 CONCENTRATIONS GREATER THAN FOUR TIMES THE CONTROL LEVEL. THE AVERAGE TRITIUM CONCENTRATION IN
 EFFLUENT RELEASED FROM THE RESTRICTED AREA WAS WELL WITHIN RELEASE LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

EFFLUENT * TRITIUM * WASTE DISPOSAL * RADIOACTIVITY RELEASE * MONITORING PROGRAM, ENVIRONMENTAL * UCJNCE 1
 (PWR) * CONCENTRATION * FAILURE, IMPURENT * UCJNCE 3 (PWR) * UCJNCE 2 (PWR)

111256
 PH OF YARD DRAINS EXCEED LIMIT AT UCJNCE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 1 PG, LTR W/RT TO U.S. NRC, REGION II, FEB. 19, 1976, DOCKETS 50-209/270/207, TYPE--PWR, NRC--060, AE--DUKE

CAUSE - PROCEDURE DEFICIENCY. THE LOWER SETTLING BASIN LEVEL WAS LOWERED AND DRAINAGE FROM THE
 STEAM GENERATOR PUMPED TO IT. A SAMPLE OF THE YARD DRAINS INDICATED A PH OF 9.2 WHICH EXCEEDS
 THE LIMIT. THE LOWER BASIN DISCHARGE VALVE WAS SHUT AND THE BASIN WAS RECEIVING A CONSTANT INLET
 FLOW WHICH WAS OVERFLOWING THE SPILLWAY. THE INLET VALVE TO THE UPPER BASIN WAS OPENED AND THE
 INLET VALVE TO THE LOWER BASIN WAS CLOSED. PROCEDURE FOR OPERATING THE WASTE WATER COLLECTION
 BASINS WILL BE MODIFIED TO PREVENT RECURRENCE. IN LINE PH MONITORING WILL BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

EFFLUENT * PROCEDURES AND MANUALS * WASTE HANDLING * WATER QUALITY * FAILURE, ADMINISTRATIVE CONTROL *
 MONITORING PROGRAM, ENVIRONMENTAL * UCJNCE 1 (PWR) * CONCENTRATION * UCJNCE 3 (PWR) * UCJNCE 2 (PWR)

112375
 PH OF YARD DRAIN SAMPLE EXCEEDS LIMITS AT UCJNCE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/RT TO U.S. NRC, REGION II, MARCH 23, 1976, DOCKETS 50-209/270/207, TYPE--PWR, NRC--060, AE--DUKE

CAUSE - CAUSTIC STORAGE TANK OVERFILLED. FOLLOWING REGENERATION OF MAKE-UP DEMINERALIZER A, THE
 CALSTIC DAY TANK WAS REFILLED FROM THE CAUSTIC STORAGE TANK THROUGH A MANUALLY OPERATED VALVE.
 THIS VALVE WAS LEFT OPEN TOO LONG ALLOWING THE DAY TANK TO OVERFILL. THIS RESULTED IN THE PH OF
 THE YARD DRAIN EXCEEDING THE 8.5 LIMIT. THE MAXIMUM VALUE WAS 9.0. THE DISCHARGE VALVE FROM THE
 YARD DRAIN WAS CLOSED UNTIL CONDITIONS WERE BROUGHT INTO LIMITS. NO OBSERVABLE EFFECT OCCURRED
 TO THE ENVIRONMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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EFFLUENT * FAILURE, OPERATOR ERROR * WATER QUALITY * UCJNCE 1 (PWR) * CONCENTRATION * UCJNCE 3 (PWR) *
 UCJNCE 2 (PWR)

113532

MEASURED LEVELS OF RADIOACTIVITY EXCEEDS 10 TIMES CONTROL AT OCONEE 1, 2, AND 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/W/PT TO U.S. NRC, REGION II, MARCH 31, 1976. DOCKETS 50-269/270/287. TYPE--PWR, RFG--BLU, AE--DUKE

CAUSE - CALCULATIONAL ERROR FOR RELEASE RATE. SEMIANNUAL ANALYTICAL RESULTS OF BOTTOM SEDIMENT AND AQUATIC VEGETATION SAMPLES COLLECTED ON FEB. 17, 1976 EXCEEDED THE CONTROL LEVEL BY GREATER THAN 4 TIMES BUT LESS THAN 10 TIMES. CALCULATED CONCENTRATIONS, BASED ON EFFLUENT RELEASES, ARE GREATER THAN THOSE ACTUALLY DETERMINED BY LABORATORY ANALYSIS. TAILWATER CONCENTRATIONS WERE HIGH DUE TO AN ERROR IN THE METHOD OF CALCULATING RELEASE RATES AS REPORTED EARLIER. THE METHOD HAS BEEN CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + RELEASE RATE + SURFACE WATER, SEDIMENT + FAILURE, ADMINISTRATIVE CONTROL + MATHEMATICAL TREATMENT + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + CONCENTRATION + AQUATIC ORGANISM + SEDIMENT + OCONEE 2 (PWR) + OCONEE 3 (PWR)

113534

MEASURED LEVEL OF RADIOACTIVITY IN WATER EXCEEDS 4 TIME CONTROL AT OCONEE 1, 2, AND 3
DUKE POWER CO., CHARLOTTE, NC
1 PG. LTR D/W/PT TO U.S. NRC, REGION II, APRIL 2, 1976. DOCKETS 50-269/270/287. TYPE--PWR, RFG--BLU, AE--DUKE

CAUSE - STATISTICAL FLUCTUATION. A MEASURED LEVEL OF RADIOACTIVITY OF A WELL WATER SAMPLE COLLECTED ON JAN. 8, 1976 EXCEEDED THE CONTROL LEVEL BY GREATER THAN 4 TIMES BUT LESS THAN 10 TIMES. IT IS CONSIDERED THAT THESE RESULTS ARE DUE TO THE STATISTICAL FLUCTUATION OF NATURALLY OCCURRING RADIONUCLIDES SINCE OCONEE DOES NOT MAKE ANY GROUND RELEASES OF RADIONUCLIDES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

GROUND WATER + RADIOACTIVITY RELEASE + RADIOISOTOPE + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + COMPOSITION + FAILURE, INHERENT + OCONEE 2 (PWR) + OCONEE 3 (PWR)

113535

RADIOACTIVITY EXCEEDS CONTROL LEVEL IN FIVE WATER SAMPLES AT OCONEE 1, 2, AND 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/W/PT TO U.S. NRC, REGION II, APRIL 16, 1976. DOCKETS 50-269/270/287. TYPE--PWR, RFG--BLU, AE--DUKE

CAUSE - MISCALCULATION OF RELEASE RATES. SAMPLES TAKEN OF RIVER WATER AND AQUATIC VEGETATION EXCEEDED THE CONTROL STATION VALUE BY GREATER THAN A FACTOR OF 4. TECH SPEC LIMITS WERE NOT EXCEEDED. THERE WAS A PROCEDURAL ERROR IN THE METHOD FOR CALCULATING EFFLUENT RELEASE RATES FOR CORROSION AND FISSION PRODUCTS. THIS HAS BEEN CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + PROCEDURES AND MANUALS + RELEASE RATE + WASTE DISPOSAL + WASTE DISPOSAL, LIQUID + RADIOACTIVITY RELEASE + FAILURE, ADMINISTRATIVE CONTROL + OCONEE 1 (PWR) + CONCENTRATION + OCONEE 2 (PWR) + OCONEE 3 (PWR)

113532

MEASURED LEVEL OF RADIOACTIVITY EXCEEDS 10 TIMES LIMIT AT OCONEE 1, 2, AND 3
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/W/PT TO U.S. NRC, REGION II, APRIL 30, 1976. DOCKETS 50-269/270/287. TYPE--PWR, RFG--BLU, AE--DUKE

CAUSE - CALCULATIONAL ERROR FOR RELEASE RATES. RADIOACTIVITY CONCENTRATIONS IN WATER SAMPLES ARE DEPENDENT UPON THE CORROSION AND FISSION PRODUCT CONCENTRATION IN LIQUID EFFLUENTS. WATER SAMPLES COLLECTED ON A MONTHLY FREQUENCY FROM MARCH 2 THROUGH MARCH 31, 1976 HAD MEASURED CONCENTRATIONS IN EXCESS OF 10 TIMES THE CONTROL DUE TO THE PREVIOUSLY REPORTED ERROR IN THE METHOD FOR CALCULATING EFFLUENT RELEASE RATES. THE METHOD HAS BEEN CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + RELEASE RATE + SURFACE WATER + FAILURE, ADMINISTRATIVE CONTROL + MATHEMATICAL TREATMENT + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + CONCENTRATION + OCONEE 2 (PWR) + OCONEE 3 (PWR)

114624

MEASURED LEVELS OF RADIOACTIVITY EXCEED TEN TIMES CONTROL AT OCONEE 1, 2, AND 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/W/PT TO U.S. NRC, REGION II, MAY 19, 1976. DOCKETS 50-269/270/287. TYPE--PWR, RFG--BLU, AE--DUKE

CAUSE - WASTE DISPOSAL. ANALYTICAL RESULTS OF SURFACE WATER SAMPLES COLLECTED FOR JANUARY AND COMPOSITE WAYER SUPPLY SAMPLES COLLECTED IN JANUARY AND FEBRUARY EXCEED CONTROL STATION BY 10 TIMES IN SOME SAMPLES AND ARE BETWEEN 4 AND 10 TIMES IN OTHER CASES. DURING THE 2 MONTH PERIOD, 820 CG OF TRITIUM WERE RELEASED. THE CONCENTRATION WAS WITHIN THE STATION OBJECTIVE CONCENTRATION AND WELL BELOW THE SPECIFIED QUARTERLY AVERAGE CONCENTRATION.

114024 CONTINUED
 AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + RIVER + SURFACE WATER + TRITIUM + WASTE DISPOSAL + WASTE DISPOSAL, LIQUID + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + CONCENTRATION + FAILURE, INHERENT + OCONEE 3 (PWR) + OCONEE 2 (PWR)

115037
 RADIOACTIVITY LEVEL EXCEEDS CONTROL LEVEL AT OCONEE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/RT TO U.S. NRC, REGION II, JUNE 8, 1976, DOCKETS 50-269/270/287, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - WASTE DISPOSAL. ANALYTICAL RESULTS OF SURFACE WATER SAMPLES COLLECTED ON A MONTHLY FREQUENCY FOR MARCH AND APRIL AND COMPOSITE WATER SUPPLY SAMPLES COLLECTED IN MARCH SHOWED THAT THE MEASURED LEVEL OF RADIOACTIVITY EXCEEDED THE CONTROL LEVEL BY GREATER THAN 10 TIMES. THE AVERAGE CONCENTRATIONS IN LIQUID EFFLUENTS WERE WITHIN THE OBJECTIVE CONCENTRATIONS. THE DOSE ESTIMATE FOR ANY INDIVIDUAL CONSUMING THE DRINKING WATER FOR A YEAR WOULD BE LESS THAN 0.32 OF THE GCSL FROM NATURAL BACKGROUND.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + SURFACE WATER + WASTE DISPOSAL + WATER, DRINKING + WATER QUALITY + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + CONCENTRATION + FAILURE, INHERENT + OCONEE 3 (PWR) + OCONEE 2 (PWR)

115056
 USE OF SOLID LAUNDRY DETERGENT EXCEEDS LIMIT AT OCONEE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 1 PGS, LTR W/RT TO U.S. NRC, REGION II, JUNE 9, 1976, DOCKETS 50-269/270/287, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - HIGHER THAN EXPECTED QUANTITY OF LAUNDRY. DURING THE MONTHLY BULK CHEMICAL INVENTORY, IT WAS NOTED THAT THE TOTAL USAGE OF SOLID LAUNDRY FOR THIS YEAR THROUGH MAY WAS 3625 POUNDS, EXCEEDING 2700 POUNDS PER YEAR LIMIT. IN FEBRUARY, A MODIFICATION WAS COMPLETED ALLOWING SEGREGATION OF LAUNDRY WASTES FROM OTHER RADIOACTIVE WASTES. CONTAMINATED LAUNDRY HAD BEEN SENT OFF-SITE FOR PROCESSING PRIOR TO THIS. IT IS NOW BEING PROCESSED ON SITE. ALSO, HANDBOOK REQUIREMENTS ARE LARGER THAN INITIALLY ANTICIPATED. DISCHARGE LIMITS ARE BEING REEVALUATED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OPERATING EXPERIENCE + OCONEE 1 (PWR) + EFFLUENT, CHEMICAL + FAILURE, INHERENT + OCONEE 3 (PWR) + OCONEE 2 (PWR)

116280
 EFFLUENT RADIOACTIVITY LEVEL EXCEEDS CONTROL LEVEL AT OCONEE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/RT TO U.S. NRC, REGION II, JULY 28, 1976, DOCKETS 50-269/270/287, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - ROUTINE WASTE DISPOSAL. ANALYTICAL RESULTS OF COMPOSITE SURFACE WATER SAMPLES COLLECTED IN APRIL AND MAY 1976 INDICATED CONCENTRATIONS GREATER THAN 10 TIMES THE CONTROL LEVEL AT 2 POINTS AND GREATER THAN 4 TIMES BUT LESS THAN 10 TIMES AT 1 POINT. FOR APRIL AND MAY, A TOTAL OF 231 CURIES OF TRITIUM WAS RELEASED. THE AVERAGE CONCENTRATION DID NOT EXCEED THE STATION'S OBJECTIVE.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT + SURFACE WATER + TRITIUM + WASTE DISPOSAL + WASTE DISPOSAL, LIQUID + MONITORING PROGRAM, ENVIRONMENTAL + OCONEE 1 (PWR) + CONCENTRATION + FAILURE, INHERENT + OCONEE 3 (PWR) + OCONEE 2 (PWR)

120444
 RADIOACTIVITY IN EFFLUENT EXCEEDS CONTROL LEVEL AT OCONEE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/RT TO U.S. NRC, REGION II, NOV. 17, 1976, DOCKETS 50-269/270/287, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - TRITIUM RELEASES. MEASURED LEVELS OF RADIOACTIVITY IN COMPOSITE WATER SUPPLY SAMPLES COLLECTED IN JULY, AUGUST, AND SEPTEMBER 1976 EXCEEDED THE CONTROL LEVELS BY GREATER THAN FOUR TIMES BUT LESS THAN TEN TIMES. THERE WERE 459 CURIES OF TRITIUM RELEASED FROM THE STATION DURING THIS PERIOD. DOSE ESTIMATES FOR ANY INDIVIDUAL CONSUMING THIS WATER IS 0.18 MREM/YR ASSUMING THE INITIAL CONCENTRATION REMAINS AT THIS LEVEL.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCONEE 1 (PWR) + OCONEE 2 (PWR) + OCONEE 3 (PWR) + CONCENTRATION + TRITIUM + EFFLUENT + WATER, DRINKING + DOSE CALCULATION, INTERNAL + WASTE DISPOSAL + WASTE DISPOSAL, LIQUID + MONITORING PROGRAM, ENVIRONMENTAL

110722
 MEASURED RADIATION LEVEL EXCEEDS CONTACT LEVEL BY MORE THAN 10 TIMES AT UCUNLE 1, 2, AND 3
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS. LTR W/PRO-270/70-1 TO U.S. NRC, REGION II, DEC. 20, 1970. DCKET 50-269/270/207. TYPE--PM, MFG--DLO, AC--DUAL

CAUSE - DOSIMETER NOT LOCATED PROPERLY. ANALYTICAL RESULTS OF THERMOLUMINESCENT DOSIMETERS IN THE FIELD FROM JUNE 22 TO SEPT. 21, 1970 WERE RECEIVED. RESULTS FROM ONE LOCATION EXCEEDED CONTACT LEVEL BY MORE THAN 10 TIMES. THIS LOCATION IS 60 FEET FROM THE DONATED WATER STORAGE TANK. DURING UNIT 1 REFUELING, THE AREA ADJACENT TO THE TANK WAS MAPPED OFF BECAUSE OF INCREASED RADIATION LEVEL BUT THE DOSIMETER WAS NOT MOVED TO THE EDGE OF THE RESTRICTED ZONE. THEREFORE, THE READING DOES NOT REFLECT CONDITIONS AT THE EDGE OF THE RESTRICTED AREA.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

UCUNEE 1 (PM) + UCUNEE 2 (PM) + UCUNEE 3 (PM) + DOSIMTRY + MONITORING PROGRAM, ENVIRONMENTAL + DUSE MEASUREMENT, EXTERNAL + FAILURE, ADMINISTRATIVE CONTROL + POPULATION EXPOSURE

109450
 UNIDENTIFIED REACTOR COOLANT LEAKAGE EXCEEDS LIMIT AT UCUNEE 2
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR W/PRO-270/70-1 TO U.S. NRC, REGION II, JAN. 22, 1970. DCKET 50-270. TYPE--PM, MFG--DLO, AC--DUAL

CAUSE - PACKING LEAK IN INSTRUMENT VALVE. WHILE OPERATING AT 100% POWER, SURVEILLANCE TESTING DETERMINED THAT THE UNIDENTIFIED REACTOR COOLANT LEAKAGE WAS ABOUT 3 GPM, EXCEEDING THE 1 GPM LIMIT. WHEN THE LEAKAGE WAS DETERMINED TO BE WITHIN AN AREA INACCESSIBLE DURING REACTOR OPERATION, A REACTOR SHUTDOWN WAS INITIATED. A PACKING LEAK WAS FOUND IN AN UPPER INSTRUMENT ROOT VALVE TO A PRESSURIZER LEVEL TRANSMITTER. THE TRANSMITTER WAS ISOLATED AND THE LEAKING ROOT VALVE WAS CLOSED TO STOP THE LEAKAGE. THE VALVE PACKING WILL BE REPLACED DURING A SUBSEQUENT REACTOR OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TEST, LEAK RATE + PRESSURIZER + TEST, SYSTEM OPERABILITY + SEAL + MAIN COOLING SYSTEM + PLEAK RATE + REACTOR SHUTDOWN + FAILURE, INHERENT + UCUNEE 2 (PM) + VALVES + SENSORS, LEVEL

110306
 LPI5 VALVES FOUND TO BE MANUALLY INOPERABLE AT UCUNEE 2
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS. LTR W/PRO-270/70-22 TO U.S. NRC, REGION II, FEB. 5, 1970. DCKET 50-270. TYPE--PM, MFG--DLO, AC--DUAL

CAUSE - TONGUE SWITCH SET IMPROPERLY. WHILE OPERATING AT 100% POWER, TESTING OF THE LOW PRESSURE INJECTION MANDER ISOLATION VALVES DETERMINED THAT 2 VALVES COULD NOT BE OPENED MANUALLY. THE TONGUE SWITCH ON THE VALVE MOTOR CONTROLLER HAD BEEN SET TOO HIGH. ALSO, THE BRAKE RELEASE BUTTONS ON ONE VALVE WERE JAMMED PREVENTING THE OPERATOR FROM ENGAGING THE MANUAL MANDRELL. TONGUE SWITCH SETTING ON BOTH VALVES WAS PROPERLY ADJUSTED AND THE BRAKE RELEASE MECHANISM WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + SET POINT + UCUNEE 2 (PM) + VALVE OPERATORS + VALVES + RPLCI

110307
 CONTROL ROD 3 OF GROUP B MISALIGNED AT UCUNEE 2
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR W/PRO-270/70-2 TO U.S. NRC, REGION II, FEB. 5, 1970. DCKET 50-270. TYPE--PM, MFG--DLO, AC--DUAL

CAUSE - BLOWN FUSE. AN INVESTIGATION OF AN ASYMMETRIC CONDITION WHICH APPEARED TO EXIST ON ROD 1 OF GROUP B LED TO THE CONCLUSION THAT THE ROD HAD AN ERRATIC POSITION INDICATION TUBE. REACTOR POWER WAS THEN INCREASED FROM 60% TO 60% FULL POWER. THEN, A BLOWN FUSE WAS FOUND IN ROD 3 GROUP B PHASE BU. THIS CAUSED THE ROD TO DRIVE IN OR OUT AT ONE HALF THE SPEED OF THE REMAINING RODS IN THE GROUP. THUS THE REACTOR HAD BEEN OPERATED ABOVE 60% POWER FOR 1.5 HOURS WITH A ROD MISALIGNED. THE FUSE WAS REPLACED. ON ALL OTHER ROD GROUPS, A BLOWN FUSE WILL TRIP THE ROD WHEN ATTEMPTING TO DRIVE IT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE + FAILURE, INSTRUMENT + FAILURE, MAINTENANCE ERROR + FLUX TILT + COMMUNICATION + UCUNEE 2 (PM) + CONTROL ROD DRIVES

112370
 REACTOR GLANDWANT TILT EXCEEDS LIMITS AT UCUNEE 2
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS. LTR W/PRO-270/70-3 TO U.S. NRC, REGION II, MARCH 20, 1970. DCKET 50-270. TYPE--PM, MFG--DLO, AC--DUAL

112376 UNATTENDED

CAUSE - UNATTENDED CONTROL RODS. WHILE PERFORMING CONTROL ROD EXERCISE TESTING WITH THE REACTOR AT 100% POWER, GROUP 2 ROD 5 STAFF ELECTRICALLY SHORTED, ALLOWING THE CONTROL ROD TO DROP INTO THE CORE. POWER WAS REDUCED IMMEDIATELY TO 50%. WITHIN 5 MINUTES REACTOR UNDESIRABLE POWER TILT HAD INCREASED ABOVE THE 9% LIMIT. THE REACTOR WAS SHUT DOWN. THE FAILED STATOR WAS AN EPDAY TYPE IN WHICH THE EPDAY LAYERS DETERIORATE AFTER PROLONGED USAGE. THE FAILED STATOR WAS REPLACED WITH A VARNISH BIFILAR TYPE STATOR. THE 35 EPDAY TYPE STATORS PRESENTLY INSTALLED WILL BE REPLACED DURING THE NEXT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MODIFICATION * FAILURE, DESIGN ERROR * PWR TILT * INSULATION * REACTOR SHUTDOWN * EFFECT, AGE * OCONEE 2 (PWR) * REGATNCL ROD UNIVES

114208

POLAR CRANE OPERATED WITHOUT APPROVED PROCEDURE AT OCONEE 2
 JURE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/HO-270/76-4 TO U.S. NRC, REGION II, MAY 20, 1976, DCKET 50-270, TYPE--PWR, NRC--860, AE--DURE

CAUSE - UNWARE OF REQUIREMENTS. WHILE IN THE REFUELING SHUTDOWN, THE POLAR CRANE WAS USED TO HOIST THE MAIN FUEL HANDLING BRIDGE INNER CONTROL ROD MAST FOR MAINTENANCE PURPOSES, WITHOUT USING AN APPROVED PROCEDURE. WHEN THE REACTOR VESSEL HEAD IS REMOVED AND IRRADIATED FUEL IS IN THE REACTOR BUILDING, THE POLAR CRANE SHALL BE OPERATED WITH APPROVED PROCEDURES. PERSONNEL INVOLVED WERE NOT AWARE OF THIS CONDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * OPERATION * PROCEDURES AND MANUALS * REFUELING * CRANE * COMMUNICATION * OCONEE 2 (PWR)

115802

POLAR CRANE OPERATED WITHOUT APPROVED PROCEDURE AT OCONEE 2
 JURE POWER CO., CHARLOTTE, NC
 2 PGS, LTR W/HO-270/76-4 TO U.S. NRC, REGION II, MAY 20, 1976, DCKET 50-270, TYPE--PWR, NRC--860, AE--DURE

CAUSE - UNWARE OF REQUIREMENTS. WHILE IN THE REFUELING SHUTDOWN, THE POLAR CRANE WAS USED TO HOIST THE MAIN FUEL HANDLING BRIDGE INNER CONTROL ROD MAST FOR MAINTENANCE PURPOSES. APPROVED PROCEDURE WAS NOT USED. TECH SPECS REQUIRE APPROVED PROCEDURES WHEN THE REACTOR VESSEL HEAD IS REMOVED AND IRRADIATED FUEL IS IN THE REACTOR BUILDING. PERSONNEL INVOLVED WERE NOT FULLY AWARE OF THIS REQUIREMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * OPERATION * PROCEDURES AND MANUALS * REFUELING * CRANE * OCONEE 2 (PWR)

115022

AUXILIARY MOIST OPERATED WITHOUT APPROVED PROCEDURE AT OCONEE 2
 JURE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/HO-270/76-5 TO U.S. NRC, REGION II, JUNE 2, 1976, DCKET 50-270, TYPE--PWR, NRC--860, AE--DURE

CAUSE - INCORRECT ASSUMPTION. WHILE THE UNIT WAS IN THE REFUELING SHUTDOWN, THE AUXILIARY MOIST WAS USED TO LIFT SPECIAL TOOLS UTILIZED TO CUT THE REACTOR VESSEL SURVEILLANCE SPECIMEN HOLDER TUBES ON THE CORE SUPPORT ASSEMBLY. AN APPROVED PROCEDURE WAS NOT USED IN VIOLATION OF TECH SPECS. PERSONNEL CONCERNED INCORRECTLY ASSUMED THAT THE PROCEDURE FOR OPERATION OF THE POLAR CRANE WAS ALSO APPLICABLE TO OPERATION OF THE AUXILIARY MOIST. PROCEDURES HAVE SINCE BEEN REVISED TO COVER BOTH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * OPERATION * PROCEDURES AND MANUALS * REFUELING * CRANE * AUXILIARY * COMMUNICATION * OCONEE 2 (PWR)

116256

MANUAL CONTAINMENT ISOLATION VALVES FOUND TO BE OPEN AT OCONEE 2
 JURE POWER CO., CHARLOTTE, NC
 3 PGS, LTR W/HO-270/76-6 TO U.S. NRC, REGION II, JULY 21, 1976, DCKET 50-270, TYPE--PWR, NRC--860, AE--DURE

CAUSE - INCOMPLETE DOCUMENTATION. DURING A STARTUP, 2 MANUAL CONTAINMENT ISOLATION VALVES WERE FOUND TO BE OPEN WITH NO ADMINISTRATIVE CONTROLS IN EFFECT AT A TIME WHEN CONTAINMENT INTEGRITY WAS REQUIRED. THIS CONDITION EXISTED FOR 31 HOURS. WHILE IN COLD SHUTDOWN, THE 2 VALVES WERE CLOSED TO SUPPLY FRESH AIR TO THE REACTOR BUILDING. PROPER DOCUMENTATION WAS NOT PROVIDED ON AN OUT-OF-NORMAL SPEED. THE VALVES WERE CLOSED, COMPLYING WITH PROCEDURES WAS STRESSED TO ALL INVOLVED PERSONNEL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

116239 *CONTINUED*
CHARGE \$2.00

FAILURE, OPERATOR ERROR * CONTAINMENT ISOLATION * PROCEDURES AND MANUALS * CONTAINMENT INTEGRITY * PNEUMATIC SYSTEM * RECORDS * OCONEE 2 (PWR) * REACTOR STARTUP * VALVES * INSTRUMENTS, MISC.

116222
RPS CHANNEL FAILS TO TRIP ON HIGH PRESSURE AT OCONEE 2
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-270/76-7 TO U.S. NRC, REGION II, AUG. 3, 1976, DCKET 50-270, TYPE--PWR, WFO--DBB, AE--DUKE

CAUSE - INSTRUMENT ROOT VALVE CLOSED. DURING A STARTUP, REACTOR PROTECTION SYSTEM CHANNEL B FAILED TO TRIP AS REQUIRED WHEN THE REACTOR COOLANT PRESSURE REACHED 1720 PSIG. THE INSTRUMENT ROOT VALVE FOR THE TRANSMITTER HAD BEEN INADVERTENTLY LEFT CLOSED. IT HAD BEEN LEFT OPEN AS REQUIRED FOLLOWING CALIBRATION ON 5/2/76 BUT HAD BEEN CLOSED AT SOME SUBSEQUENT TIME BEFORE STARTUP WAS INITIATED. PROCEDURES ARE BEING REVISED TO ASSURE THAT, FOLLOWING REFUELLING OUTAGES, INSTRUMENTATION IS CHECKED FOR PROPER OPERATION PRIOR TO UNIT STARTUP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * MAIN COOLING SYSTEM * OCONEE 2 (PWR) * SENSORS, PRESSURE

117430
RB COOLING UNIT AND SPRAY TRAIN LEST SIMULTANEOUSLY AT OCONEE 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-270/76-8 TO U.S. NRC, REGION II, AUG. 9, 1976, DCKET 50-270, TYPE--PWR, WFO--DBB, AE--DUKE

CAUSE - BINDING OF CONTACTS IN MOTOR STARTER. FOLLOWING A STARTUP OF REACTOR BUILDING COOLING UNIT 2A WITH THE REACTOR AT 100% POWER, THE UNIT DISCHARGE DAMPERS FAILED TO OPEN RESULTING IN AN OVERLOAD AND SUBSEQUENT TRIP OF MOTOR CONTROL CENTER FEEDER BREAKER. THIS DISABLED 1 OF THE 2 RB SPRAY TRAINS. MECHANICAL BINDING OF ELECTRICAL CONTACTS IN THE MOTOR STARTER PREVENTED THE DAMPERS FROM OPENING AND THE UNIT FROM TRIPPING ON THE RESULTING OVERLOAD. THE MOTOR CONTROL CENTER WAS RETURNED TO SERVICE IN 21 MINUTES. MOTOR STARTERS WILL BE CLEANED AND LUBRICATED PERIODICALLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT SPRAY * CONTAINMENT AIR COOLING * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * FAILURE, MAINTENANCE ERROR * BREAKER * OCONEE 2 (PWR) * MOTORS

117849
LPI TRAIN A TAKEN OUT OF SERVICE WITHOUT TESTING TRAIN B AT OCONEE 2
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-270/76-9 TO U.S. NRC, REGION II, AUG. 23, 1976, DCKET 50-270, TYPE--PWR, WFO--DBB, AE--DUKE

CAUSE - FAILURE TO FOLLOW TECH SPECS. THE LOW PRESSURE INJECTION TRAIN A WAS TAKEN OUT OF SERVICE FOR VALVE MAINTENANCE WITHOUT ASSURING THE OPERABILITY OF TRAIN B. DURING SHIFT TURNOVER 3 HOURS LATER, THE ERROR WAS DISCOVERED. OPERABILITY OF TRAIN B WAS THEN VERIFIED. THE APPARENT CAUSE WAS FAILURE TO FOLLOW TECH SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * MAINTENANCE AND REPAIR * TESTING * SAFETY INJECTION * OCONEE 2 (PWR)

120300
ACTIVITY IN THE COMPONENT COOLING SYSTEM INCREASES AT OCONEE 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-270/76-10 TO U.S. NRC, REGION II, SEPT. 20, 1976, DCKET 50-270, TYPE--PWR, WFO--DBB, AE--DUKE

CAUSE - LETDOWN COOLER LEAKAGE. WITH THE REACTOR AT 90% POWER, ROUTINE RADIOCHEMISTRY MONITORING REVEALED AN INCREASING LEVEL OF ACTIVITY IN THE COMPONENT COOLING SYSTEM. THE APPARENT CAUSE WAS A LEAK IN LETDOWN COOLER B WHICH ALLOWED LEAKAGE OF PRIMARY COOLANT INTO THE CCS. THE COOLER WAS ISOLATED. DURING THE NEXT OUTAGE OF SUFFICIENT DURATION, THE COOLER WILL BE EITHER REPAIRED OR REPLACED. LEAKAGE WAS ABOUT 133 CC/DAY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCONEE 2 (PWR) * HEAT EXCHANGERS * COOLANT PURIFICATION SYSTEM * LEAK * COMPONENT COOLING SYSTEM * REACTOR COOLANT * RADIOCHEMICAL ANALYSIS * FAILURE, INHERENT * FAILURE, EQUIPMENT

119470
230 KV SWITCHYARD RED BUS AND STARTUP TRANSFORMER ISOLATED AT OCONEE 2

11-070 CONTINUED
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-270/76-11 TO U.S. NRC, REGION II, OCT. 8, 1976, DOCKET 50-270, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - ERROR IN IMPLEMENTATION OF MODIFICATION. DURING TESTING OF INTERLOCKS BETWEEN SWITCHYARD CIRCUITS P40-28 AND P40-30 WITH THE REACTOR AT 100% POWER, THE 230 KV SWITCHYARD 420 BUS AND STANLEY TRANSFORMER CT2 WERE ISOLATED. TESTING WAS THE FINAL STEP IN A STATION MODIFICATION. THIS WAS APPARENTLY CAUSED BY AN ERROR IN THE IMPLEMENTATION OF THE MODIFICATION. A WIRING REVISION NECESSARY TO PERFORM THIS MODIFICATION HAD NOT BEEN IDENTIFIED. THE WIRING REVISION WAS MADE AND THE ASSOCIATED CIRCUITS WERE SUCCESSFULLY TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * ELECTRIC POWER * MODIFICATION * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * CABLES AND CONNECTIONS * BREAKER * CABLES * IPBM * TRANSFORMERS

119812
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-270/76-12 TO U.S. NRC, REGION II, NOV. 5, 1976, DOCKET 50-270, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - BROKEN COMPRESSOR FOOT ROLL PIN. AFTER DRAINING THE REACTOR BUILDING NORMAL SUMP WHILE THE UNIT WAS AT 100% POWER, CONTAINMENT ISOLATION VALVE 2100-1 WAS DISCOVERED INOPERABLE. THIS IS THE FIRST ISOLATION VALVE IN THE DU NORMAL SUMP DRAIN LINE. THE APPARENT CAUSE WAS A BROKEN COMPRESSOR FOOT ROLL PIN IN THE PNEUMATIC DIAPHRAGM VALVE. TO MAINTAIN CONTAINMENT INTEGRITY DURING REPAIR, A FREEZE PLUG WAS APPLIED BETWEEN THE VALVE AND THE SUMP. ADDITIONALLY, A BLEED FLANGE WAS BOLTED ON THE VALVE BODY WHILE THE INTERNALS WERE REMOVED. THE VALVE WAS REPAIRED, TESTED, AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DUKE 2 (PWR) * VALVES * CONTAINMENT ISOLATION * CONTAINMENT SUMP * FAILURE, EQUIPMENT * FAILURE, IMPLEMENT

120233
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-270/76-13 TO U.S. NRC, REGION II, NOV. 12, 1976, DOCKET 50-270, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - DIRTY ELECTRICAL CONTACTS. WHILE TESTING VALVE LP20-5 WITH THE REACTOR AT 61% POWER, IT WAS DETERMINED THAT THE ELECTRICALLY OPERATED LIMIT/STOP VALVE COULD NOT BE OPENED FROM THE NORMAL CONTROL SWITCH. THE ELECTRICAL CONTACT ON FINGER 3 OF THE SLUING COIL OF THE MOTOR CONTROL CENTER WHICH ENERGIZES THE VALVE WAS DIRTY. THE FINGER WAS CLEANED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DUKE 2 (PWR) * VALVES * SERVICE WATER * FAILURE, EQUIPMENT * FAILURE, INCIDENT * CAUSE * INSTRUMENT, SWITCH * VALVE OPERATIONS * EMERGENCY COOLING SYSTEM * TEST, SYSTEM OPERABILITY

120235
REACTOR BUILDING ELECTRICAL PENETRATION FAILS AT DUKE 2
DUKE POWER CO., CHARLOTTE, NC
2 PGS. LTR D/RO-270/76-14 TO U.S. NRC, REGION II, NOV. 12, 1976, DOCKET 50-270, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - CRACKED BUSING. DURING MONTHLY SF6 GAS PRESSURE TESTS TO VERIFY THE INTEGRITY OF REACTOR BUILDING ELECTRICAL PENETRATIONS WITH THE REACTOR AT 60% POWER, PENETRATION 08V-1, A TYPE A ELECTRICAL PENETRATION FROM REACTOR COOLANT PUMP MOTOR 201, INDICATED ZERO PRESSURE. THE PUMP WAS SECURED. A CRACKED BUSING IN THE PENETRATION ON THE REACTOR BUILDING SIDE ALLOWED THE GAS TO ESCAPE. IT WAS REPLACED. WELDING PROCEDURES WERE REVISED TO REPLACE THE ARGON PUMP GAS WITH HELIUM DUE TO THE HELIUM'S SUPERIOR PURGING QUALITIES.

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DUKE 2 (PWR) * CONTAINMENT PENETRATION * CONTAINMENT PENETRATION, ELECTRICAL * LEAK * TEST, SYSTEM OPERABILITY * TEST, LEAK * FAILURE, COMPONENT * FAILURE, INCIDENT * CONTAINMENT INTEGRITY

120657
STEAM GENERATOR TUBE FAILS AT DUKE 2
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-270/76-15 TO U.S. NRC, REGION II, DEC. 20, 1976, DOCKET 50-270, TYPE--PWR, NRC--B60, AE--DUKE

CAUSE - UNDETERMINED. WHILE OPERATING AT 97% POWER, AIR EJECTOR POSITION REGISTERED AN INCREASE IN PROLATION LEVEL INDICATING A POSSIBLE PRIMARY-TO-SECONDARY SYSTEM LEAK. SAMPLING AND SURVEYS CONFIRMED THE LEAK TO BE IN ONCE-THROUGH STEAM GENERATOR 20. BODY CURRENT TESTING REVEALED THAT TUBE 23 IN ROW 77 WAS LEAKING. FIBER OPTICS EXAMINATION IDENTIFIED A CIRCUMFERENTIAL CRACK ON THE INSIDE OF THE TUBE NEAR THE INTERFACE WITH THE BOTTOM OF THE UPPER TUBE SHEET, ABOUT 3 FEET

12057 (CONTINUED)

OF THIS TUBE AND ANOTHER TUBE WERE REMOVED FOR FURTHER TESTING AND EVALUATION. THE CAUSE OF FAILURE IS UNDETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCONEE 2 (PWR) - TUBING - STEAM GENERATOR - FAILURE, TUBING - LEAK - CONTAINMENT INTEGRITY - AIRBORNE RELEASE - REACTOR SHUTDOWN

110373

CHARCOAL ADSORBER FILTERS IN PWS FOUND IMPERMEABLE AT OCONEE 3
DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR D/PD-207/76-1 TO U.S. NRC, REGION II, FEB. 12, 1976. DOCKET 50-287, TYPE--PWR, RFG--060, AE--DUKE

CAUSE - EXCESSIVE MOISTURE. WHILE THE REACTOR WAS OPERATING AT 100% POWER, ANNUAL IMPLACE LEAKAGE TESTING ON THE PENETRATING ROOM VENTILATION SYSTEM FOUND THAT TRAIN 4 CHARCOAL FILTER UNIT 3-0 NOT MEET THE ACCEPTANCE CRITERIA. FAILURE WAS DUE TO EXCESSIVE MOISTURE WHICH HAD COLLECTED ON THE UNIT. THIS PROBABLY OCCURRED DURING A TEST WHICH WAS CONDUCTED WHEN THERE WERE STEAM LEAKS. THE CHARCOAL FILTER WAS REPLACED AND SATISFACTORILY TESTED. PROCEDURES WILL BE REVISED TO REQUIRE OPENING THE FILTER DRAIN VALVES FOR 10 MINUTES PRIOR TO TESTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER EFFICIENCY - PROCEDURES AND MANUALS - VENTILATION SYSTEM - CHARCOAL ADSORBER - TEST, FILTER - TEST, SYSTEM OPERABILITY - FAILURE, ADMINISTRATIVE CONTROL - OCONEE 3 (PWR) - CONTAINMENT PENETRATION

112264

STANDBY BUS BREAKER TAKEN OUT OF SERVICE IMPROPERLY AT OCONEE 3
DUKE POWER CO., CHARLOTTE, NC

3 PGS. LTR D/PD-207/76-2 TO U.S. NRC, REGION II, APRIL 2, 1976. DOCKET 50-287, TYPE--PWR, RFG--060, AE--DUKE

CAUSE - OPERATOR ERROR. DURING ANNUAL PREVENTATIVE MAINTENANCE ON 4160 VOLT SWITCHGEAR WITH THE UNIT AT ABOUT 100% POWER, STANDBY BUS BREAKER 1 WAS REMOVED FROM SERVICE. THE NEXT SHIFT FOUND THAT THE BREAKER HAD BEEN RACKED OUT WITHOUT A OUT OF NORMAL CHECK SHEET BEING COMPLETED. TWO OPERATORS WERE UNDER THE IMPRESSION THAT THE OTHER HAD COMPLETED THE SHEET WHEN NEITHER HAD DONE SO.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR - MAINTENANCE AND REPAIR - ELECTRIC POWER, AUXILIARY - BREAKER - COMMUNICATION - OCONEE 3 (PWR)

113756

ROD OVERLAP EXCEEDS LIMIT AT OCONEE 3
DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR D/PD-207/76-6 TO U.S. NRC, REGION II, MAY 6, 1976. DOCKET 50-287, TYPE--PWR, RFG--060, AE--DUKE

CAUSE - DROPPED CONTROL ROD GROUP. WHILE OPERATING AT 95% POWER, GROUP 7 CONTROL RODS DROPPED INTO THE CORE FROM A 15% WITHDRAWN POSITION REDUCING POWER TO 80%. TO MAINTAIN THE POWER LEVEL AT 95%, THE ICS WITHDREW GROUP 6 RODS FROM 90% TO 100% WITHDRAWN RESULTING IN 0% ROD OVERLAP. THIS VIOLATED THE 25% LIMIT. THE OPERATOR PLACED THE ROD DRIVE SYSTEM IN MANUAL AND INSERTED GROUP 6 TO 75% WITHDRAWN. THIS INCIDENT OCCURRED WHEN 1 OF THE 2 PWRB SUPPLIES TO GROUP 7 WAS DE-ENERGIZED FOR TESTING. THE REMAINING SUPPLY HAD ONE PHASE WITH AN INCORRECT GATE DRIVE WHICH PREVENTED IT FROM SUPPLYING POWER TO GROUP 7.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ELECTRIC POWER - FAILURE, INSTRUMENT - ACCIDENT, CONTROL ROD DRIVEN - REACTOR PHYSICS - OCONEE 3 (PWR) - CONTROL ROD DRIVES

114103

230 KV YELLOW BUS INADVERTENTLY ISOLATED AT OCONEE 3
DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR D/PD-207/76-3 TO U.S. NRC, REGION II, MAY 19, 1976. DOCKET 50-287, TYPE--PWR, RFG--060, AE--DUKE

CAUSE - INCORRECT ASSUMPTION. WHILE THE REACTOR WAS AT 80% POWER, MAINTENANCE WAS PERFORMED ON 2 ELECTRICAL SWITCHYARD BREAKERS WHICH HAD BEEN ISOLATED FROM THE 230 KV YELLOW BUS. WITH UNIT 2 IN SHUTDOWN, IT WAS NECESSARY TO RESET GENERATOR LOCKOUT RELAYS PRIOR TO CLOSING THE BREAKER. THESE RELAYS WERE NOT CLOSED AND, WHEN THE BREAKER WAS CLOSED, A TRIP SIGNAL WAS GENERATED, CAUSING ALL BREAKERS TO THE YELLOW BUS TO TRIP. THIS WAS CAUSED BY AN INCORRECT ASSUMPTION THAT THE GENERATOR LOCKOUT RELAYS WERE RESET IMMEDIATELY PRIOR TO CLOSING THE ELECTRICAL BREAKER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

114802 *CONTINUE*
 EMERGENCY POWER, ELECTRIC * MAINTENANCE AND REPAIR * FAILURE, MAINTENANCE ERROR * BREAKER * COMMUNICATION *
 OCCURE 3 (PWR)

114852
 QUENCH TANK ISOLATION VALVE FAILS TO CLOSE AT UCONEE 3
 DUKE POWER CO., CHARLOTTE, NC
 2 PGS. LTR 8740-287776-5 TO U.S. ARC, REGION II, JUNE 2, 1976. JOCKET 50-287. TYPE--PWR. MFG--B&W. AE--DUKE

CAUSE - TORQUE SWITCH FAILURE. DURING TESTING, THE QUENCH TANK HEATUP BUILDING ISOLATION VALVE
 COULD NOT BE CYCLED FROM OPEN TO CLOSED. THE REDUNDANT VALVE WAS LOCKED CLOSED. FAILURE WAS DUE
 TO AN INOPERABLE TORQUE LIMIT SWITCH. THE VALVE WAS OPERABLE LOCALLY AT THE BREAKER BY
 OVERRIDING THE TORQUE LIMIT SWITCH. THE CAUSE OF FAILURE HAS NOT BEEN DETERMINED DUE TO
 INACCESSIBILITY OF THE VALVE DURING POWER OPERATION.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * OCCURE 3 (PWR) *
 CORE REFUELING * VALVES

114851
 FEEDWATER AND HC FLOW CONSTANTS INCORRECTLY SET ON COMPUTER AT UCONEE 3
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR 8740-287776-6 TO U.S. ARC, REGION II, JUNE 3, 1976. JOCKET 50-287. TYPE--PWR. MFG--B&W. AE--DUKE

CAUSE - INACCURATE DATA. DURING POWER OPERATION, A PRECISION REACTOR COOLANT FLOW MEASUREMENT
 UTILIZING SPECIALLY INSTALLED INSTRUMENTS WAS PERFORMED TO INVESTIGATE A SLIGHTLY LOWER-THAN-
 NORMAL INDICATED HC FLOW. ANALYSIS OF THE TEST DATA REVEALED THAT THE PLANT COMPUTER FLOW
 CONSTANTS FOR FEEDWATER FLOW CALCULATIONS WERE GREATER THAN THE CORRECT VALUES BY 2.52% AND FOR
 HC FLOW CALCULATION BY 4.52%. THE CORRECT CONSTANTS WERE INCORPORATED INTO THE COMPUTER PROGRAM.
 CONSTANTS FOR UNITS 1 AND 2 WERE VERIFIED TO BE CORRECT.

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*COMPUTER PROGRAM * REACTOR POWER * TEST, SYSTEM OPERABILITY * MAIN COOLING SYSTEM * MATHEMATICAL TREATMENT *
 *FLOW * COOLING SYSTEM, SECONDARY * OCCURE 3 (PWR)

114850
 KEUWEE HYDRO STATION UNIT ISOLATED FROM UNDERGROUND FEEDER AT UCONEE 3
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR 8740-287776-7 TO U.S. ARC, REGION II, JUNE 8, 1976. JOCKET 50-287. TYPE--PWR. MFG--B&W. AE--DUKE

CAUSE - COMMUNICATION BREAKDOWN. DURING EMERGENCY STARTUP TESTING FOR KEUWEE HYDRO STATION,
 KEUWEE 1 WAS REMOVED FROM SERVICE BEFORE CONNECTING KEUWEE 2 TO THE UNDERGROUND FEEDER CIRCUIT.
 THIS IS CONTRARY TO TECH SPECS. THERE WAS A BREAKDOWN IN COMMUNICATION BETWEEN PERSONNEL
 INVOLVED. THE CONDITION LASTED ABOUT 3 MINUTES. THE KEUWEE OPERATOR MISINTERPRETED INSTRUCTION
 AND REMOVED UNIT 2 FROM SERVICE BEFORE UCONEE CONTROL ROOM OPERATOR HAD CLOSED THE ELECTRICAL
 BREAKER CONNECTING UNIT 1.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
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EMERGENCY POWER, ELECTRIC * FAILURE, OPERATOR ERROR * TEST, SYSTEM OPERABILITY * POWER PLANT, HYDROELECTRIC *
 *COMMUNICATION * OCCURE 3 (PWR)

115488
 CONTROL ROD OVERLAP EXCEEDS LIMIT AT UCONEE 3
 DUKE POWER CO., CHARLOTTE, NC
 3 PGS. LTR 8740-287776-8 TO U.S. ARC, REGION II, JUNE 23, 1976. JOCKET 50-287. TYPE--PWR. MFG--B&W. AE--DUKE

CAUSE - DROPPED CONTROL ROD GROUP. DURING FULL POWER OPERATION, GROUP 7 CONTROL RODS DROPPED INTO
 THE CORE RESULTING IN A CONTROL ROD OVERLAP CONDITION OF LESS THAN 25% OR - 5%. THE OPERATOR
 PLACED THE CONTROL ROD DRIVE SYSTEM IN MANUAL, AND DECREASED POWER TO 48% WITH GROUP 6 TO RE-
 ESTABLISH THE REQUIRED OVERLAP. BOTH PARALLEL GROUP 7 CONTROL ROD POWER SUPPLIES FAILED. ONE
 WAS INOPERABLE DUE TO A BLOWN FUSE AND A TRIPPED BREAKER. NO CAUSE WAS DETERMINED. THE OTHER
 HAD A FAILED TRANSISTOR IN THE A PHASE OUTPUT OF THE PROGRAMMER FEEDING THE GATE DRIVES. THE
 FAULTY PROGRAMMER AND THE FUSE WERE REPLACED.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

ELECTRIC PLANT * REACTOR CONTROL * FAILURE, INSTRUMENT * OCCURE 3 (PWR) * CONTROL ROD DRIVES

116240
 POWER INCREASES ABOVE OPER LEVEL CUTOFF AT UCONEE 3

116240 *CONTINUED*
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-287/76-9 TO U.S. NRC, REGION II, JULY 27, 1976. DOCKET 50-287, TYPE--PWR, NFW--666, AE--DUKE

CAUSE - FEEDWATER TRANSIENT. THE REACTOR WAS OPERATING AT 81% FULL POWER UNTIL SENON CONDITIONS COULD ALLOW OPERATION ABOVE THE 82.5% POWER LEVEL CUTOFF. DURING THIS TIME, A FEEDWATER TRANSIENT CAUSED A POWER INCREASE OF 3%, THUS EXCEEDING THE CUTOFF LIMIT BY 1.5%. THE FEEDWATER TRANSIENT RESULTED FROM A SPURIOUS 80% DECREASE IN FEEDWATER DEMAND FOR 2 SECONDS. THIS INDUCED AN OSCILLATION IN THE FEEDWATER SYSTEM RESULTING IN AN INCREASE IN FEEDWATER FLOW AND LOBENING OF THE AVERAGE REACTOR TEMPERATURE. THE OPERATOR PROMPTLY PLACED FEEDWATER CONTROLS IN MANUAL AND DECREASED FLOW TO LOWER POWER BELOW THE CUTOFF LEVEL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PHENOM * REACTOR POWER * OPERATOR ACTION * TRANSIENT * FAILURE, IMPLANT * COOLING SYSTEM, SECONDARY * COOLANT LEVEL TRANSIENT * FEEDWATER * (CONC) 3 (PWR)

116512
PRIMARY TO SECONDARY SYSTEM LEAKAGE IN STEAM GENERATOR AT UCONEE 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-287/76-10 TO U.S. NRC, REGION II, AUG. 5, 1976. DOCKET 50-287, TYPE--PWR, NFW--666, AE--DUKE

CAUSE - TUBE RUPTURE FROM UNKNOWN CAUSE. WHILE OPERATING AT 100% POWER, 2 RADIATION ALARMS INDICATED A PRIMARY SYSTEM TO SECONDARY SYSTEM LEAK IN ONCE-THROUGH STEAM GENERATOR JU. THE REACTOR WAS SHUT DOWN IN 2.5 HOURS. A SMALL RUPTURE OF ABOUT 0.00 INCH IN DIAMETER WAS DISCOVERED IN ONE TUBE AT A DISTANCE OF ABOUT 10 FEET BELOW THE TOP OF THE UPPER TUBE SHEET. THE CAUSE OF RUPTURE WAS NOT DETERMINED. TWO OTHER TUBES WERE FOUND TO BE DAMAGED BUT NOT LEAKING. ALL 3 WERE PLUGGED AT BOTH ENDS. EDDY CURRENT INSPECTIONS OF BOTH STEAM GENERATORS WILL BE CONDUCTED DURING THE FALL REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAIN COOLING SYSTEM * FAILURE, TUBING * STEAM GENERATOR * TUBING * LEAK * COOLING SYSTEM, SECONDARY * UCONEE 3 (PWR)

117950
125 VDC INSTRUMENTATION AND BATTERIES ACT TESTED ON TIME AT UCONEE 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-287/76-11 TO U.S. NRC, REGION II, SEPT. 3, 1976. DOCKET 50-287, TYPE--PWR, NFW--666, AE--DUKE

CAUSE - ADMINISTRATIVE FAILURE. WHILE THE UNIT WAS OPERATING AT 80% POWER, THE ANNUAL LOAD TEST ON THE 125 VDC INSTRUMENTATION AND CONTROL BATTERIES WAS NOT PERFORMED ON SCHEDULE. ALTHOUGH THE DUE DATE FOR THIS TEST WAS CORRECTLY IDENTIFIED, THE PRINTOUT WHICH LISTS COMPLETION DATES FOR PROCEDURES CONTAINED VARIOUS ERRONEOUS DATA MAKING DETERMINATION OF OVERDUE COMPLETION DATES DIFFICULT. ALSO, PERSONNEL WERE UNAWARE THAT A TECH SPEC CHANGE MADE THE TEST ANNUAL RATHER THAN A REFUELING OUTAGE REQUIREMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TESTING * FAILURE, ADMINISTRATIVE CONTROL * TEST INTERVAL * UCONEE 3 (PWR) * INSTRUMENTS, MISC * BATTERIES & CHARGERS

118231
CORE FLOOD TANKS NOT SAMPLED FOLLOWING MAKEUP AT UCONEE 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-287/76-14 TO U.S. NRC, REGION II, SEPT. 13, 1976. DOCKET 50-287, TYPE--PWR, NFW--666, AE--DUKE

CAUSE - INADEQUATE SAMPLING PROGRAM. IT WAS DETERMINED THAT DURING JUNE 1976, 6 ADDITIONS HAD BEEN MADE TO CORE FLOOD TANK JB IN A 7-DAY PERIOD WITHOUT SAMPLING FOR BORON CONCENTRATION. THE APPARENT CAUSE WAS THE LACK OF AN ADEQUATE SAMPLING PROGRAM FOLLOWING MAKEUP. A PROGRAM HAS BEEN ESTABLISHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * SAMPLING * STORAGE CONTAINER * FAILURE, ADMINISTRATIVE CONTROL * CORE REFLOODING SYSTEM * TEST INTERVAL * UCONEE 3 (PWR)

118230
POWER TO ES 600 V MOTOR CONTROL CENTER LOST AT UCONEE 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS. LTR D/RO-287/76-12 TO U.S. NRC, SEPT. 17, 1976. DOCKET 50-287, TYPE--PWR, NFW--666, AE--DUKE

CAUSE - SHORTED CONTROL POWER CABLE. WITH THE REACTOR AT 80% FULL POWER AND FOLLOWING THE CONNECTION OF A BATTERY CHARGER TO AN INSTRUMENT AND CONTROL BATTERY, THE FEEDER BREAKER CONNECTING THE LOAD CENTER TO A MOTOR CONTROL CENTER TRIPPED RESULTING IN LOSS OF POWER TO THE

118230 *CONTINUED*

NCC. THE BATTERY CHARGER WAS DISCONNECTED AND THE BREAKER RESET. ALL LOADS EXCEPT ONE WERE RETURNED TO SERVICE. EXAMINATION REVEALED A CONTROL POWER CABLE TO ONE LOAD WAS PARTIALLY SEVERED DUE TO A CONTACT WITH ANOTHER CABLE AND THEREFORE SHORTED TO GROUND. THIS COULD HAVE TRIPPED THE BREAKER. ALSO, THE BATTERY CHARGER COULD HAVE CAUSED AN OVERLOAD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DAMAGE * FAILURE, INSTALLATION ERROR * ENGINEERED SAFETY FEATURE * SYSTEM CAPACITY * CABLES AND CONNECTORS * BREAKERS * CONTROL (PWR) * BATTERIES & CHARGERS

118475

FEEDWATER PENETRATION VALVE FAILS TO OPERATE AT OCONEE 3

DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR W/RC 50-287/76-13 TO U.S. NRC, REGION II, SEPT. 21, 1976, DOCKET 50-287, TYPE--PWR, NFG--B6B, AE--DUKE

CAUSE - FAILURE OF SOLENOID AND SPRING. FOLLOWING CHEMICAL SAMPLING OF ONCE-THROUGH STEAM GENERATION JO, A FEEDWATER PENETRATION VALVE FAILED TO CLOSE UNDER SYSTEM PRESSURE. THE REDUNDANT ISOLATION VALVE WAS CLOSED AND LOCKED. FAILURE APPARENTLY RESULTED FROM MECHANICAL FAILURE OF THE SOLENOID AND SPRING OF THE VALVE AIR OPERATOR. THE SOLENOID AND SPRING WILL BE REPLACED DURING THE CURRENT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * STEAM GENERATION * FAILURE, INHERENT * SOLENOID * COOLING SYSTEM, SECONDARY * FEEDWATER * OCONEE 3 (PWR) * VALVE OPERATORS * VALVES

118284

THERMAL POWER BEST VALUE FOUND TO BE INCORRECT AT OCONEE 3

DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR W/RC 50-287/76-15 TO U.S. NRC, REGION II, SEPT. 27, 1976, DOCKET 50-287, TYPE--PWR, NFG--B6B, AE--DUKE

CAUSE - SPORADIC DATA INPUT. WHILE OPERATING AT 53% POWER, IT WAS DISCOVERED THAT A DATA VALUE HAD BEEN INCORRECTLY INPUT INTO THE CORE THERMAL POWER ANALYSIS PROGRAM. AS A RESULT, FOR ABOUT 26 HOURS, THE THERMAL POWER BEST COMPUTER POINT INDICATED 404 RATHER THAN THE CORRECT VALUE OF 423. THE TECHNICIAN INVOLVED, NEEDING A COMPUTER LOCATION IN WHICH TO STORE A NUMERICAL CONSTANT, PLACED THE CONSTANT IN A LOCATION OCCUPIED BY A ZERO, THINKING SUCH TO BE AN UNUSED COMPUTER MEMORY LOCATION. IT WAS THE LOCATION NORMALLY USED TO CALCULATE REACTOR COOLANT PRESSURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER PROGRAM * FAILURE, OPERATOR ERROR * REACTOR POWER * MATHEMATICAL TREATMENT * OCONEE 3 (PWR)

112314

POWER TO ES EQUIPMENT LOST AT OCONEE 3

DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR W/RC 50-287/76-16 TO U.S. NRC, REGION II, OCT. 7, 1976, DOCKET 50-287, TYPE--PWR, NFG--B6B, AE--DUKE

CAUSE - STATIC INVERTER FAILURE. WHILE OPERATING AT 65% POWER, FAILURE OF AN INPUT FILTERING CAPACITOR ON VITAL BUS INVERTER JOB RESULTED IN A LOSS OF POWER TO AC VITAL INSTRUMENT POWER PANELBOARD JRV10. THIS RESULTED IN VARIOUS PARAMETERS OF THE MPS CHANNEL 8 TRIPPING. POWER WAS IMMEDIATELY RESTORED BY MANUALLY TRANSFERRING THE PANELBOARD LOADS TO REGULATED PWR1 PANELBOARD JRAA. THE CAUSE WAS THE BREAKDOWN OF THE DIELECTRIC OF AN INPUT FILTERING CAPACITOR ON THE INVERTER. THE INVERTER WAS REPAIRED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * ELECTRIC POWER, VITAL * EQUIPMENT * ENGINEERED SAFETY FEATURE * FAILURE, INHERENT * OCONEE 3 (PWR) * GENERATORS

118480

REACTOR BUILDING COOLING UNIT MOTOR FAILS AT OCONEE 3

DUKE POWER CO., CHARLOTTE, NC

2 PGS. LTR W/RC 50-287/76-17 TO U.S. NRC, REGION II, OCT. 14, 1976, DOCKET 50-287, TYPE--PWR, NFG--B6B, AE--DUKE

CAUSE - PROBABLY INSULATION FAILURE. WHILE THE REACTOR WAS OPERATING AT 53% POWER, REACTOR BUILDING COOLING UNIT 3C BREAKER TRIPPED. THE 3 PHASE FAN MOTOR HAD FAILED PROBABLY FROM INSULATION FAILURE ON 1 OF THE 3 PHASES. THE MOTOR WAS INOPERABLE FOR ONE DAY BEFORE THE UNIT WAS SHUT DOWN FOR REFUELING. THE FAN MOTOR WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

11000 *CONTINUED*
FAILURE, EQUIPMENT * CONTAINMENT AIR COOLING * INSULATION * FAILURE, INHERENT * UCONE 3 (PWR) * PWR/TMS

11002
TURBINE BUILDING PARTIALLY FLOODED AT UCONE 3
DUKE POWER CO., CHARLOTTE, NC
5 PGS, LTR W/RO-28776-18 TO U.S. NRC, REGION II, OCT. 25, 1976. DOCKET 50-287, TYPE--PWR, WFO--666, AL--LURE

CAUSE - PROCEDURAL INADEQUACY/DESIGN DEFICIENCY. WHILE IN REFUELING POSITION DURING MAINTENANCE AND INSPECTION ON THE CONDENSER AND CONDENSER WATER PIPES, LOW VOLTAGE AND BLOWN FUSE ALARMS WERE RECEIVED ON STATIC INVERTER 301C. THEN FLOODING IN THE TURBINE BUILDING BASEMENT OCCURRED. FLOODING OCCURRED THROUGH OPEN HANDWAYS ON CONDENSER WATERMAIN 3A2. FLOODING WAS STOPPED 32 MINUTES LATER. LOSS OF THE INVERTER REENERGIZED A 4-WAY SOLENOID VALVE WHICH IN TURN OPERED A CCW DISCHARGE VALVE WITH ENOUGH FORCE TO BEND THE HOLD CLOSE JACK. WATER FLOWED BACK FROM LAKE RESERVE. NO MAJOR DAMAGE OCCURRED. A DIFFERENT TYPE SOLENOID WILL BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BUILDING * REFUELING * FAILURE, DESIGN ERROR * TURBINE * FLOOD * CONDENSER COOLING SYSTEM * SOLENOID * UCONE 3 (PWR) * GENERATORS

12042
MPI STOP-CHECK VALVES FOUND TO BE CLOSED AT UCONE 3
DUKE POWER CO., CHARLOTTE, NC
2 PGS, LTR W/RO-28776-19 TO U.S. NRC, REGION II, NOV. 15, 1976. DOCKET 50-287, TYPE--PWR, WFO--666, AL--LURE

CAUSE - OPERATOR ERROR. DURING COOLDOWN OF THE REACTOR COOLANT SYSTEM FOR REPAIR OF VALVE JMC-1, HIGH PRESSURE INJECTION SYSTEM STOP-CHECK VALVE JMP-152 AND JMP-153 IN TRAIN B WERE DISCOVERED CLOSED. THIS CONDITION HAD EXISTED FOR 11.5 HOURS DURING WHICH THE TRAIN WAS REQUIRED TO BE OPERABLE. PRIOR TO HEATUP FOLLOWING THE REFUELING OUTAGE, THESE VALVES WERE INSPECTED PER PROCEDURE AND INITIALLY AS BEING OPEN ON 10/27/76. THERE IS NO EVIDENCE THAT THEY WERE REPOSITIONED AFTER THIS. THEREAFTER, THIS INCIDENT HAS BEEN ATTRIBUTED TO PERSONNEL ERROR IN DETERMINING PROPER VALVE POSITION. THE VALVES WERE OPENED.

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UCONE 3 (PWR) * VALVE, CHECK * MPI * FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * ENGINEERED SAFETY FEATURE

12071
FEEDWATER VALVE FAILS TO CLOSE AT UCONE 3
DUKE POWER CO., CHARLOTTE, NC
3 PGS, LTR W/RO-28776-20 TO U.S. NRC, REGION II, DEC. 20, 1976. DOCKET 50-287, TYPE--PWR, WFO--666, AL--LURE

CAUSE - NOT YET DETERMINED. FOLLOWING CHEMICAL SAMPLING OF CNCE-THROUGH STEAM GENERATION JO, FEEDWATER CONTAINMENT ISOLATION VALVE 3 F08-108 FAILED TO CLOSE UNDER SYSTEM PRESSURE WHILE THE REACTOR WAS AT 90% POWER. THE VALVE IS LOCATED OUTSIDE CONTAINMENT. THE CAUSE HAS NOT BEEN DETERMINED. THE VALVE REMAINED INOPERABLE AFTER IT HAD BEEN LUBRICATED. THE SPRING HAD BEEN REPLACED, AND AN INSPECTION DETERMINED THAT THE SOLENOID WAS OPERATING. THE INTERNAL VALVE PARTS MAY BE DEFECTIVE OR THE STEAM BENT. NEW PARTS ARE ON ORDER. INTERNALS WILL BE EXAMINED AFTER THEY ARE RECEIVED.

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UCONE 3 (PWR) * VALVES * CONTAINMENT ISOLATION * SAMPLING * FEEDWATER * COOLING SYSTEM, SECONDARY * FAILURE, EQUIPMENT

10953
MIXING BASIN DISCHARGE TEMPERATURE EXCEEDS LIMIT AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR W/AC 75-27 TO U.S. NRC, REGION III, JAN. 5, 1976. DOCKET 50-255, TYPE--PWR, WFO--600, AL--BECHTEL

CAUSE - REMOVING COOLING TOWER FROM SERVICE. WHEN COOLING TOWER PUMP A WAS REMOVED FROM SERVICE FOLLOWING A PLANT SHUT DOWN, THE WATER LOST TO THE MIXING BASIN CAUSED THE TEMPERATURE AT THE DISCHARGE TO BE 45.5 F. THE TEMPERATURE DIFFERENTIAL WAS 8.0 F WHICH EXCEEDS THE 5 F LIMIT. THE VALVE CLOSING TIME IS TOO SLOW TO PREVENT BEIN OVERFLOW FOLLOWING PUMP TRIP. A TCM SCL CHANGE HAS BEEN REQUESTED TO PERMIT DELTA-T ABOVE 5 F FOR SHORT PERIODS OF TIME.

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EFFLUENT * TEMPERATURE GRADIENT * RESPONSE TIME * PALISADES (PWR) * COOLING TOWER * CONDENSER COOLING SYSTEM * FAILURE, INHERENT * VALVES

110220
 SIAO TANK DEATED NEAR THE TOP AT PALISADES
 CONSUMERS POWER CO., JACKSON, MI
 2 PGS. LTR W/EP-76-01 TO NRC OFFICE OF I & E, REGION III, JAN. 23, 1976, DOCKET 50-255, TYPE--PWR, NFG--CCMB.,
 AE--DECTEL

CAUSE - VENT PLUGGED WITH ICE. DURING THE REFUELING OUTAGE, THE REACTOR CAVITY WAS BEING FILLED FROM THE SIAO TANK WITH A SI PUMP. INVESTIGATION OF AN UNUSUAL NOISE REVEALED THAT THE TANK WAS SLIGHTLY DENTED NEAR THE TOP. THE OPERATOR IMMEDIATELY TERMINATED THE TANK DRAINING. THE VENT SCREEN HAD BECOME PLUGGED WITH ICE AND SNOW CAUSING A VACUUM TO OCCUR IN THE TANK AS IT DRAINED. THE SCREEN WAS TEMPORARILY REMOVED AND THE DENTED AREA RETURNED TO NORMAL. NO SIGNIFICANT DAMAGE OCCURRED TO THE TANK. A LARGE VENT OPENING WILL BE INSTALLED.

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WATER + SAFETY INJECTION + REFUELING + STORAGE CONTAINER + FAILURE, DESIGN ERROR + OPRESSURE, INTERNAL + FLOOD BLOCKAGE + PALISADES (PWR) + PRESSURE, SUBATMOSPHERIC

110950
 SET POINT DRIFT IN PRESSURE SWITCHES AT PALISADES
 CONSUMERS POWER CO., JACKSON, MI
 2 PGS. LTR W/EP-76-02 TO NRC OFFICE OF I & E, REGION III, FEB. 3, 1976, DOCKET 50-255, TYPE--PWR, NFG--CCMB.,
 AE--DECTEL

CAUSE - INSTRUMENT DRIFT. DURING TESTING OF THE 8 UNITED ELECTRIC, SERIES 300, MODEL J 302-553, LIGHTNING PROTECTION SWITCHES WITH THE REACTOR SHUT DOWN FOR REFUELING, 4 SWITCHES WERE OUT OF CALIBRATION BY 1 TO 4%. EACH OF THE 8 SWITCHES HAS 2 SWITCHES WITH INDIVIDUALLY ADJUSTED SET POINTS. ALSO, A PS HAD A DEFECTIVE MICROSWITCH. ALL SET POINTS WERE ADJUSTED AND THE MICROSWITCH REPLACED.

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HEALTH PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + REFUELING + TEST, SYSTEM OPERABILITY + PALISADES (PWR) + RESET POINT + DRIFT + SENSORS, PRESSURE

111442
 DEGRADATION OF SOME STEAM GENERATOR TUBES MORE THAN EXPECTED AT PALISADES
 CONSUMERS POWER CO., JACKSON, MI
 2 PGS. LTR W/EP-76-03 TO NRC OFFICE OF I & E, REGION III, FEB. 25, 1976, DOCKET 50-255, TYPE--PWR, NFG--CCMB.,
 AE--DECTEL

CAUSE - PREVIOUS WATER TREATMENT. PRELIMINARY ANALYSIS OF EDDY CURRENT RESULTS OBTAINED WHILE TESTING STEAM GENERATORS DURING THE REFUELING OUTAGE INDICATES THAT SOME TUBES MAY HAVE DEGRADED MORE THAN EXPECTED. THE CAUSE IS PROBABLY ASSOCIATED WITH THE PREVIOUS SW WATER TREATMENT PROGRAM.

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REFUELING + TEST, NONDESTRUCTIVE + WATER TREATMENT + FAILURE, DESIGN ERROR + PALISADES (PWR) + FAILURE, TUBING + STEAM GENERATOR + SURVEILLANCE PROGRAM + TUBING

111902
 CRW CLUTCH BEARINGS FAIL AT PALISADES
 CONSUMERS POWER CO., JACKSON, MI
 2 PGS. LTR W/EP-76-04 TO NRC OFFICE OF I & E, REGION III, MARCH 10, 1976, DOCKET 50-255, TYPE--PWR, NFG--CCMB.,
 AE--DECTEL

CAUSE - OVERHEATING. DURING REPLACEMENT OF CRW CLUTCH COILS WITH THE UNIT SHUT DOWN FOR REFUELING, THE INNER BEARING OF THE CLUTCH ON SEVERAL UNITS WOULD NOT ROTATE WHEN TURNED BY HAND AND A NUMBER OF OTHERS DID NOT ROTATE FREELY. BEARING DEGRADATION APPEARS TO BE THE RESULT OF OVERHEATING. NOW DROP TIMES HAVE BEEN WITHIN LIMITS. ALL BEARINGS WERE REPLACED, THE CRW VENTILATION WILL BE IMPROVED, AND INSPECTIONS MADE AT THE NEXT REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + THERMAL MECHANICAL EFFLCT + VENTILATION SYSTEM + REFUELING + FAILURE, DESIGN ERROR + PALISADES (PWR) + BEARING + FAILURE, COMMON MODE + CONTROL ROD DRIVES

111907
 SET POINT DRIFT IN PRESSURE SWITCHES AT PALISADES
 CONSUMERS POWER CO., JACKSON, MI
 2 PGS. LTR W/EP-76-04 TO NRC OFFICE OF I & E, REGION III, MARCH 10, 1976, DOCKET 50-255, TYPE--PWR, NFG--CCMB.,
 AE--DECTEL

CAUSE - INSTRUMENT DRIFT. DURING TESTING WHILE THE UNIT WAS SHUT DOWN FOR REFUELING, THE RSIV

111907 CONTINUED

CLOSURE SET POINT WAS FOUND TO BE BELOW THE 500 PSIA LIMIT ON 2 INSTRUMENTS. ONE WAS FOUND SET AT 455 PSIA AND THE OTHER AT 495 PSIA. THE CAUSE WAS INSTRUMENT DRIFT. WITH INTERNATIONAL INSTRUMENT, MODEL NO. 9223-E, SWITCHES WERE ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT ISOLATION * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * PALISADES (PWR) * SET POINT * DRIFT * SENSORS, PRESSURE

112730

SET POINT DRIFT IN POWER RANGE CHANNEL AT PALISADES

CONSUMERS POWER CO., JACKSON, MI

2 PGS, LTR D/RO ER-76-07 TO NRC OFFICE OF I & E, REGION III, MARCH 26, 1976, DOCKET 50-400, TYPE--PWR, MFG--COMB., AE--BECHTEL

CAUSE - NONE FOUND. DURING TESTING OF THE POWER RANGE SAFETY CHANNEL TRIP SET POINT WITH THE REACTOR IN REFUEL MODE, 1 OF THE 4 CHANNELS WAS FOUND SET AT 107.1A, WHICH EXCEEDS THE 106.5A LIMIT. TESTING DETERMINED NO PROBLEM. THE CHANNEL WAS RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * REFUELING * TEST, SYSTEM OPERABILITY * PALISADES (PWR) * INSTRUMENT, POWER RANGE * SET POINT * DRIFT

113293

RADIOACTIVE GAS RELEASED FROM WRECK TANK AT PALISADES

CONSUMERS POWER CO., JACKSON, MI

2 PGS, LTR D/RO ER-76-08 TO NRC OFFICE OF I & E, REGION III, APRIL 22, 1976, DOCKET 50-255, TYPE--PWR, MFG--COMB., AE--BECHTEL

CAUSE - OPERATOR ERROR. DURING THE REFUELING OUTAGE, AN OPERATOR WAS GIVEN A BATCH CARD TO RELEASE WASTE GAS DECAY TANK T-101B. HE LINED UP AND RELEASED 4 PSI (60 LPI) FROM T-101A BEFORE DISCOVERING HIS ERROR AND STOPPING HIS RELEASE. T-101A WAS ISOLATED ON DEC. 21, 1975. TOTAL ACTIVITY RELEASED WAS 0.02% OF ALLOWABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

AIRBORNE RELEASE * FAILURE, OPERATOR ERROR * WASTE DISPOSAL * WASTE STORAGE * WASTE DISPOSAL, GAS * REFUELING * STORAGE CONTAINER * PALISADES (PWR)

113294

NOTIFICATION OF NONCOMPLIANCE WITH SECURITY PROGRAM AT PALISADES

U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC

2 PGS, LTR TO CONSUMERS POWER CO., APRIL 23, 1976, DOCKET 50-255, TYPE--PWR, MFG--COMB., AE--BECHTEL

CAUSE - IMPROPER TEST SCHEDULE. DURING AN INSPECTION, CERTAIN ACTIVITIES APPLIED TO BE IN NONCOMPLIANCE WITH NRC REQUIREMENTS. THE SECURITY OPERATIONS PROCEDURE SPECIFIED A COMMUNICATIONS SYSTEM TEST SCHEDULE THAT DID NOT MEET THE REQUIREMENTS OF THE SECURITY PLAN. THIS NOTICE REQUIRES A WRITTEN STATEMENT WITHIN 20 DAYS OF CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COMPLIANCE * FAILURE, ADMINISTRATIVE CONTROL * PALISADES (PWR) * TEST INTERVAL * COMMUNICATION SYSTEM * LEGALISTICS * AGENCY, NRC * SECURITY

113993

LEAKAGE OR PENETRATION ISOLATION VALVE EXCESSIVE AT PALISADES

CONSUMERS POWER CO., JACKSON, MI

2 PGS, LTR D/ER-76-011 TO NRC OFFICE OF I & E, REGION III, MAY 7, 1976, DOCKET 50-255, TYPE--PWR, MFG--COMB., AE--BECHTEL

CAUSE - NORMAL WEAR. DURING THE REFUELING OUTAGE LOCAL LEAK RATE TESTING, 1 OF THE 2 VALVES IN SERIES ON PENETRATION 40 SHOWED LEAKAGE ABOVE ACCEPTABLE LIMITS (111 LITERS/MIN). THE VALVE IS A 4-INCH GLOBE VALVE WITH TEFLON SOFT SEATS. THE SEATS WERE WORN FROM NORMAL USE. THE SEATS WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * TEST, LEAK RATE * REFUELING * TEST, SYSTEM OPERABILITY * PALISADES (PWR) * LEAK RATE * FAILURE, INHERENT * WEAR * VALVES * CONTAINMENT PENETRATION

114378
CONTAINMENT SPRAY SYSTEM RELAY MALFUNCTION AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR 87EN-76-05 TO NRC OFFICE OF I & E, REGION III, MAY 14, 1976. DUCRET 50-255, TYPE--PWR, NRC--COMB.,
AC--DECTEL

CAUSE - JUMPY CONTACTS. DURING TESTING OF THE CONTAINMENT SPRAY SYSTEM WITH THE UNIT IN THE REFUELING OUTAGE, THE LEFT CHANNEL RELAY SHOWED INTERMITTENT OPERATION. THE PROBLEM PROBABLY WAS WITH CONTACTS. THE TYPE SN. LAT. NO. 5110, WALLEYIN 7305, RELAY CONTACTS WERE CLEANED AND DETECTED SATISFACTORILY. GUST COVERS WILL BE INSTALLED TO ENCLOSE THESE RELAYS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

CONTAINMENT SPRAY * FAILURE, INSTANT * CHU * REFUELING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * PALISADES (PWR) * RELAYS

114380
CHARGING SYSTEM VALVES MAY NOT MEET CODE REQUIREMENTS AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR 87EN-76-12 TO NRC OFFICE OF I & E, REGION III, MAY 14, 1976. DUCRET 50-255, TYPE--PWR, NRC--COMB.,
AC--DECTEL

CAUSE - CHANGE IN CALCULATIONAL METHOD. DURING A REVIEW OF EQUIPMENT ASSOCIATED WITH LONG-TERM COOLING QUALIFICATIONS, IT WAS FOUND THAT 2 VALVES ASSOCIATED WITH THE CHARGING SYSTEM MAY NOT MEET CODE REQUIREMENTS AS THEY RELATE TO ALLOWABLE STRESSES AT THE VALVE BODY TO BURNET FLANGE. OPEN THESE VALVES WERE DESIGNED. STANDARD METHODS OF CALCULATING THESE STRESSES DID NOT EXIST. USING CURRENTLY ACCEPTED METHODS, CALCULATIONS SHOW STRESSES TO BE BELOW YIELD BUT ABOVE CODE ALLOWABLE. VALVE BURNET REPLACEMENT WILL RESOLVE THE PROBLEM AND WILL BE COMPLETED DURING CH REFUELING OUTAGE (SUMMER 1977).

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

CODES AND STANDARDS * STRESS * RECTIFICATION * FAILURE, DESIGN ERROR * PALISADES (PWR) * MAIN COOLING SYSTEM * MATHEMATICAL TREATMENT * FEEDWATER * VALVES

114375
CHARGING PUMP FAILS TO PERFORM PROPERLY AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR 87EN-76-10 TO NRC OFFICE OF I & E, REGION III, MAY 20, 1976. DUCRET 50-255, TYPE--PWR, NRC--COMB.,
AC--DECTEL

CAUSE - PLUGGED OIL FILTER. DURING A LOSS OF OFF-SITE PURSUIS TEST WITH THE REACTOR SHUT DOWN, CHARGING PUMP A STARTED, RAN FOR 10 SECONDS, AND SHUT DOWN. THE STANDBY PUMP B THEN STARTED AND PROVIDED THE NECESSARY CAPACITY. THE PUMP TRIP RESULTED FROM A PLUGGED OIL FILTER. THE FILTER WAS CHANGED AND THE PUMP OPERATED SATISFACTORILY. THIS FILTER CHANGE REQUIREMENT IS ON OUR PREVENTATIVE MAINTENANCE SCHEDULE. HOWEVER, MAINTENANCE WAS DELAYED FOR 4 MONTHS DUE TO THE REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

FAILURE, COMPONENT * CHU * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * PALISADES (PWR) * MAIN COOLING SYSTEM * LUBRICATION * FEEDWATER * PUMPS * FILTERS

114374
COOLING WATER DISCHARGED ABOVE 5 F LIMIT AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR 87EN-76-13 TO NRC OFFICE OF I & E, REGION III, MAY 21, 1976. DUCRET 50-255, TYPE--PWR, NRC--COMB.,
AC--DECTEL

CAUSE - COOLING TOWER STARTUP/SHUTDOWN. FOUR EVENTS OCCURRED IN 2 DAYS WHICH RESULTED IN DISCHARGING WATER ABOVE THE 5 F LIMIT. MOST OCCURRED AT 6 P OVER THE LIMIT, ONCE THE LIMIT WAS EXCEEDED BY 30 F FOR 10 MINUTES. DURING PLANT STARTUP FOLLOWING THE FIRST REFUELING OUTAGE, A COOLING TOWER HAD TO BE REMOVED FROM SERVICE TO REPAIR A LEAKING CONDENSER TUBE. THE EVENTS OCCURRED RELATED TO THE SHUTDOWN AND STARTUP OF THE COOLING TOWERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

REFUEL * FAILURE, EQUIPMENT * PALISADES (PWR) * COOLING TOWER * TEMPERATURE * CONDENSER COOLING SYSTEM * FAILURE, INHERENT

114600
DIESEL GENERATOR AND HPSE PUMP OUT OF SERVICE AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR 87EN-76-14 TO NRC OFFICE OF I & E, REGION III, MAY 25, 1976. DUCRET 50-255, TYPE--PWR, NRC--COMB.,
AC--DECTEL

11686 CONTINUED
AE--DECTEL

CAUSE - OVERWEIGHT BY STAFF. WHILE OPERATING AT 75% POWER, DIESEL GENERATION 1-1 WAS MADE IMPROPER FOR PREVENTATIVE MAINTENANCE WHILE 1 OF 2 MPM PUMPS ASSOCIATED WITH THE UNRELIABLE DIESEL WAS IMPROPER. THIS EVENT WAS REVIEWED BY THE SUPERVISOR INVOLVED. ALSO, PROCEDURES ARE BEING REVIEWED. A CHECKLIST MAY BE ADDED. THE CAUSE OF THIS EVENT WAS AN OVERSIGHT BY THE OPERATIONS STAFF.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC + MAINTENANCE AND REPAIR + FAILURE, ADMINISTRATIVE CONTROL + PALISADES (PM) + MPM + PUMPS + GENERATOR, DIESEL.

11688

CONTAINMENT PURGE SUPPLY VALVE FAILS TO OPEN AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR D/ER-76-21 TO NRC OFFICE OF I & E, REGION III, JULY 22, 1976. DOCKET 50-255. TYPE--PM, MFG--CCMB.,
AE--DECTEL

CAUSE - UNKNOWN AT THIS TIME. THE CONTAINMENT PURGE SUPPLY VALVE FAILED TO OPEN DURING TESTING WITH THE REACTOR AT 100% POWER. THE CAUSE IS UNKNOWN AT THIS TIME. AN INVESTIGATION WILL BE MADE DURING A PLANT DUTAGE OF SUFFICIENT LENGTH THAT REPAIRS CAN BE MADE WITHOUT AFFECTING PLANT AVAILABILITY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT PURGE + TEST, SYSTEM UNRELIABILITY + PALISADES (PM) + VALVES

11689

POWER DEPENDENT INSERTION LIMITS EXCEEDED AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
3 PGS. LTR D/ER-76-24 TO NRC OFFICE OF I & E, REGION III, AUG. 13, 1976. DOCKET 50-255. TYPE--PM, MFG--CCMB.,
AE--DECTEL

CAUSE - RAPID REACTOR POWER REDUCTION. A MAIN FEED PUMP OIL LEAK FORCED A RAPID REDUCTION IN REACTOR POWER FROM 95% TO 80% TO ALLOW REMOVAL OF THE AFFECTED FLOW PUMP WITHOUT CAUSING A TRIP. POWER REDUCTION WAS ACHIEVED USING BORON ADDITION AND CONTROL ROD INSERTION. POWER DEPENDENT INSERTION LIMITS WERE EXCEEDED 3 TIMES, ONCE BY 0.7 INCH FOR 1 MINUTE, ONCE BY 0.6 INCH FOR 1 MINUTE, AND ONCE BY 1.4 INCHES FOR 7 MINUTES. NEITHER THE SHUTDOWN MARGIN NOR LINEAR HEAT GENERATION RATE WERE EXCEEDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PM) + MAIN COOLING SYSTEM + REACTIVITY, NEGATIVE + TRANSIENT + FAILURE, INHERENT + REGULATED + CONTROL RODS + PUMPS

11687

COMPONENT COOLING WATER PUMP BEARING FAILS AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR D/ER 76-03 TO NRC OFFICE OF I & E, REGION III, AUG. 19, 1976. DOCKET 50-255. TYPE--PM, MFG--CCMB.,
AE--DECTEL

CAUSE - IMPROPER ALIGNMENT OR BEARING SLIPPAGE. WITH THE UNIT AT 90% POWER, COMPONENT COOLING PUMP P52-C INBOARD BEARING FAILED WHILE PREVENTATIVE MAINTENANCE WAS BEING PERFORMED ON CW PUMP P52-A. P52-A WAS RETURNED TO SERVICE LATER THE SAME DAY. THE PROBABLE CAUSE WAS EITHER NOT PERFORMING A HOT END ALIGNMENT ON THE PUMP AFTER REPAIR OR BEARING SLIPPAGE ON THE SHAFT. THE SHAFT WAS METALLIZED TO INSURE PROPER BEARING INTERFERENCE FIT. THE BEARING WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + FAILURE, MAINTENANCE ERROR + PALISADES (PM) + COMPONENT COOLING SYSTEM + CLEANING + PUMPS

11788

COMPONENT COOLING WATER PUMP BEARING FAILS AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS. LTR D/ER 76-03 TO NRC OFFICE OF I & E, REGION III, AUG. 19, 1976. DOCKET 50-255. TYPE--PM, MFG--CCMB.,
AE--DECTEL

CAUSE - IMPROPER ALIGNMENT OR BEARING SLIPPAGE. WHILE OPERATING AT 90% POWER, CW PUMP P52-C INBOARD BEARING FAILED WHILE PREVENTATIVE MAINTENANCE WAS BEING PERFORMED ON CW PUMP P52-A. P52-A WAS RETURNED TO SERVICE LATER THE SAME DAY. PROBABLE CAUSE OF BEARING FAILURE WAS EITHER NOT PERFORMING A HOT END ALIGNMENT ON THE PUMP AFTER REPAIR OR BEARING SLIPPAGE ON THE SHAFT. THE SHAFT WAS METALLIZED TO INSURE PROPER BEARING INTERFERENCE FIT. THE BEARING WAS

11700 CONTINGUO
REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * FAILURE, MAINTENANCE ERROR * PALISADES (PWR) * COMPONENT COOLING SYSTEM * BREAKING * PUMPS

116157
PLANT DISCHARGE TEMPERATURE EXCEEDS LIMIT AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR D/EN 76-26 TO NRC OFFICE OF I & E, REGION III, AUG. 31, 1976, DOCKET 50-255, TYPE--PWR, NRG--COM.,
AE--DECTEL

CAUSE - UNEXPECTED RISE IN CT BASIN LEVEL WHILE OPERATING AT 100% POWER AND DURING A TEST TO DETERMINE THE EFFECT OF DIVERTING DILUTION WATER FLOW TO THE MAIN CONDENSER IN PLANT OUTPUT. THE LEVEL IN THE COOLING TOWER BASIN INCREASED MORE RAPIDLY THAN EXPECTED. READJUSTMENT OF THE CT PUMP DISCHARGE VALVE TO TERMINATE THIS INCREASE RESULTED IN A CLOSED CYCLE CONDENSER COOLING SYSTEM DISCHARGE TEMPERATURE OF 6.0 F. THE ALLOWABLE LIMIT OF 5 F WAS EXCEEDED FOR 35 MINUTES. BASED ON THE A-E CALCULATIONS, A RAPID RISE WAS NOT EXPECTED. TEST PROCEDURE WAS REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * TESTING * FAILURE, DESIGN ERROR * PALISADES (PWR) * MATHEMATICAL TREATMENT * TEMPERATURE * CONDENSER COOLING SYSTEM

117061
LEAKAGE RATE OF PURGE AIR SUPPLY VALVE EXCEEDS LIMIT AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR D/EN 76-27 TO NRC OFFICE OF I & E, REGION III, SEPT. 7, 1976, DOCKET 50-255, TYPE--PWR, NRG--COM.,
AE--DECTEL

CAUSE - VALVE STEM PACKING LEAK DURING TESTING OF THE PURGE AIR SUPPLY VALVE WHILE OPERATING AT 100% POWER. THE AS FOUND LEAKAGE RATE WAS UNACCEPTABLY HIGH CAUSING THE TOTAL LOGICAL LEAK RATE TO BE ABOVE TECH SPEC LIMIT. THE VALVE PACKING WAS THE SOURCE OF THE LEAK. THE PACKING IS A MULTI-LAYER PACKING WITH A GREASE FITTING LOCATED BETWEEN 2 RINGS OF PACKING. LEAKAGE WAS THROUGH A RECENTLY MODIFIED GREASE FITTING. ALL MODIFIED GREASE FITTINGS WILL BE REPLACED WITH THE ORIGINAL DESIGN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT PURGE * CONTAINMENT ISOLATION * TEST, LEAK RATE * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * SEAL * PALISADES (PWR) * LUBRICATION * LEAK RATE * VALVES * CONTAINMENT PENETRATION

117002
TWO HOD GROUPS MOVE SIMULTANEOUSLY AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
3 PGS, LTR D/EN 76-23 TO NRC OFFICE OF I & E, REGION III, SEPT. 9, 1976, DOCKET 50-255, TYPE--PWR, NRG--COM.,
AE--DECTEL

CAUSE - UNUSUAL. WITH ALL RODS WITHDRAWN AND THE REACTOR AT 1% POWER, AN OPERATOR ATTEMPTED TO INSERT GROUP 4 RODS USING THE MANUAL SEQUENTIAL MODE. IT WAS OBSERVED THAT GROUP 3 ALSO MOVED. THIS OVERLAP IS NOT DESIGNED TO OCCUR UNTIL GROUP 4 HAS BEEN INSERTED TO 51 INCHES ABOVE THE BOTTOM OF THE CORE. INVESTIGATION AT THIS TIME DID NOT DISCLOSE THE SOURCE OF THE PROBLEM. THE FOLLOWING MORNING THE SYSTEM OPERATED NORMALLY IN ALL MODES. THE PROBLEM COULD NOT BE DUPLICATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL ROD INTERACTION * CONTROL SYSTEM * REACTOR CONTROL * PALISADES (PWR) * CONTROL RODS

117602
HYDROGEN RECOMBINER FAILS TO FUNCTION PROPERLY AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR D/EN 76-23 TO NRC OFFICE OF I & E, REGION III, SEPT. 10, 1976, DOCKET 50-255, TYPE--PWR, NRG--COM.,
AE--DECTEL

CAUSE - ONE PHASE OF HEATER GROUNDED. DURING THE SEMIANNUAL OPERATIONAL CHECK UP OF THE 2 HYDROGEN RECOMBINERS, ONE COIL ONLY BE LOADED TO 93 KW. THE RESULTING HEATER TEMPERATURE WAS 170 F BELOW THE TECH SPEC LIMIT OF 1200 F. THE HEATER MET THE REQUIREMENTS OF THE 6 MONTH TEST BUT NOT THE 12 MONTH TEST. PRELIMINARY INSPECTION INDICATED THAT ONE PHASE OF THE HEATER IS GROUNDED. INVESTIGATION WILL BE MADE AT THE NEXT PLANT COOL SHUTDOWN. THE REACTOR WAS AT 9.2% POWER AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

117600 *CONTINUED*
CONTAINMENT * FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * PALISADES (PWR) * FAILURE, IMMINENT * OPERATIONS * RECOMBINERS

110190
CONTROL ROD MISALIGNED TWICE AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR W/ER-76-029 TO NRC OFFICE OF I & E, REGION III, SEPT. 21, 1976, DCKET 50-255, TYPE--PWR, NRC--
COMM., AE--BECHTEL

CAUSE - MOTOR/BRAKE ASSEMBLY PROBLEMS. WHILE MAINTAINING THE REACTOR CRITICAL AT LOW POWER, CONTROL ROD MOTION WAS NECESSARY WHICH RESULTED IN 2 OCCASIONS WHEN ROD 37 WAS MISALIGNED BY UP TO 11.2 INCHES. EACH OCCASION LASTED FOR LESS THAN 1 MINUTE. ROD 37 FAILED TO MOVE WITH ITS GROUP DUE TO PROBLEMS WITH THE MOTOR/BRAKE ASSEMBLY. THE COMBUSTION ENGR. PIECE NO. CW-50-2108 MOTOR/BRAKE ASSEMBLY WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTROL ROD INTERACTION * REACTIVITY EFFECT * REACTOR CONTROL * PALISADES (PWR) * FAILURE, IMMINENT * CONTROL ROD DRIVES

110199
CONTROL ROD FAILS TO WITHDRAW AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR W/ER-76-39 TO NRC OFFICE OF I & E, REGION III, SEPT. 21, 1976, DCKET 50-255, TYPE--PWR, NRC--
COMM., AE--BECHTEL

CAUSE - MOTOR/BRAKE ASSEMBLY PROBLEMS. WHILE OPERATING AT 25% POWER, CONTROL ROD DRIVE 39 FAILED TO WITHDRAW DURING POWER ESCALATION. A ROD DROP TEST WAS PERFORMED SATISFACTORILY BUT ATTEMPTS TO WITHDRAW THE ROD WERE UNSUCCESSFUL. THE MOST PROBABLE CAUSE IS CONSIDERED TO BE ASSOCIATED WITH THE MOTOR/BRAKE ASSEMBLY. THE COMBUSTION ENGR. ASSEMBLY, PIECE NO. CW-50-2108, WAS REPLACED AND THE CRDM OPERATED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTIVITY EFFECT * REACTOR CONTROL * PALISADES (PWR) * FAILURE, IMMINENT * CONTROL ROD DRIVES

110200
CONTROL ROD DRIVE CONSIDERED INOPERABLE AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR W/ER-76-31 TO NRC OFFICE OF I & E, REGION III, SEPT. 21, 1976, DCKET 50-255, TYPE--PWR, NRC--
COMM., AE--BECHTEL

CAUSE - BEGINNING SEAL FAILURE. DUE TO SEAL LEAKAGE PROBLEMS WHILE OPERATING AT 50% POWER, CRDM 13 IS BEING CONSIDERED INOPERABLE. THIS ACTION IS TAKEN TO PROHIBIT ADDITIONAL DRIVE MOVEMENT WHICH MIGHT LEAD TO INCREASED SEAL LEAKAGE. THE DRIVE SEAL WILL BE REPLACED AT THE NEXT OPPORTUNITY CONSISTENT WITH PLANT OPERATING REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTOR CONTROL * SFM * PALISADES (PWR) * LEAK * FAILURE, IMMINENT * CONTROL ROD DRIVES

110194
RPS MATRIX RELAY FAILS AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
2 PGS, LTR W/ER-76-17 TO NRC OFFICE OF I & E, REGION III, SEPT. 22, 1976, DCKET 50-255, TYPE--PWR, NRC--
COMM., AE--BECHTEL

CAUSE - ASSOCIATED WITH CONTACTS. DURING ROUTINE TESTING WHILE OPERATING AT 50% POWER, 1 OF THE 24 RPS MATRIX RELAYS FAILED TO OPERATE. LIGHT TAPPING OF THE RELAY CASE APPEARS TO HAVE RESOLVED THE PROBLEM. THE CAUSE APPEARS TO BE ASSOCIATED WITH THE MERCURY WETTED CONTACTS (AWARE MODEL PD-2421-809). A SELECTED GROUP OF REPLACEMENT RELAYS IS CURRENTLY BEING TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * PALISADES (PWR) * RELAYS

110721
DC BUS VOLTAGE DROPS TO 60 VOLTS AT PALISADES
CONSUMERS POWER CO., JACKSON, MI
3 PGS, LTR W/ER-76-33 TO NRC OFFICE OF I & E, REGION III, NOV. 3, 1976, DCKET 50-255, TYPE--PWR, NRC--LUPJ..

119722 *CONTINUED*
AE--BCCNTEL

CASE - IMPROPER ADJUSTMENT OF CENTRALS. DURING A PLANT SHUTDOWN, DC BUS 2 VOLTAGE DROPPED TO ABOUT 90 VOLTS. THIS IN TURN DROPPED THE VOLTAGE ON THE 2 ASSOCIATED AC PREFERRED BUSES TO ABOUT 50 VOLTS. THE ABOVE CASE WAS DUE TO IMPROPER COORDINATION OF THE BATTERY CHARGER CURRENT LIMITER AND THE CHARGER OUTPUT BREAKER SETTING. THE STARTING OF AN OIL LIFT PUMP EARLIER IN THE DAY WAS THE MOST LIKELY CAUSE OF THE OUTPUT BREAKER TRIP. CHARGER SETTINGS WILL BE REVIEWED.

AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PWR) * BATTERIES & CHARGERS * ELECTRIC POWER * RESET POINT * CONTROL SYSTEM * FAILURE, EQUIPMENT * ON SITE

119759
DISCHARGE TEMPERATURE OF COOLING WATER EXCEEDS LIMIT AT PALISADES
CONSUMER'S POWER CO., JACKSON, MI
2 PGS, LTR W/EN-70-30 TO NRC OFFICE OF I & E, REGION III, NOV. 11, 1970. DCKET 50-255, TYPE--PWR, RFG--CERN.,
AE--BCCNTEL

CASE - OPERATIONAL PROBLEMS. DURING A STARTUP, PLANT OPERATIONAL PROBLEMS RESULTED IN THIRPING OF THE COOLING TOWER PUMPS. TO REESTABLISH A VACUUM IN THE CONDENSEN WATER BWR AND PERMIT RESTART OF THE PUMPS SOME COOLANT FLOW WAS REQUIRED. THIS FLOW CAUSED THE 5 P DISCHARGE LIMIT TO BE EXCEEDED BY 0.4 P FOR 8 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PWR) * TEMPERATURE * EFFLUENT * CONDENSER COOLING SYSTEM * COOLING TOWER * REACTOR STARTUP * FAILURE, INCIDENT

119760
COOLING WATER DISCHARGE TEMPERATURE EXCEEDS LIMIT AT PALISADES
CONSUMER'S POWER CO., JACKSON, MI
2 PGS, LTR W/EN-70-30 TO NRC OFFICE OF I & E, REGION III, NOV. 11, 1970. DCKET 50-255, TYPE--PWR, RFG--CERN.,
AE--BCCNTEL

CASE - STARTING COOLING TOWERS. DURING A PLANT STARTUP ON OCTOBER 26 77, 1970, 3 EVENTS OCCURRED WHICH RESULTED IN DISCHARGE WATER ABOVE THE 5 P LIMIT. THE 3 EVENTS ARE RELATED TO PLACING THE COOLING TOWERS IN SERVICE FOR PLANT STARTUP. DISCHARGES AVERAGED ABOUT 3 P OVER THE LIMIT. TOTAL TIME OVER THE LIMIT FOR ALL 3 EVENTS WAS 90 MINUTES AND THE MAXIMUM TEMPERATURE WAS 11 P OVER THE LIMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PWR) * TEMPERATURE * EFFLUENT * CONDENSER COOLING SYSTEM * COOLING TOWER * REACTOR STARTUP * FAILURE, INCIDENT

119761
CONTAINMENT AIR LOCKS LEAK EXCESSIVELY AT PALISADES
CONSUMER'S POWER CO., JACKSON, MI
3 PGS, LTR W/EN-70-30 TO NRC OFFICE OF I & E, REGION III, NOV. 19, 1970. DCKET 50-255, TYPE--PWR, RFG--CERN.,
AE--BCCNTEL

CASE - GUT OF ADJUSTMENT/SEAL LEAK. DURING ROUTINE TESTING WITH THE REACTOR AT 100% POWER, AIR LEAKAGE WAS OBSERVED DURING TESTING IN BOTH THE ESCAPE AND PERSONNEL AIR LOCKS. THE ESCAPE AIR LOCK INNER DOOR WAS CLOSING INCORRECTLY DUE TO IMPROPER ADJUSTMENT OF THE LATCHING MECHANISM. AFTER THE SEALING MECHANISM WAS ADJUSTED, AN EFFECTIVE SEAL WAS OBTAINED. THE PERSONNEL LOCK SHARP SEAL ASSOCIATED WITH THE OUTER DOOR LATCHING MECHANISM WAS LEAKING. THE LEAK WAS REPAIRED. DURING THIS EVENT, PROCEDURES WERE NOT FOLLOWED. AS FURTHER LEAKAGE WAS NOT DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PWR) * LEAK RATE * CONTAINMENT AIR LOCK * TEST, SYSTEM OPERABILITY * TEST, LEAK RATE * FAILURE, MAINTENANCE ERROR * SEAL

120000
TOTAL CHLORINE DISCHARGED TO LAKE EXCEEDS LIMIT AT PALISADES
CONSUMER'S POWER CO., JACKSON, MI
2 PGS, LTR W/EN-70-01 TO NRC OFFICE OF I & E, REGION III, DEC. 10, 1970. DCKET 50-255, TYPE--PWR, RFG--CERN.,
AE--BCCNTEL

CASE - EXCESS FLOW. WHILE OPERATING AT 100% POWER, THE TOTAL CHLORINE IN THE DISCHARGE TO THE LAKE EXCEEDED THE 0.007 MPP LIMIT DURING OPERATION OF COOLING TOWER. TOTAL CHLORINE DISCHARGE WAS 0.029 MPP IN THE RAINING BASIN. THERE WAS EXCESSIVE FLOW FROM THE WEIR DISCHARGED TO THE RAINING BASIN.

120000 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PDR) * CONCENTRATOR * CHLORINE * EFFLUENT * CONDENSER COOLING SYSTEM * FAILURE, OPERATOR ERROR * WATER QUALITY * FLOW

120001
 SET POINT DRIFT IN NEUTRON MONITOR AT PALISADES
 CONSUMER: POWER CO., JACKSON, MI
 2 PGS. LTR N/EN-70-37 TO NRC OFFICE OF I & E, REGION III, DEC. 13, 1976, DUCRET 50-255, TYPE--PDR, RFG--CGMB., AE--DECTEL

CAUSE - INSTRUMENT DRIFT. WHILE TESTING NEUTRON MONITOR CHANNEL C WITH THE PLANT IN COLD SHUTDOWN, THE TRIP SET POINT WAS FOUND AT 106.48 WHILE SPECS CALL FOR 106.52. THE CAUSE WAS INSTRUMENT DRIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PDR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * MONITOR * NEUTRON * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * FAILURE, IMMINENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, NUCLEAR

120272
 SET POINT DRIFT IN NEUTRON MONITOR AT PALISADES
 CONSUMER: POWER CO., JACKSON, MI
 2 PGS. LTR N/EN-70-37 TO NRC OFFICE OF I & E, REGION III, DEC. 13, 1976, DUCRET 50-255, TYPE--PDR, RFG--CGMB., AE--DECTEL

CAUSE - INSTRUMENT DRIFT. WHILE CARRYING THE CHECK SHEET ON NEUTRON MONITOR CHANNEL C WITH THE PLANT IN COLD SHUTDOWN, THE TRIP SET POINT WAS FOUND AT 106.48 WHILE SPECIFICATION CALLS FOR 106.52. THE APPARENT CAUSE WAS INSTRUMENT DRIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PDR) * RADIATION MONITORS * NEUTRON * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * INSTRUMENT, POWER RANGE * SET POINT * DRIFT * TEST, SYSTEM OPERABILITY * REACTOR PROTECTION SYSTEM * FAILURE, IMMINENT * FAILURE, INSTRUMENT

120071
 COOLING WATER DISCHARGE TEMPERATURE EXCEEDS LIMIT ON FEW OCCASIONS AT PALISADES
 CONSUMER: POWER CO., JACKSON, MI
 3 PGS. LTR N/EN-70-37 TO NRC OFFICE OF I & E, REGION III, DEC. 17, 1976, DUCRET 50-255, TYPE--PDR, RFG--CGMB., AE--DECTEL

CAUSE - PLANT/COOLING TOWER STARTUP OR SHUTDOWN. FOUR REPORTABLE OCCURRENCES INVOLVE THE DISCHARGE OF COOLING WATER ABOVE THE S F LIMIT ON 6 DIFFERENT OCCASIONS. THESE OCCURRED DURING PLANT AND/OR COOLING TOWER STARTUP OR SHUTDOWN. NRC'S LIMITS WERE NOT EXCEEDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PDR) * TEMPERATURE GRADIENT * CONDENSER COOLING SYSTEM * EFFLUENT * COOLING TOWER * FAILURE, IMMINENT

120001
 TWO OBA SEQUENCERS FAIL TO OPERATE AT PALISADES
 CONSUMER: POWER CO., JACKSON, MI
 4 PGS. LTR N/EN-70-45 TO NRC OFFICE OF I & E, REGION III, DEC. 21, 1976, DUCRET 50-255, TYPE--PDR, RFG--CGMB., AE--DECTEL

CAUSE - INSUFFICIENT CLUTCH DISK GAP. DURING A RUNUP OF A TEST (TO CHECK OTHER EQUIPMENT) CONDUCTED SUCCESSFULLY THE DAY EARLIER, OBA SEQUENCER 30-1 FAILED TO OPERATE. THE REDUNDANT CHANNEL WAS THEN TESTED AND SIMILARLY OBA SEQUENCER 30-2 FAILED TO OPERATE. A PLANT SHUTDOWN FROM 100% POWER WAS MADE. IN EACH CASE, THE SEQUENCER CLUTCH FAILED TO RESET DUE TO INSUFFICIENT CLUTCH DISK GAP. THE MOST PROBABLE CAUSE OF THE DISK GAP PROBLEM WAS SET SCREW SLIPPAGE. THE DISK GAP WAS ADJUSTED AND THE SET SCREWS TIGHTENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PALISADES (PDR) * ORLLAYS * PERCENTAGE SYSTEM * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * FAILURE, SEQUENTIAL * REACTOR SHUTDOWN * FAILURE, MAINTENANCE ERROR * EMERGENCY POWER, ELECTRIC

110314

110314 CONTINUED
 AUXILIARY FEED PUMP VALVE FAILS TO CLOSE AT POINT BEACH 1
 WISCONSIN ELECTRIC POWER CO., MILWAUKEE, WI
 2 PGS. LTR D/AL 50-200/70-1 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JAN. 10, 1970, DOCKET 50-200, TYPE--
 PWR, NRC--BEST., AE--BECHTEL

CAUSE - VALVE OPERATOR RING BURN. DURING TESTING OF THE ELECTRIC AUXILIARY FEED PUMP WITH BOTH
 UNITS CRITICAL, THE DISCHARGE VALVE FOR THE PUMP JAMMED IN THE ALMOST FULLY OPEN POSITION. SINCE
 UNIT 1 STEAM-DRIVEN AUXILIARY FEED PUMP WAS TAGGED OUT OF SERVICE, UNIT 1, WHICH WAS AT ZERO
 POWER, WAS SHUT DOWN. THE VALVE OPERATOR RING WAS FOUND TO BE BURN. THIS GEAR WAS REPLACED AND
 THE VALVE RETESTED SUCCESSFULLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, COMPONENT + TEST, SYSTEM OPERABILITY + POINT BEACH 1 (PWR) + MAIN COOLING SYSTEM + REACTOR SHUTDOWN +
 FAILURE, IMMINENT + AUXILIARY + OPERATOR + VALVE OPERATORS + PUMPS + VALVES

110312
 NUCLEAR POWER RANGE CHANNEL FAILS AT POINT BEACH 1
 WISCONSIN ELECTRIC POWER CO., MILWAUKEE, WI
 2 PGS. LTR D/AL 50-200/70-2 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JAN. 17, 1970, DOCKET 50-200, TYPE--
 PWR, NRC--BEST., AE--BECHTEL

CAUSE - POWER SUPPLY FAILED. WITH THE UNIT AT 50% POWER DURING POWER ESCALATION, NUCLEAR POWER
 RANGE CHANNEL #1 POWER SUPPLY FAILED MAKING THE DETECTION INSPEAKABLE. THE 3 SAFEGUARD DISTABLES
 WERE PLACED IN THE TRIPPED MODE. THE CHANNEL #1 POWER SUPPLY, A POWER DESIGN, INC., MODEL JPM-
 400, WAS REPLACED IN KIND WITHIN 1.5 HOURS AND THE CHANNEL RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

REACTION PROTECTION SYSTEM + ELECTRIC POWER + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + POINT BEACH 1 (PWR) +
 INSTRUMENT, POWER RANGE + FAILURE, IMMINENT

110322
 CONTAINMENT ISOLATION VALVES LEAK EXCESSIVELY AT POINT BEACH 1
 WISCONSIN ELECTRIC POWER CO., MILWAUKEE, WI
 3 PGS. LTR D/AL 50-200/70-3 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, FEB. 2, 1970, DOCKET 50-200, TYPE--
 PWR, NRC--BEST., AE--BECHTEL

CAUSE - GENT ON SEATS. DURING THE REFUELING OUTAGE, LOCAL LEAK TESTS (6 PSIG AIR) FOUND 4 VALVES
 WITH LEAK RATES IN EXCESS OF 2000 CC/MIN. SEVEN VALVES HAD GENT ON THE SEATS. GENERAL CLEANING
 AND IN SOME CASES LAPPING OF THE SEATS AND DISCS WAS PERFORMED. ONE VALVE WAS ADJUSTED TO PERMIT
 THE PLUNGER TO BUTTCH ON THE SEAT. THE BODY-TO-BURNET BOLTED JOINT WAS SLIGHTLY OPEN ON THE LAST
 VALVE. THE BOLTING WAS TIGHTENED. IN EACH CASE, A REDUNDANT VALVE WAS IN THE LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTAINMENT ISOLATION + TEST, LEAK RATE + GENT + REFUELING + TEST, SYSTEM OPERABILITY + POINT BEACH 1 (PWR) +
 LEAK RATE + FAILURE, IMMINENT + VALVES

115207
 SERVICE WATER HEADER VALVE FAILS TO OPEN AT POINT BEACH 1
 WISCONSIN MICHIGAN POWER CO., MI
 2 PGS. LTR 50-200/70-6, JUNE 20, 1970, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - CORRUDED TOP-UP SWITCH. DURING ROUTINE CYCLING OF SERVICE WATER HEADER ISOLATION VALVES
 WHILE OPERATING AT 100% POWER, A VALVE WOULD NOT REOPEN ELECTRICALLY AFTER SHUTTING ON DEMAND.
 THE LEAKAGE, TYPE SW, VALVE OPERATOR FAILED DUE TO CORROSION OF THE TOP-UP SWITCH.
 CORROSION CRIPPING FROM AN OVERHEAD PIPE CAUSED CORROSION OF THE SWITCH AND OTHER COMPONENTS.
 THE TOP-UP SWITCH WAS REPLACED IN KIND AND OTHER COMPONENTS CLEANED OR REPLACED AS NECESSARY. A
 SECTION OF THE PIPE WAS INSULATED AND THE VALVE OPERATOR REBALANCE WERE NECESSARY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + CORROSION + INSTRUMENT, SWITCH + TEST, SYSTEM
 OPERABILITY + POINT BEACH 1 (PWR) + FAILURE, INSTALLATION ERROR + SERVICE WATER SYSTEM + VALVE OPERATORS +
 VALVES

115208
 FISH KILLED IN DISCHARGE PLUME AT POINT BEACH 1
 WISCONSIN MICHIGAN POWER CO., MILWAUKEE, WI
 2 PGS. LTR 50-200/70-07 TO U.S. NRC, JULY 20, 1970, DOCKET 50-200, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - WASHOUT HOLE IN SCREEN. WHILE THE UNIT WAS OPERATING AT 100% POWER, ABOUT 200 CARP (A
 TRASH FISH) WERE NOTED TO BE UPSTREAM OF THE CONDENSER COOLING WATER DISCHARGE PLUME SCREEN. THE

115000 CONTINUED

DNR REFUSED TO ALLOW THE CAPTURE AND RETURN OF THE ENTRAPPED FISH TO LAKE MICHIGAN. ABOUT 40 DAYS LATER, 20 HAD DIED. THE REMAINING FISH WILL BE REMOVED WHEN PRACTICABLE. A WASPNET HOLE HAD DEVELOPED BELOW THE DISCHARGE SCREENS PERMITTING FISH ACCESS. THE SCREEN WAS PLUGGED WITH SANDCRETE UTILIZING A DIVER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * FILTER, SCREEN * POINT BEACH 1 (PBR) * ANIMAL, FISH * ORPHALITY * CONDENSED COOLING SYSTEM * DISCHARGE

117051

ERROR FOUND IN SAFETY ANALYSIS AT POINT BEACH 1

MICHIGAN ELECTRIC POWER CO., MILWAUKEE, WI

2 PGS, LTR W/RT TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JULY 20, 1976, DCKET 50-200, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - INCORRECT ASSUMPTIONS. UNREVIEWED SAFETY QUESTIONS WERE DISCOVERED IN ACCIDENT ANALYSIS AS A RESULT OF RECENT TESTING, IMPROVED ANALYTICAL METHODS, AND IN-PLANT MEASUREMENTS. THESE QUESTIONS CONCERN ASSUMED VALUES FOR FLUID TEMPERATURE IN THE RV UPPER HEAD PLENUM AND THE DPMH PENALTY FOR FUEL ROD BOW EFFECTS. DATA INDICATE THAT CONTINUED FULL POWER OPERATION IS ACCEPTABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * INCIDENT, LOSS OF COOLANT * HOT CHANNEL ANALYSIS * UHM * FAILURE, DESIGN ERROR * POINT BEACH 1 (PBR) * FUEL ROD * TEMPERATURE

118055

BREAKER FAILS TO TRIP ON UNDERVOLTAGE SIGNAL AT POINT BEACH 1

MICHIGAN ELECTRIC POWER CO., MILWAUKEE, WI

2 PGS, LTR W/RT TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, DEC. 14, 1976, DCKET 50-200, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - UNDERVOLTAGE DEVICE STICKY. DURING TESTING OF THE REACTOR TRIP BREAKERS WITH THE REACTOR AT 100% POWER, BREAKER A FAILED TO TRIP ON AN UNDERVOLTAGE SIGNAL. EXAMINATION OF THE DESTINGHOUSE TYPE DB-50 UNDERVOLTAGE DEVICE DETERMINED IT TO BE OPERATIVE BUT STICKY AND NOT CAPABLE OF DELIVERING THE FARMER-LIKE TAP NECESSARY TO ACTIVATE THE BREAKER TRIP MECHANISM. A SIMPLE CLEANING, LIGHT LUBRICATING, AND RESETTING CORRECTED THE PROBLEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

POINT BEACH 1 (PBR) * RELAYS * INSTRUMENT, PROTECTIVE * BREAKER * TEST, SYSTEM OPERABILITY * FAILURE * INSTRUMENT * FAILURE, MAINTENANCE ERROR * LUBRICATION

120000

NUCLEAR POWER RANGE INSTRUMENT FAILS AT POINT BEACH 1

MICHIGAN ELECTRIC POWER CO., MILWAUKEE, WI

2 PGS, LTR W/RT TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, DEC. 14, 1976, DCKET 50-200, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - POWER SUPPLY FAILURE. WHILE OPERATING AT 100% POWER, 1 CHANNEL (2) OF A NUCLEAR POWER RANGE INSTRUMENTS FAILED TO THE TRIP POSITION CAUSING A 20% MANDATE TO 70% POWER AS DESIGNED. TO RE-ESTABLISH THE FULL DEGREE OF REDUNDANCY FOR ALL REACTOR TRIP FUNCTIONS, THE UNITS 1 (200 MW) & 2) WERE MANUALLY PLACED IN THE TRIP MODE WITHIN 11 MINUTES. THE POWER DESTROY, (ENCL. NUCL. W/RT-448, -25 V POWER SUPPLY TO CHANNEL (2) HAD FAILED. IT WAS REPLACED IN KIND AND THE CHANNEL RETURNED TO NORMAL SERVICE WITHIN 20 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

POINT BEACH 1 (PBR) * INSTRUMENT, POWER RANGE * ELECTRIC POWER * ELECTRONIC FUNCTION UNITS * FAILURE * INSTRUMENT * FAILURE, INHERENT * REACTOR PROTECTION SYSTEM

115025

MAINLINE CRACKS ON STEAM DUMP VALVE ROCKETTS AT POINT BEACH 1 AND 2

MICHIGAN ELECTRIC POWER CO., MILWAUKEE, WI

2 PGS, LTR W/RT TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JULY 20, 1976, DCKETS 50-200/101, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - PROBABLY CASTING DEFECTS. DURING DISASSEMBLY OF A 6-INCH COPES-VULCAN ATMOSPHERIC STEAM DUMP VALVE, FINE CRACKS WERE DISCOVERED EMANATING AT AN ANGLE FROM THE CENTER BOWING HOLE ON THE UNDERSIDE OF THE BOWNET FLANGE FACE. THE REMAINING 3 ATMOSPHERIC STEAM DUMP VALVES AND THE 10 CONDENSER STEAM DUMP VALVES WERE THEN INSPECTED. IN UNIT 1 7 OF 10 VALVES HAD CRACKS AND IN UNIT 2 3 HAD CRACKS. TO DATE 5 HAVE BEEN REPAIRED BY THE MANUFACTURER. THE OTHER 5 ARE BEING REPAIRED. CRACKS MAY HAVE BEEN CAUSED BY CASTING DEFECTS BELOW THE BOWNET SURFACE WHICH WOULD BE IN LOCALIZED HIGH STRESSES. THIS IS AN INFORMATION REPORT, NOT A REPORTABLE EVENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

115005 CONTINUED
CHARGE \$2.00

PRESSURE RELIEF + FAILURE, FABRICATION ERROR + POINT BEACH 1 (PWH) + COOLING SYSTEM, SECONDARY + CRACK + POINT BEACH 2 (PWH) + VALVES

109002
TRIP VALVE REPAIRS ON MAIN STEAM STOP VALVE OPERATION FAILS AT POINT BEACH 2
DISCONSIDER ELECTRIC POWER CO., MILWAUKEE, WI
2 PGS. LTR EVENT RPT 50-301/75-10 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JAN. 5, 1976, DOCKET 50-301, TYPE--
PWR, NRC--BEST., AE--DELETED

CAUSE - EXCESS FRICTION, DURING A MAIN STEAM ISOLATION AND CHECK VALVE TEST, THE MECHANICAL LATCHING MECHANISM ON THE MODULANT SILENCER TRIP VENT VALVE ON MAIN STEAM STOP VALVE FAILED TO UNLATCH WHEN THE SILENCER WAS ENERGIZED. THE OPERATOR TRIPPED IT MANUALLY. NO OBVIOUS DEFECTS WERE FOUND IN THE MECHANISM. THE CONTACT SURFACES WERE LIGHTLY SPRAYED WITH A SILICONE LUBRICANT. THE LATCH TRIPPED ON 10 TRIP SIGNALS. THE BASIC PROBLEM OF FRICTION IN THE MECHANISM STILL APPEARS TO EXIST AFTER SEVERAL MODIFICATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE EQUIPMENT + CONTAINMENT ISOLATION + STEAM + TEST, SYSTEM OPERABILITY + FAILURE, DESIGN ERROR + POINT BEACH 2 (PWH) + COOLING SYSTEM, SECONDARY + POINT BEACH 2 (PWH) + VALVE OPERATORS + VALVES

111700
TRIP NOT TESTED PRIOR TO REACTOR STARTUP AT POINT BEACH 2
DISCONSIDER ELECTRIC POWER CO., MILWAUKEE, WI
2 PGS. LTR EVENT RPT 50-301/75-10 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, JAN. 21, 1976, DOCKET 50-301, TYPE--
PWR, NRC--BEST., AE--DELETED

CAUSE - OPERATOR ERROR. DURING RECOVERY FROM A MANUAL REACTION AND TURBINE TRIP, THE REACTOR WAS TAKEN CRITICAL PRIOR TO VERIFYING THAT THE NUCLEAR INSTRUMENTATION INTERMEDIATE RANGE CHANNELS WERE OPERABLE. THE SHIFT SUPERVISOR RECOGNIZED THE OMISSION AND VERIFIED OPERABILITY BY TEST 3 RESULTS AFTER STARTUP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + PROCEDURES AND MANUALS + INSTRUMENT, INTERMEDIATE RANGE + TEST INTERVAL + POINT BEACH 2 (PWH) + REACTOR STARTUP

111022
PURGE SUPPLY VALVES LEAK EXCESSIVELY AT POINT BEACH 2
DISCONSIDER ELECTRIC POWER CO., MILWAUKEE, WI
2 PGS. LTR EVENT RPT 50-301/76-2 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, FEB. 20, 1976, DOCKET 50-301, TYPE--
PWR, NRC--BEST., AE--DELETED

CAUSE - PROBABLY DUST ON THE SEAT. FOLLOWING A CONTAINMENT PURGE OPERATION, A VALVE LEAK RATE TEST INDICATED EXCESSIVE LEAKAGE. BASED ON PREVIOUS EXPERIENCE, THE MATING SURFACES ON THE OUTER VALVE WERE CLEANED AND LUBRICATED. A TEST SHOWED NO IMPROVEMENT IN THE LEAK RATE. THE INBOARD VALVE SURFACES WERE THEN CLEANED AND LUBRICATED. A SUCCESSFUL TEST WAS ACHIEVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE EQUIPMENT + CONTAINMENT PURGE + CONTAINMENT ISOLATION + CHUD + TEST, SYSTEM OPERABILITY + LEAK RATE + FAILURE, INSTRUMENT + POINT BEACH 2 (PWH) + VALVES

111770
REACTOR COOLANT SYSTEM PRESSURE EXCEEDS LIMIT FOR TEMPERATURE AT POINT BEACH 2
DISCONSIDER ELECTRIC POWER CO., MILWAUKEE, WI
3 PGS. LTR EVENT RPT 50-301/76-3 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, MARCH 5, 1976, DOCKET 50-301, TYPE--
PWR, NRC--BEST., AE--DELETED

CAUSE - OPERATOR ERROR. WITH THE REACTOR COOLANT SYSTEM SHUT AT 100 F, 400 PSIG, WITH BOTH ELLANT PUMPS STOPPED, THE RHM SYSTEM WAS IN SERVICE AND CUT INTO THE REACTOR COOLANT SYSTEM. PART OF THE LET DOWN WAS THROUGH THE RHM SYSTEM. FOR OPERATIONAL REASONS, THE RHM SYSTEM WAS ISOLATED FROM THE REACTOR COOLANT SYSTEM AND THE CHARGING PUMP FLOW WAS NOT REDUCED. PRESSURE ROSE TO 630 PSIG BEFORE THE OPERATOR COULD REDUCE INPUT FLOW. THIS EXCEEDED THE PRESSURE/TEMPERATURE CURVE VALUE OF 615 PSIG. PRESSURE WAS QUICKLY REDUCED TO 400 PSIG. NO DAMAGE OCCURRED. THE CURVE IS VERY CONSERVATIVE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + NOT DATA + PRESSURE, INTERNAL + MAIN COOLING SYSTEM + PRESSURE TRANSIENT + POINT BEACH 2 (PWH) + PRESSURE VESSELS

112235

STEAM GENERATOR TUBES PLUGGED AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO.
 2 PGS. LER 50-301/70-6 TO NRC. MARCH 22, 1976. DOCKET 50-301. TYPE--PDR. NRC--BEST.. AE--BCHTEL

CAUSE - PHOSPHATE THINNING. EDDY CURRENT TESTING OF STEAM GENERATOR TUBING DURING THE SECOND REFUELING OUTAGE FOUND 5 TUBES IN 3-A AND 2 TUBES IN 3-B & F) HAVE DEFECTS IN EXCESS OF 50%. THESE WERE EXPLOSIVELY PLUGGED. IN ADDITION, 9 TUBES IN A AND 2 IN B HAD DEFECTS RANGING FROM 41% TO 64% AND WERE PLUGGED AS A CONSERVATIVE MEASURE. DEFECTS WERE CAUSED BY PHOSPHATE THINNING. STEAM GENERATORS ARE NOW OPERATING ON AVT CHEMISTRY. SLUDGE LANCING IS PERFORMED AT EACH REFUELING TO REMOVE RESIDUAL SLUDGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COMPOSITION - CRUD + REFUELING + TEST, SYSTEM OPERABILITY + TEST, NONDESTRUCTIVE + WATER TREATMENT + FAILURE, DESIGN ERROR + FAILURE, TUBING + STEAM GENERATOR + TUBING + POINT BEACH 2 (PDR)

112607

CONTAINMENT SPRAY VALVE FAILS TO OPEN AT POINT BEACH 2
 WISCONSIN ELECTRIC POWER CO., MI.
 2 PGS., LER 50-301/70-6 TO U.S. NRC. APRIL 5, 1976. DOCKET 50-301. TYPE--PDR. NRC--BEST.. AE--BCHTEL

CAUSE - OPEN SLIDER ON TERMINAL BOARD. DURING A CONTAINMENT SPRAY AUTOMATIC SEQUENCE TEST, 1 OF THE 2 VALVES UPSTREAM OF THE CONTAINMENT SPRAY NOZZLES FAILED TO OPEN. IT COULD BE OPENED BY MANUAL OPERATION OF THE CONTROL BOARD SWITCH. AN OPEN SLIDER WAS FOUND ON THE TERMINAL BOARD IN THE ACTUATION CIRCUITRY. THE SLIDER WAS CLOSED TO CORRECT THE PROBLEM. THE CAUSE OF THE SLIDER BEING OPEN IS UNKNOWN. THE REACTOR WAS SHUT DOWN FOR REFUELING AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT SPRAY + CONTROL SYSTEM + FAILURE, EQUIPMENT + REFUELING + TEST, SYSTEM OPERABILITY + CABLES AND CONNECTORS + POINT BEACH 2 (PDR) + VALVES

113319

LEAKAGE OF CONTAINMENT ISOLATION CHECK VALVE EXCESSIVE AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO., MI.
 2 PGS. LER 50-301/70-7 TO U.S. NRC. APRIL 7, 1976. DOCKET 50-301. TYPE--PDR. NRC--BEST.. AE--BCHTEL

CAUSE - DIRT ON SEAT. DURING REFUELING OUTAGE LEAK TESTING, A CONTAINMENT ISOLATION CHECK VALVE IN THE COMPONENT COOLING WATER SUPPLY TO REACTOR COOLANT PUMP A HAD A LEAK RATE IN EXCESS OF THE LIMIT. LEAKAGE WAS DUE TO A SLIGHT DIRT ACCUMULATION ON THE SEAT OF THE VELAN MODEL 7J906, 4-INCH CHECK VALVE. THE SEAT AND DISC WERE LAPPED. A RETEST WAS SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + TEST, LEAK RATE + CRUD + REFUELING + TEST, SYSTEM OPERABILITY + LEAK RATE + COMPONENT COOLING SYSTEM + VALVE, CHECK + FAILURE, INHERENT + POINT BEACH 2 (PDR)

113824

LEAK RATE OF CONTAINMENT PURGE VALVE EXCESSIVE AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO.
 2 PGS. LER 50-301/70-8 TO NRC. APRIL 30, 1976. DOCKET 50-301. TYPE--PDR. NRC--BEST.. AE--BCHTEL

CAUSE - DIRT ON MATING SURFACES. DURING A LEAK TEST OF THE CONTAINMENT PURGE SUPPLY VALVES FOLLOWING A CONTAINMENT PURGE WITH THE REACTOR AT 100% POWER, THE INBOARD VALVE HAD A LEAK RATE IN EXCESS OF THE LIMIT. THE CONTINENTAL EQUIPMENT CO., TYPE 177, BUTTERFLY VALVE LEAKED DUE TO DIRT ON MATING SURFACES. THE SURFACES WERE CLEANED, AND THE VALVE RETESTED SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT PURGE + TEST, LEAK RATE + CRUD + TEST, SYSTEM OPERABILITY + LEAK RATE + FAILURE, INHERENT + POINT BEACH 2 (PDR) + VALVES

114781

POWER RANGE DETECTOR DRIFTS AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO., MI.
 1 PG. LER 50-301/70-9 TO U.S. NRC. JUNE 1, 1976. DOCKET 50-301. TYPE--PDR. NRC--BEST.. AE--BCHTEL

CAUSE - INSTRUMENT FAILURE. WHILE OPERATING AT 100% POWER, DRIFTING OF 1 OF 4 POWER RANGE DETECTOR'S 202B REQUIRED PLACING THE AFFECTED CHANNEL IN THE TRIPPED MODE. A PLANT SHUTDOWN WAS SCHEDULED TO REPLACE THE FAULTY DETECTOR. THE BESTIMUM MODEL BL23-710 DETECTOR WAS REPLACED WITH A MODEL BL23-888.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

116701 *CONTINUED*
CHARGE \$2.00

FAILURE, INSTRUMENT * FAILURE, DESIGN ERROR * INSTRUMENT, POWER RANGE * REACTOR SHUTDOWN * DRIFT * POINT BEACH 2 (PWR)

115402
OVERPOWER TRIP NOT PLACED IN TRIP MODE WHEN REQUIRED AT POINT BEACH 2
WISCONSIN MICHIGAN POWER CO., WI
2 PGS, LER 50-301/70-10, JUNE 23, 1970, DOCKET 50-301, TYPE--PWR, NRC--WEST., AE--BECHTEL

CAUSE - OPERATOR ERROR. DURING FULL POWER OPERATION, THE UNIT EXPERIENCED A TURBINE RUNBACK, 100% TO 0%, FOLLOWING LOSS OF POWER RANGE DETECTION VOLTAGE. THE POWER RANGE TRIP WAS PLACED IN THE TRIP MODE 1 MINUTE LATER. HOWEVER, THE OVERPOWER AND OVERTEMPERATURE TRIPS WERE NOT PLACED IN THE TRIP MODE UNTIL 52 MINUTES LATER. A POWER DESIGN INC., MODEL UPPO-2500 POWER SUPPLY FAILED CAUSING LOSS OF VOLTAGE TO THE DETECTOR RESULTING IN A TURBINE RUNBACK. IT WAS NOT IMMEDIATELY RECOGNIZED THAT THE DELTA T TRIPS MUST BE PLACED IN TRIP MODE. PROCEDURES FOR DOING THIS WILL BE PREPARED FOR USE OF OPERATOR ON OFF SHIFTS AND WEEKENDS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * REACTOR PROTECTION SYSTEM * ELECTRIC POWER * INSTRUMENT, SWITCH * INSTRUMENT, POWER RANGE * POINT BEACH 2 (PWR)

115044
AUXILIARY FEED PUMP VALVE FAILS TO OPEN AT POINT BEACH 2
WISCONSIN MICHIGAN POWER CO., MILWAUKEE, WI
2 PGS, LER 50-301/70-11 TO U.S. NRC, JULY 16, 1970, DOCKET 50-301, TYPE--PWR, NRC--WEST., AE--BECHTEL

CAUSE - TORQUE SWITCH SET POINT CRIPY. DURING TESTING OF THE STEAM-DRIVEN AUXILIARY FEED PUMP WITH THE REACTOR AT 100% POWER, 1 OF THE 2 STEAM SUPPLY VALVES FAILED TO OPEN. IT HAD BEEN OPENED ONLY 10 MINUTES EARLIER. SET POINT DRIFT IN THE TORQUE SWITCH ON THE LIMITORQUE MODEL SMD-80-10 VALVE ACTUATOR PERMITTED THE VALVE TO CLOSE TIGHTER THAN DESIRED. EXCESSIVE TORQUE IN OPENING TRIPPED THE THERMAL OVERLOAD SWITCH. SUBSEQUENT TO THIS OCCURRENCE, THE VALVE ON ROTUN-DRIVEN AUXILIARY FEED PUMP B HAD BEEN CLOSED TO STOP CHECK VALVE BACK LEAKAGE PENDING CHECK VALVE REPAIR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * DRIFT * FAILURE, INHERENT * AUXILIARY * COOLING SYSTEM, SECONDARY * POINT BEACH 2 (PWR) * OPERATOR * VALVE OPERATORS * VALVES

115045
BORIC ACID FEED TRACING CIRCUIT OPERATING ERRATICALLY AT POINT BEACH 2
WISCONSIN MICHIGAN POWER CO., MILWAUKEE, WI
1 PG, LER 50-301/70-12 TO U.S. NRC, JULY 21, 1970, DOCKET 50-301, TYPE--PWR, NRC--WEST., AE--BECHTEL

CAUSE - DEFECTIVE CONTROLLED. DURING A CHECK OF BORIC ACID FEED TRACING CIRCUITS, A REDUNDANT CIRCUIT ON THE MANUALLY-OPERATED BORATION PIPING TO THE CHARGING PUMP SUCTIONS WAS FOUND TO BE OPERATING ERRATICALLY. THE CAUSE WAS TRACED TO A THERMOMANUFACTURING TYPE 3 CONTROLLEN. THE CONTROLLEN WAS REPLACED. THE UNIT WAS OPERATING AT 100% POWER AT THE TIME OF THE OCCURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PCN * OL * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * CHEMICAL SHIM * FAILURE, INHERENT * POINT BEACH 2 (PWR) * PIPES AND PIPE FITTINGS * HEATERS

116072
TWO CHARGING PUMPS ISOLATED DUE TO A PIPING LEAK AT POINT BEACH 2
WISCONSIN MICHIGAN POWER CO., SOL BURSTEIN, WI
1 PG, LER 50-301/70-13 TO U.S. NRC, AUG. 12, 1970, DOCKET 50-301, TYPE--PWR, NRC--WEST., AE--BECHTEL

CAUSE - WELD CRACK DUE TO VIBRATION. DURING 100% POWER, 2 OF THE 3 CHARGING PUMPS WERE ISOLATED TO REPAIR A LEAKING WELD ON A BRANCH CONNECTION BETWEEN THE EMERGENCY BORATE LINE AND THE CHARGING PUMP SUCTION HEADER. LEAKAGE WAS CAUSED BY A BRANCH CONNECTION WELD CRACK DUE TO PIPE VIBRATION. THE CRACK AREA WAS GROUND OUT AND REWELDED. THE PUMPS WERE RETURNED TO SERVICE IN 2 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * WELD, * VIBRATION * FAILURE, INSTALLATION ERROR * MAIN COOLING SYSTEM * LEAK * POINT BEACH 2 (PWR) * REGULATER * PIPES AND PIPE FITTINGS

117020

ERRORS FOUND IN ACCIDENT ANALYSIS AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO., STEVENS PT., WI
 1 PG, LTR 50-301/70-14 TO U.S. NRC, AUG. 20, 1970, DOCKET 50-301, TYPE--PWR, RFG--BEST., AE--BECHTEL

CAUSE - INCORRECT ASSUMPTIONS. POTENTIAL UNREVIEWED SAFETY QUESTIONS WERE DISCOVERED IN THE ACCIDENT ANALYSIS THAT COULD HAVE PERMITTED REACTOR OPERATION IN A MANNER LESS CONSERVATIVE THAN ASSUMED IN THE ANALYSIS. QUESTIONS CONCERN ASSUMED VALUES FOR FLUID TEMPERATURE IN THE HV UPPER HEAD PLENUM AND THE DRAIN PENALTY FOR FUEL ROD BURN EFFECTS. AN EVALUATION HAS DETERMINED THAT CONTINUED FULL POWER OPERATION IS ACCEPTABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * HOT CHANNEL ANALYSIS * URM * FAILURE, DESIGN ERROR * HOT CHANNEL FACTOR * FUEL ROD * TEMPERATURE * POINT BEACH 2 (PWR)

118202

CHARGING PUMP FAILS AT POINT BEACH 2
 WISCONSIN MICHIGAN POWER CO., STEVENS POINT, WI
 2 PGS, LTR 50-301/70-15 TO U.S. NRC, SEPT. 30, 1970, DOCKET 50-301, TYPE--PWR, RFG--BEST., AE--BECHTEL

CAUSE - DRIVE BELT WEAR. DURING FULL POWER OPERATION, CHARGING PUMP C, 1 OF 3 CHARGING PUMPS IN THE CVCS, WAS TAKEN OUT OF SERVICE TO REPAIR MINOR PLUNGER LEAKAGE. CHARGING PUMP B FAILED 40 MINUTES LATER WITH A BROKEN VARIODIVE BELT. PUMP C WAS RETURNED TO SERVICE IN 10 MINUTES. THE VARIODIVE US VARIODIVE NO 042 ON AN AJAA [IRON WORKS, TYPE T125] CHARGING PUMP FAILED BECAUSE OF BELT WEAR. THE BELT WAS REPLACED. THEN PUMP C WAS REPACKED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, U. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * MAIN CYCLING SYSTEM * FAILURE, INHERENT * BEAM * POINT BEACH 2 (PWR) * WELEBATH * PUMPS

109451

DIESEL GENERATOR BEARING FAILS AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN.
 3 PAGES, LETTER WITH AD 75-39 TO NRC DIVISION OF OPERATING REACTORS, JAN. 10, 1970, DOCKET 50-202, TYPE--PWR, RFG--BEST., AE--PIONEER SERVICE

CAUSE - OIL STARVATION OF BEARING. DURING A TEST WHILE BOTH REACTORS WERE OPERATING AT 100% POWER, DIESEL GENERATOR D2 WAS TRIPPED MANUALLY DUE TO FAILURE OF THE GENERATOR BEARING. THE OIL SPECIFIED IN THE DG TECHNICAL MANUAL WAS INCORRECT. ALSO, THE VENDOR'S WARNING ON OIL SIGHT GLASSES WERE FOUND TO BE IN ERROR, RESULTING IN OIL STARVATION OF THE BEARING. THE OIL IN BOTH DIESEL GENERATORS WAS REPLACED WITH OIL HAVING THE PROPER VISCOSITY. OBVIOUS MARKINGS WERE PLACED AT THE SIGHT GLASS TO INDICATE NORMAL RUNNING SHUTDOWN LEVELS. THE SIGHT GLASS WAS PROPERLY MARKED IN THE OTHER GENERATOR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * LUBRICATION * PRAIRIE ISLAND 1 (PWR) * BEARING * FAILURE, COPPER PLUG * GENERATOR, DIESEL

110301

AIR SUPPLY DAMPER TO DIESEL GENERATOR ROOM INOPERABLE AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN.
 2 PGS, LTR 50-301/70-2 TO NRC DIVISION OF OPERATING REACTORS, JAN. 17, 1970, DOCKET 50-202, TYPE--PWR, RFG--BEST., AE--PIONEER SERVICE

CAUSE - ICE BUILDUP ON PARTS. DURING A TEST WITH THE REACTOR AT 100% POWER, THE OUTSIDE AIR SUPPLY DAMPER TO THE DIESEL GENERATOR ROOMS FAILED TO OPEN FULLY. THE DG TEST WAS COMPLETED SATISFACTORILY EVEN THOUGH THE DAMPER WAS NOT FULLY OPEN. ICE HAD BUILT UP ON PARTS OF THE DAMPER. WHEN THE ICE WAS REMOVED, THE DAMPER OPERATED NORMALLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * VENTILATION SYSTEM * TEST, SYSTEM OPERABILITY * PRAIRIE ISLAND 1 (PWR) * BEATHEN, SEVERE * COMPARTMENT * FAILURE, INHERENT * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110204

BLIND FLANGE NOT INSTALLED ON CONTAINMENT PENETRATION AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN.
 2 PGS, LTR 50-301/70-3 TO NRC DIVISION OF OPERATING REACTORS, JAN. 24, 1970, DOCKET 50-306, TYPE--PWR, RFG--BEST., AE--PIONEER SERVICE

CAUSE - CONSTRUCTION ERROR. DURING A SHUTDOWN, IT WAS DISCOVERED THAT THE BLIND FLANGE ON THE

110200 MCNTINUUS

STEAM HEATING CONDENSATE VENT CONTAINMENT PENETRATION WAS NOT INSTALLED AND HAD PROBABLY BEEN MISSING SINCE INITIAL PLANT STARTUP. THE INNER FLANGE WAS IN PLACE. THE MISSING FLANGE WAS HIDDEN BY THE SHIELD BUILDING PENETRATION COVER. THE FLANGE WAS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT INTEGRITY * FLANGE * FAILURE, INSTALLATION ERROR * PRAIRIE ISLAND 1 (PI-1) * CONTAINMENT PENETRATION

110300

SET POINT DRIFT IN PRESSURE SWITCH AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR NYP-70-5 TO NRC DIVISION OF OPERATING REACTORS, JAN. 26, 1976. DOCKET 50-282. TYPE--PWR. NRC--BEST.. AE--PICNEN SERVICE

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR AT 100% POWER, A DIFFERENTIAL PRESSURE SWITCH WHICH SENSES AKA BUILDING-ANNULUS PRESSURE IN THE SHIELD BUILDING VENTILATION SYSTEM WAS FOUND TO TRIP AT -1.42 INCH OF WATER WHICH EXCEEDS THE LIMIT. IT WAS IMMEDIATELY RECALIBRATED TO -2.00 INCHES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 .00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

VENTILATION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * PRAIRIE ISLAND 1 (PI-1) * SET POINT * DRIFT * SENSORS, PRESSURE

110255

CORE DISCHARGE DAMPER FOUND INOPERABLE AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR NYP-70-6 TO NRC DIVISION OF OPERATING REACTORS, JAN. 30, 1976. DOCKET 50-282. TYPE--PWR. NRC--BEST.. AE--PICNEN SERVICE

CAUSE - SHAFT BINDING IN BUSHING. DURING A CONTAINMENT INSPECTION WITH THE REACTOR AT 100% POWER, THE CORE DISCHARGE DAMPER FOR FAN COIL UNIT 10 WAS FOUND IMPROPERLY POSITIONED. THE ACTUATOR SHAFT WAS BINDING IN ITS BUSHING. ALL ACTUATORS WILL BE INSPECTED DURING THE UPCOMING REFUELING OUTAGE. AIR LINE LUBRICATORS WILL BE INSTALLED AT THAT TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTAINMENT AIR COOLING * MODIFICATION * COMPONENTS * LUBRICATION * PRAIRIE ISLAND 1 (PI-1) * BEARING * FAILURE, IMMINENT

110902

AXIAL OFFSET OUTSIDE OF THE TARGET BAND AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR NYP-70-8 TO NRC DIVISION OF OPERATING REACTORS, FEB. 10, 1976. DOCKET 50-282. TYPE--PWR. NRC--BEST.. AE--PICNEN SERVICE

CAUSE - REQUIREMENTS MISUNDERSTOOD. REACTOR CORE AXIAL OFFSET WAS OUTSIDE THE TARGET BAND FOR 81 MINUTES WHILE OPERATING AT 55% POWER. POWER WAS REDUCED BELOW 50% AND MAINTAINED THERE UNTIL THE REACTOR HAD OPERATED WITHIN THE TARGET BAND FOR MORE THAN 23 HOURS. THE CAUSE WAS A MISUNDERSTANDING OF THE REQUIREMENTS FOR AXIAL OFFSET CONTROL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * POWER DISTRIBUTION * PRAIRIE ISLAND 1 (PI-1) * COMMUNICATION

112052

SAFETY INJECTION RELAY FAILS TO MECHANICALLY LATCH AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR NYP-70-13 TO NRC OFFICE OF I & E, REGION III, MARCH 26, 1976. DOCKET 50-282. TYPE--PWR. NRC--BEST.. AE--PICNEN SERVICE

CAUSE - IMPROPER ADJUSTMENT. DURING TESTING WITH THE REACTOR AT 65% POWER, A SAFETY INJECTION RELAY FAILED TO MECHANICALLY LATCH AFTER ACTUATION. THE TOLERANCE BETWEEN THE ARMATURE AND ELECTROMAGNETIC POLE WAS INCORRECT. THE RELAY WAS ADJUSTED AND RETESTED. ALL 40-6 RELAYS WILL BE CLEANED AND READJUSTED, IF NECESSARY, DURING THE REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAFETY INJECTION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * PRAIRIE ISLAND 1 (PI-1) * RELAYS

112241

SEAL BELTS ON REACTOR VESSEL HEAD PENETRATIONS LEAK AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR D/RO 76-15 TO NRC OFFICE OF I & E, REGION III, MARCH 29, 1976, DOCKET 50-262, TYPE--PDR, NRC--
 WEST., AE--PIONEER SERVICE

CAUSE - UNKNOWN. PRELIMINARY INSPECTION DURING THE REFUELING OUTAGE REVEALED INDICATIONS OF
 LEAKAGE THROUGH SEAL BELTS ON THE REACTOR VESSEL HEAD PENETRATIONS. THE CAUSE IS UNKNOWN AT THIS
 TIME. COMPLETE INSPECTION AND REPAIRS WILL BE MADE DURING THIS OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

OWELDS + REPLETING + LEAK + PRAIRIE ISLAND 1 (PWR) + PRESSURE VESSELS + CONTAINMENT PENETRATION

112140

AUXILIARY BUILDING SPECIAL VENTILATION FILTER HEATER FAILS AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR D/RO 76-12 TO NRC OFFICE OF I & E, REGION III, MARCH 31, 1976, DOCKET 50-262, TYPE--PDR, NRC--
 WEST., AE--PIONEER SERVICE

CAUSE - UNKNOWN. WHILE OPERATING AT 64% POWER, AN AUXILIARY BUILDING SPECIAL VENTILATION FILTER
 HEATER DID NOT ENERGIZE DURING A TEST. A FLOW SWITCH MALFUNCTION IS SUSPECTED, BUT THE FAILURE
 COULD NOT BE REPRODUCED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

VENTILATION SYSTEM + BUILDING + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + PRAIRIE ISLAND 1 (PWR) +
 AUXILIARY + SENSORS, PLCU + HEATERS + FILTERS

112090

FAN COIL UNITS AND CONTROL ROOM CHILLER FAIL TO RESPOND AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR D/RO 76-14 TO NRC OFFICE OF I & E, REGION III, APRIL 7, 1976, DOCKET 50-262, TYPE--PDR, NRC--
 WEST., AE--PIONEER SERVICE

CAUSE - SUSPECTED RELAY MALFUNCTION. DURING TESTING WITH THE REACTOR SHUT DOWN FOR REFUELING,
 TRAIN A FAN COIL UNITS AND CONTROL ROOM CHILLER DID NOT RESPOND AS REQUIRED TO AN SE SIGNAL.
 FAILURE COULD NOT BE REPRODUCED DURING RETESTING. THE CAUSE IS UNKNOWN. RELAY MALFUNCTION IS
 SUSPECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

TEST, SYSTEM OPERABILITY + CONTROL PANEL/ROOM + PRAIRIE ISLAND 1 (PWR) + COOLING + BLOWERS + RELAYS + HEAT
 EXCHANGERS

113190

DIESEL GENERATOR MOMENTARILY INOPERABLE AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR D/RO 76-10 TO NRC OFFICE OF I & E, REGION III, APRIL 29, 1976, DOCKET 50-306, TYPE--PDR, NRC--
 WEST., AE--PIONEER SERV.

CAUSE - PERSONNEL ERROR. DURING PREVENTIVE MAINTENANCE WITH THE REACTOR AT 100% POWER, A RELAY
 TECHNICIAN INADVERTENTLY ACTUATED A RELAY WHICH CAUSED DIESEL GENERATOR D1 TO BE MOMENTARILY
 LOCKED OUT. THE LOCKOUT WAS RESET IMMEDIATELY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

EMERGENCY ACDBR, ELECTRIC + FAILURE, MAINTENANCE ERROR + PRAIRIE ISLAND 1 (PWR) + ENGINES, INTERNAL COMBUSTION
 + GENERATOR, DIESEL + RELAYS

113908

LAPSE OCCURS IN SECONDARY CONTAINMENT INTEGRITY AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR D/RO 76-20 TO NRC OFFICE OF I & E, REGION III, MAY 18, 1976, DOCKET 50-262, TYPE--PDR, NRC--
 WEST., AE--PIONEER SERVICE

CAUSE - PERSONNEL ERROR. DURING TESTING OF SHIELD BUILDING VENTILATION SYSTEM WHILE OPERATING AT
 60% POWER, BOTH SHIELD BUILDING DOUBLE DOORS AT THE MAINTENANCE AIR LOCK WERE FOUND UNLOCKED OPEN.
 THE DOORS WERE IMMEDIATELY CLOSED. THEY HAD BEEN CLOSED PER PRE-HEATUP CHECKLIST BUT WERE LATELY
 OPENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

11360 CONTINUED
FAILURE, OPERATION ERROR • CONTAINMENT AIR LOCK • CONTAINMENT INTEGRITY • TEST, SYSTEM OPERABILITY • PRAIRIE ISLAND 1 (PWI)

11410
EFFLUENT MONITOR SAMPLE FLOW IRREGULAR AT PRAIRIE ISLAND 1
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR 0/P-RO-70-23 TO NRC OFFICE OF I & E, REGION III, MAY 21, 1970, DOCKET 90-202, TYPE--PWR, NRC--
WEST., AE--PICNER SERVICE

CAUSE - DEFECTIVE PLCB CONTACTS. DURING THE REFUELING SHUTDOWN, THE AUXILIARY BUILDING EXHAUST STACK RADIATION MONITOR SAMPLE FLOW WAS FOUND TO BE CYCLING FROM ZERO TO FULL FLOW. A TRANSISTOR IN THE PLCB CONTROLLER WAS FAILED. THE TRANSISTOR WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT • EFFLUENT • MONITOR, STACK • SOLID STATE DEVICE • SAMPLING • REFUELING • FLOW • PRAIRIE ISLAND 1 (PWI) • FAILURE, INHERENT • RADIATION MONITORS

11402
COOLING WATER HEADER ISOLATION VALVE FOUND INOPERABLE AT PRAIRIE ISLAND 1
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR 0/P-RO-70-25 TO NRC OFFICE OF I & E, REGION III, JUNE 10, 1970, DOCKET 90-202, TYPE--PWR, NRC--
WEST., AE--PICNER SERVICE

CAUSE - MRCG BREAKER OPENED. WHILE OPERATING AT 90% POWER, THE SUPPLY BREAKER FOR A COOLING WATER HEADER ISOLATION VALVE WAS FOUND OFF WITH A HOLD CARD ATTACHED (DENOTING ISOLATION FOR MAINTENANCE). THE MRCG BREAKER HAD BEEN OPENED AND TAGGED. THE BREAKER WAS IMMEDIATELY CLOSED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT ISOLATION • FAILURE, MAINTENANCE ERROR • PRAIRIE ISLAND 1 (PWI) • BREAKER • SERVICE WATER SYSTEM • VALVES

11402
LO HEAD SI TO REACTOR VESSEL VALVE FAILS TO OPEN AT PRAIRIE ISLAND 1
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR 0/P-RO-70-26 TO NRC OFFICE OF I & E, REGION III, JUNE 11, 1970, DOCKET 90-202, TYPE--PWR, NRC--
WEST., AE--PICNER SERVICE

CAUSE - TORQUE SWITCH OUT OF ADJUSTMENT. WHILE OPERATING AT 90% POWER, LO HEAD SI TO REACTOR VESSEL VALVE FAILED TO OPEN ON DEMAND DURING A SPECIAL TEST. SUBSEQUENT OPERATIONS WERE SUCCESSFUL. THE TORQUE SWITCH APPARENTLY TRIPPED ON THE FIRST ATTEMPT TO OPEN. IT WAS ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAFETY INJECTION • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • FAILURE, MAINTENANCE ERROR • PRAIRIE ISLAND 1 (PWI) • SET POINT • VALVES

11544
RADIATION MONITOR FAILS AT PRAIRIE ISLAND 1
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR 0/P-RO-70-28 TO NRC OFFICE OF I & E, REGION III, JUNE 23, 1970, DOCKET 90-202, TYPE--PWR, NRC--
WEST., AE--PICNER SERVICE

CAUSE - PUMP MOTOR BREAKER TRIPPED. WHILE THE UNIT WAS OPERATING AT FULL POWER, THE SAMPLE PUMP FOR A RADIATION MONITOR ON THE AUXILIARY BUILDING EXHAUST STACK WAS FOUND TRIPPED OFF. NO CONTROL ROOM ANNUNCIATION WAS RECEIVED. THE PUMP MOTOR BREAKER HAD TRIPPED. DIRTY ALARM CONTACTS PREVENTED ANNUNCIATION. DESIGN CHANGES TO BOTH THE PUMP AND ALARM SYSTEMS HAVE BEEN INITIATED. UNTIL THEY ARE COMPLETE, THE PUMP WILL BE CHECKED DAILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • FAILURE, DESIGN ERROR • MONITORING SYSTEM, RADIATION • PRAIRIE ISLAND 1 (PWI) • BREAKER • RADIATION MONITORS • ANNUNCIATORS

11543
SOURCE RANGE CHANNEL INOPERABLE AT PRAIRIE ISLAND 1
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR 0/P-PL-70-29 TO NRC OFFICE OF I & E, REGION III, JULY 1, 1970, DOCKET 90-202, TYPE--PWR, NRC--
WEST., AE--PICNER SERVICE

CAUSE - FAULTY DETECTOR. DURING A STARTUP, IT APPEARED THAT A NIS SOURCE RANGE CHANNEL DID NOT

115002 *CONTINUED*

RESPOND PROPERLY. LATER, THE OPERATIONS COMMITTEE CONCLUDED THAT THE CHANNEL MAY HAVE BEEN INOPERABLE DUE TO A DEFECTIVE DETECTOR. THE DETECTOR WAS REPLACED AND THE CHANNEL WAS OPERABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D.C. 20545

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, STARTUP RANGE * PRAIRIE ISLAND 1 (PI-1) * FAILURE, IMMEDIATE

115000

INVERTER FAILS AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR N/P-RO-70-30 TO NRC OFFICE OF I & E, REGION III, JULY 15, 1970. DOCKET 50-204. TYPE--PM, MFG--WEST., AE--PIONEER SERV.

CAUSE - TRANSFORMER WINDINGS FAILED. WITH THE REACTOR AT 100% POWER, VOLTAGE TO INSTRUMENT BUS 113 WAS LOST WHEN A REGULATING TRANSFORMER ON THE OUTPUT OF INVERTER 13 FAILED. VOLTAGE WAS RESTORED IN 10 MINUTES BY SUPPLYING BUS 113 FROM ITS ALTERNATE SOURCE. THE TRANSFORMER WINDING FAILED OPEN. THE TRANSFORMER WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * PRAIRIE ISLAND 1 (PI-1) * FAILURE, IMMEDIATE * GENERATORS * TRANSFORMERS

110243

COOLING WATER PUMP DISCHARGE VALVE FOUND INOPERABLE AT PRAIRIE ISLAND 1

NORTHERN STATE POWER CO., MINNEAPOLIS, MN

2 PGS. LTR N/P-RO-70-32 TO NRC OFFICE OF I & E, REGION III, JULY 29, 1970. DOCKET 50-204. TYPE--PM, MFG--WEST., AE--PIONEER SERV.

CAUSE - BALL PIN IN LINKAGE FELL OUT. DURING TESTING WITH THE REACTOR AT 100% POWER, THE DISCHARGE VALVE ON COOLING WATER PUMP 22 WAS FOUND CLOSED AND INOPERABLE. THE BALL PIN IN THE REMOTE OPERATOR LINKAGE HAD FALLEN OUT. IT WAS REPLACED AND A KEYPIN WIRE ADDED. BALL PINS IN THIS AND SIMILAR VALVES WILL BE REPLACED WITH TAPERED PINS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * PRAIRIE ISLAND 1 (PI-1) * SERVICE WATER SYSTEM * VALVE OPERATORS * VALVES

110227

DOUBLE DOORS IN ABSVZ FOUND OPEN AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR N/P-RO-70-37 TO NRC OFFICE OF I & E, REGION III, SEPT. 26, 1970. DOCKET 50-204. TYPE--PM, MFG--WEST., AE--PIONEER SERV.

CAUSE - PERSONNEL ERROR. WHILE THE REACTOR WAS OPERATING AT 100% POWER, BOTH DOORS LEADING TO THE WASTE COMPENSATE TANK ROOM IN THE AUXILIARY BUILDING SPECIAL VENTILATION ZONE WERE FOUND OPEN AND NOT UNDER ADMINISTRATIVE CONTROL. THE DOORS WERE IMMEDIATELY PUT UNDER ADMINISTRATIVE CONTROL. PERSONNEL INVOLVED WERE REPRIMANDED. THE DOORS WILL BE PAINTED TO BE MORE CONSPICUOUS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * WASTE TREATMENT * CONTAINMENT INTEGRITY * BUILDING * PRAIRIE ISLAND 1 (PI-1)

110206

CONTAINMENT VACUUM BREAKER TRIP INOPERABLE AT PRAIRIE ISLAND 1

NORTHERN STATES POWER CO., MINNEAPOLIS, MN

2 PGS. LTR N/P-RO-70-39 TO NRC OFFICE OF I & E, REGION III, OCT. 7, 1970. DOCKET 50-204. TYPE--PM, MFG--WEST., AE--PIONEER SERV.

CAUSE - SWITCH LEFT VALVED OUT. DURING TESTING WHILE OPERATING AT 100% POWER, CONTAINMENT VACUUM BREAKER TRIP WAS FOUND TO BE INOPERABLE BECAUSE THE CONTAINMENT-TO-ANNULUS DIFFERENTIAL PRESSURE SWITCH WAS MISTAKENLY LEFT VALVED OUT OF SERVICE AFTER INVESTIGATIVE MAINTENANCE. THE SWITCH WAS VALVED IN AND THE SYSTEM WAS OPERABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT VACUUM BREAKER * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * PRAIRIE ISLAND 1 (PI-1) * VALVES * SENSORS, PRESSURE

110754

OUTER BLIND FLANGE REMOVED FROM ILRT PENETRATION AT PRAIRIE ISLAND 1

119764 (CONTINUED)
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-90-76-42 TO NRC OFFICE OF I & E, REGION III, NOV. 22, 1976. DOCKET 50-282. TYPE--PDR. NRC--
 WEST., AE--PIONEER SERV.

CAUSE - PERSONNEL ERROR. DURING REPAIRING OF UNIT 2, THE OUTER BLIND FLANGE ON THE UNIT 2
 INTEGRATED LEAK RATE TEST PENETRATION WAS TO BE REMOVED. A WORKMAN MISTAKENLY REMOVED THE FLANGE
 FROM THE UNIT 1 PENETRATION. THE BACKUP UNIT 1 INNER FLANGE REMAINED IN PLACE. THE OUTER FLANGE
 WAS IMMEDIATELY REPLACED AND THE PENETRATION LEAK RATE TESTED. UNIT 1 CONTAINMENT INTEGRITY WAS
 NOT AFFECTED. UNIT 1 WAS OPERATING AT 100% POWER. DISCIPLINARY ACTION WAS TAKEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

RAIRIE ISLAND 1 (PDR) * CONTAINMENT INTEGRITY * CONTAINMENT PENETRATION * FLANGE * FAILURE, MAINTENANCE ERROR

119820
 SPENT FUEL POOL INADVERTENTLY DILUTED AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-90-76-43 TO NRC OFFICE OF I & E, REGION III, NOV. 23, 1976. DOCKET 50-282. TYPE--PDR. NRC--
 WEST., AE--PIONEER SERV.

CAUSE - INCORRECT VALVE LINEUP. DURING A SPENT FUEL PIT MAKUP OPERATION WHILE OPERATING AT 100%
 POWER, AN INCORRECT VALVE LINEUP WAS MADE WHICH CAUSED DILUTION OF THE SPENT FUEL PIT BELOW 2000
 PPM DOWN TO ABOUT 1000 PPM. UPON DISCOVERY, DILUTION WAS IMMEDIATELY BEGUN. THE CONCENTRATION
 WAS BELOW 2000 PPM FOR ABOUT 30 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

RAIRIE ISLAND 1 (PDR) * CONCENTRATION * POISON, SOLUBLE * SPENT FUEL POOL * FAILURE, OPERATION ERROR *
 DILUTION

120405
 INVERTER 13 LOST AT PRAIRIE ISLAND 1
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-90-76-49 TO NRC OFFICE OF I & E, REGION III, DEC. 2, 1976. DOCKET 50-282. TYPE--PDR. NRC--
 WEST., AE--PIONEER SERV.

CAUSE - TRANSFORMER WINDINGS FAILED. WHILE OPERATING AT 100% POWER, VOLTAGE TO INSTRUMENT BUS 113
 (BLUE CHANNEL) WAS LOST WHEN A REGULATING TRANSFORMER ON THE OUTPUT OF INVERTER 13 FAILED. THE
 TRANSFORMER WINDINGS FAILED OPEN. THE TRANSFORMER WAS REPLACED. VOLTAGE WAS RESTORED IN 30
 MINUTES BY SUPPLYING BUS 113 FROM ITS ALTERNATE SOURCE, INSTRUMENT PANEL 117.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

RAIRIE ISLAND 1 (PDR) * TRANSFORMERS * FAILURE, EQUIPMENT * FAILURE, INHERENT * ELECTRIC POWER * ON SITE *
 INSTRUMENTS, MISC. * GENERATORS

110296
 FISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG. LTR W/EAV. RPT. 75-13 TO NRC OFFICE OF I & E, REGION III, JAN. 19, 1976. DOCKETS 50-282/306. TYPE--PDR.
 NRC--WEST., AE--PIONEER SERVICE

CAUSE - SEASONAL FACTORS. FOR THE 7-DAY PERIOD ENDING DEC. 31, CARP FISH IMPINGEMENT LOSSES TOTALLED
 212 COMPARED TO A LIMIT OF 175. THIS LOSS DOES NOT CORRELATE WITH BLUDDOON AND APPROPRIATION
 FLOW WHICH WAS CONSTANT FOR THE MONTH EXCEPT FOR MINOR DEVIATIONS. THE NEW DESIGN SCREEN-HOUSE
 TRASH BASKET WAS PLACED IN SERVICE JAN. 5.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FILTER, SCREEN * MODIFICATION * PRAIRIE ISLAND 1 (PDR) * PRAIRIE ISLAND 2 (PDR) * PANINA, FILM * ORNAMENTALITY *
 INTAKE * CONDENSER COOLING SYSTEM * FAILURE, INHERENT

110297
 AIR LINES FOR POST-LOCA HYDROGEN CONTROL SYSTEM FOUND CAPPED AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-90-76-94 TO NRC DIVISION OF OPERATING REACTORS, JAN. 23, 1976. DOCKETS 50-282/306. TYPE--PDR.
 NRC--WEST., AE--PIONEER SERVICE

CAUSE - OPERATOR ERROR. DURING A CONTAINMENT INSPECTION WHILE OPERATING AT 100% POWER, BOTH AIR
 SUPPLY LINES FOR THE POST-LOCA HYDROGEN CONTROL SYSTEM WERE FOUND TO BE CAPPED. APPARENTLY, THEY
 WERE INADVERTENTLY CAPPED DURING PREPARATIONS FOR STARTUP AT A PREVIOUS OUTAGE. CAPS WERE
 IMMEDIATELY REMOVED. LINES WILL BE TAGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

116247 CONTINUED
CHARGE \$2.00

FAILURE, OPERATIONAL ERROR, HYDROLOGICAL CONTROL, OUFLOW BLOCKAGE, ENGINEERED SAFETY FEATURE, PRAIRIE ISLAND 1 (PBI) + PNEUMATIC SYSTEM, PRAIRIE ISLAND 2 (PBI) + PIPES AND PIPE FITTINGS

111037

CATFISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
3 PGS. LTR DATED 7-6-81 TO NRC OFFICE OF I & E, REGION III, FEB. 19, 1976. DOCKETS 50-282/300. TYPE--PBI, NRC--
WEST., AE--PIioneer SERVICE

CASE - UNKNOWN. FOR EACH OF 3 CONSECUTIVE 7-DAY PERIODS ENDING FEB. 6, CATFISH IMPINGEMENT
LOSSES EXCEEDED THE 175 LIMIT. LOSS DOES NOT CORRELATE WITH INCREASED BLOWDOWN AND AGGREGATION
FLOW. MANY FISH SPECIES ARE ATTRACTED TO ARTIFICIALLY WARMED AREAS. CHANNEL CATFISH FIND THE
INTAKE AND RECIRCULATION CANAL THERMALLY ATTRACTIVE.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FFILTER, SCREEN, PRAIRIE ISLAND 1 (PBI) + PRAIRIE ISLAND 2 (PBI) + ANIMAL, FISH + MORTALITY + CONDENSER
COOLING SYSTEM + FAILURE, INHERENT

111038

BLOWDOWN FLOW EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
3 PGS. LTR DATED 7-6-81 TO NRC OFFICE OF I & E, REGION III, FEB. 27, 1976. DOCKETS 50-282/300. TYPE--PBI, NRC--
WEST., AE--PIioneer SERVICE

CASE - ONE COOLING TOWER OUT OF SERVICE. THE AVERAGE BLOWDOWN FLOW ON JAN. 2, WAS 174 CFS WHICH
WAS NECESSARY TO MAINTAIN TEMPERATURE LIMITATIONS BECAUSE COOLING TOWER 124 WAS OUT OF SERVICE.
ITS LIMIT IS 150 CFS.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

EFFLUENT + BLOWDOWN + OUFLOW + PRAIRIE ISLAND 1 (PBI) + RATE + COOLING TOWER + PRAIRIE ISLAND 2 (PBI) +
FAILURE, INHERENT

111039

CATFISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
3 PGS. LTR DATED 7-6-81 TO NRC OFFICE OF I & E, REGION III, MARCH 2, 1976. DOCKETS 50-282/300. TYPE--PBI, NRC--
WEST., AE--PIioneer SERVICE

CASE - COLD SHOCK. FOR THE 7-DAY PERIOD ENDING FEB 11, 1013 CATFISH WERE LOST BY IMPINGEMENT ON
THE INTAKE SCREENS. THE MAJORITY OF THE FISH WERE RESIDENT IN A PORTION OF THE INTAKE-
RECIRCULATION CANAL SYSTEM. UNIT 2 HAD BEEN SHUT DOWN FOR OPERATION TRAINING WHEN UNIT 1 TRIPPED
DUE TO TURBINE SPEED CONTROL. TEMPERATURES IN THE CANAL SYSTEM DROPPED 10 F IN 10 HOURS. THE
COLD SHOCK INCAPACITATED THE FISH WHICH HAD APPARENTLY PENETRATED THE AIR BUBBLE CURTAIN. LIVE
RESCUE SAVED 139.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FFILTER, SCREEN + CANAL + PRAIRIE ISLAND 1 (PBI) + PRAIRIE ISLAND 2 (PBI) + ANIMAL, FISH + MORTALITY +
THERMAL TRANSIENT + CONDENSER COOLING SYSTEM + FAILURE, INHERENT

112892

BLOWDOWN FLOW EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
1 PGS. LTR DATED 7-6-81 TO NRC OFFICE OF I & E, REGION III, MARCH 24, 1976. DOCKET: 50-282/300. TYPE--PBI, NRC--
WEST., AE--PIioneer SERVICE

CASE - COOLING TOWER UNAVAILABLE. BLOWDOWN FLOW ON 2 DAYS EXCEEDED THE 150 CFS LIMIT BY 4 AND 8
CFS RESPECTIVELY. COOLING TOWER 124 CONTINUES TO BE OUT OF SERVICE BECAUSE OF OPERATIONAL
PROBLEMS WITH THE WATER INLET RISER PIPE. REPAIR WORK IS UNDERWAY. HIGHER BLOWDOWN FLOW WAS
NECESSARY TO DECREASE INLET TEMPERATURE WITHIN EQUIPMENT LIMITATIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT + BLOWDOWN + OUFLOW + PRAIRIE ISLAND 1 (PBI) + RATE + COOLING TOWER + PRAIRIE ISLAND 2 (PBI)

113757

COOLING TOWER BLOWDOWN RATE EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN

113757 (CONTINUED)
 1 PG, LTR 0/ENV. RPT 76-06 TO NRC OFFICE OF I & C, REGION III, MAY 12, 1976. DUKETS 50-402/306. TYPE--PWR.
 NRC--BEST., AE--PIIONEER SERVICE

CAUSE - SERVICE REQUIREMENTS. WHILE UNIT 1 WAS IN A MAJOR IN-OUTAGE AND UNIT 2 WAS OPERATING, 2 COOLING TOWERS WERE IN SERVICE AND THE OTHER 2 WERE OUT OF SERVICE FOR STRUCTURAL REPAIRS. TWICE DURING APRIL 1976 BLOWDOWN RATE EXCEEDED THE 150 CFS LIMIT FOR A SHORT PERIOD OF TIME. THE RATE WAS 153 CFS FOR 20 MINUTES TO COMPENSATE FOR A TEMPORARY LOSS OF PUMPS ON THE 2 TOWERS. AGAIN, A FEW HOURS AT 150 CFS WAS NECESSARY TO REDUCE INLET WATER TEMPERATURE TO THE CONDENSER SYSTEM FOR INSPECTION OF TUBE CLEANING EQUIPMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR • BLOWDOWN • FLOW • PRAIRIE ISLAND 1 (PWR) • RATE • COOLING TOWER • PRAIRIE ISLAND 2 (PWR) • FAILURE, IMMINENT

114621
 BLOWDOWN RATE EXCEEDS LIMIT THREE TIMES AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG, LTR 0/ENV. RPT 76-07 TO NRC OFFICE OF I & C, REGION III, JUNE 10, 1976. DUKETS 50-202/306. TYPE--PWR, NRC--BEST., AE--PIIONEER SERVICE

CAUSE - HIGH AMBIENT TEMPERATURE. BLOWDOWN EXCEEDED THE ETS LIMIT OF 150 CFS ON 3 DAYS DURING MAY. ALL 3 EVENTS OCCURRED AFTER FULL COOLING CAPACITY HAD BEEN RESTORED BY COMPLETION OF EXTENSIVE STRUCTURAL REPAIR PROGRAM FOR ALL 4 COOLING TOWERS. BLOWDOWN WAS INCREASED TO 675 CFS FOR 10 HOURS TO COMPENSATE FOR A TEMPORARY LOSS OF PUMPS SERVING 2 TOWERS. WITH RIVER WATER AMBIENT TEMPERATURE HIGHER, ADDITIONAL BLOWDOWN WAS REQUIRED TO INSURE THAT THE PLANT COOLING WATER SYSTEM INLET TEMPERATURE DID NOT EXCEED THE DESIGN VALUE OF 85 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BLOWDOWN • PRAIRIE ISLAND 1 (PWR) • RATE • COOLING TOWER • PRAIRIE ISLAND 2 (PWR) • FAILURE, IMMINENT

115712
 BLOWDOWN FLOW EXCEEDS TECH SPEC LIMIT AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG, ENV. LICENT RPT 76-10 TO NRC OFFICE OF I & C, REGION III, JULY 6, 1976. DUKETS 50-402/306. TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - COOLING WATER INLET TEMPERATURE CONTROL. BLOWDOWN FLOW EXCEEDED THE TECH SPEC LIMIT OF 150 CFS. DAILY AVERAGE BLOWDOWN FLOWS FOR THE PERIOD JUNE 6 TO JULY 1 RANGED FROM 101 CFS TO 1140 CFS. FOR 12 DAYS FLOW WAS LESS THAN 500 CFS. INCREASED BLOWDOWN FLOW IS REQUIRED TO INSURE THAT THE PLANT COOLING WATER INLET TEMPERATURE DOES NOT EXCEED THE DESIGN VALUE OF 85 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT • BLOWDOWN • FLOW • PRAIRIE ISLAND 1 (PWR) • RATE • COOLING TOWER • PRAIRIE ISLAND 2 (PWR) • CONDENSER COOLING SYSTEM • FAILURE, IMMINENT

115857
 TOTAL RESIDUAL CHLORIDE CONCENTRATION EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG, LTR 0/ENV. RPT 76-12 TO NRC OFFICE OF I & C, REGION III, JULY 23, 1976. DUKETS 50-222/306. TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - CHLORINATOR PERC HIGH. THE MONTHLY SAMPLING TEST ON JULY 1 DISCLOSED A TOTAL RESIDUAL CHLORINE CONCENTRATION AT THE OUTFALL OF 0.15 PPM WHICH EXCEEDS THE PROTECTION CONDITION OF 0.05 PPM. TAKING INTO ACCOUNT THE CURRENT HIGHER BLOWDOWN FLOW RATE FOR THE CIRCULATING WATER SYSTEM, CHLORINE FEED RATE WAS RECALCULATED TO INSURE THAT THE CONCENTRATION WOULD BE LESS THAN 0.05 PPM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT • CHLORINE • WATER QUALITY • FAILURE, ADMINISTRATIVE CONTROL • PRAIRIE ISLAND 1 (PWR) • PRAIRIE ISLAND 2 (PWR) • CONDENSER COOLING SYSTEM

116242
 BLOWDOWN FLOW RATES EXCEED LIMIT DURING JULY AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG, LTR 0/ENV. RPT. 76-13 TO NRC OFFICE OF I & C, REGION III, AUG. 2, 1976. DUKETS 50-202/306. TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - REDUCE INLET TEMPERATURE. DAILY AVERAGE BLOWDOWN FLOW RATES WERE IN EXCESS OF 150 CFS FOR EACH DAY DURING JULY. THE LOWEST RATE WAS 600 CFS. THE HIGHEST RATE OF 1190 CFS OCCURRED EACH DAY BEGINNING JULY 20 AND CONTINUING THROUGH JULY 30. INCREASED BLOWDOWN IS REQUIRED TO INSURE THAT THE PLANT COOLING WATER INLET TEMPERATURE DOES NOT EXCEED THE 85 F DESIGN VALUE.

116242 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BLOWDOWN + PRAIRIE ISLAND 1 (PWI) + WATER + COOLING TOWER + PRAIRIE ISLAND 2 (PWI) + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

116330
 FISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/ENCL. RPT. 76-11 TC NRC OFFICE OF I & E, REGION III, AUG. 16, 1976. DOCKETS 50-202/J06. TYPE--PWR.
 NPG--WEST., AE--PICKEER SERV.

CAUSE - INCREASED INTAKE FLOW. DURING A SUCCESSIVE 7-DAY INTERVALS ENDING AUG. 6, FISH IMPINGEMENT ON THE INTAKE STRUCTURE EXCEEDED THE REPORTING THRESHOLD FOR CRAPPIE, WHITE BASS, AND BRESHAUTER DOLM. THE SITE BIOLOGIST RETURNED 935 LIVE FISH TO THE RIVER. HIGH BLOWDOWN RATES DURING THIS PERIOD HAVE REQUIRED HIGHER INTAKE FLOWS. THIS APPARENTLY DECREASES THE EFFECTIVENESS OF THE AIR BUBBLER CURTAIN AT THE INTAKE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN + PRAIRIE ISLAND 1 (PWI) + PRAIRIE ISLAND 2 (PWI) + ANIMAL, FISH + MORTALITY + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

116905
 ECCS AND DNB PROBLEMS IDENTIFIED AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 3 PGS. LTR W/PD-76-35 TO NRC OFFICE OF I & E, REGION III, AUG. 19, 1976. DOCKETS 50-202/J06. TYPE--PWR. NPG--WEST., AE--PICKEER SERV.

CAUSE - INCORRECT ASSUMPTIONS USED. WESTINGHOUSE INFORMED THE UTILITY THAT 2 ITEMS OF NON-CONSERVATION WERE ASSUMED IN THE SAFETY ANALYSIS. THESE ITEMS REQUIRE 0.05R DELTA K/A ADDITIONAL END OF LIFE SHUTDOWN MARGINS AND AN ADDITIONAL MARGIN TO DNBK. PRESENT PLANT OPERATING PRACTICES, DUE TO THE REQUIREMENTS OF CONSTANT AXIAL OFFSET CONTROL, PROVIDE THROUGHOUT THE CORE CYCLE SOME SHUTDOWN MARGIN THAN THAT REQUIRED. THE ADDITIONAL MARGIN FOR DNBK IS MORE THAN PROVIDED FOR BY THE ACTUAL REACTOR COOLANT FLOW.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS + ACCIDENT, LOSS OF COOLANT + SHUTDOWN MARGIN + HOT CHANNEL ANALYSIS + DNB + FAILURE, DESIGN ERROR + PRAIRIE ISLAND 1 (PWI) + PRAIRIE ISLAND 2 (PWI) + FAILURE, COMMON MODE

117001
 BLOWDOWN FLOW EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG. LTR W/ENCL. RPT. 76-15 TC NRC OFFICE OF I & E, REGION III, SEPT. 1, 1976. DOCKETS 50-202/J06. TYPE--PWR.
 NPG--WEST., AE--PICKEER SERV.

CAUSE - OPERATING LIMITATION. THE DAILY AVERAGE BLOWDOWN FLOW RATES WERE IN EXCESS OF THE 150 CFS LIMIT FOR EACH DAY DURING AUGUST. THE LOWEST RATE WAS 170 CFS AND THE HIGHEST WAS 1240 CFS. INCREASED FLOW WAS REQUIRED TO INSURE THAT THE PLANT COOLING WATER INLET TEMPERATURE DID NOT EXCEED THE DESIGN VALUE OF 85 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFLUENT + FAILURE, DESIGN ERROR + BLOWDOWN + FLOW + PRAIRIE ISLAND 1 (PWI) + WATER + COOLING TOWER + PRAIRIE ISLAND 2 (PWI)

117400
 FISH IMPINGED ON INTAKE STRUCTURE AT PRAIRIE ISLAND 1 AND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/ENCL. RPT. 76-10 TC NRC OFFICE OF I & E, REGION III, SEPT. 10, 1976. DOCKETS 50-202/J06. TYPE--PWR.
 NPG--WEST., AE--PICKEER SERV.

CAUSE - HIGH INTAKE FLOW. DURING A SUCCESSIVE 7-DAY INTERVALS ENDING SEPT. 1, FISH LOSSES BY IMPINGEMENT ON THE INTAKE STRUCTURE EXCEEDED THE REPORTING THRESHOLD NUMBERS FOR 1 OR MORE SPECIES. THE SITE BIOLOGISTS HAVE CONTINUED LIVE FISH RECOUR DURING THIS PERIOD. CONTINUED HIGH BLOWDOWN FLOW RATES WERE IN EFFECT FOR THE PERIOD. WITH LOWER AIR AND RIVER TEMPERATURES, A DOWNSTREAM IN BLOWDOWN IS OCCURRING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FILTER, SCREEN + PRAIRIE ISLAND 1 (PWI) + PRAIRIE ISLAND 2 (PWI) + ANIMAL, FISH + MORTALITY + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

118744

COOLING TOWER BLOWDOWN RATE EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
1 PGS, LTH W/ENV. RPT. 76-17 TO NRC OFFICE OF I & E, REGION III, OCT. 1, 1976, DOCKETS 50-202/306, TYPE--PWR,
MFC--BEST., AE--PIONEER SERV.

CAUSE - TO MAINTAIN PROPER INLET TEMPERATURE, THE DAILY AVERAGE BLOWDOWN FLOW RATES WERE IN EXCESS OF THE 150 CFS LIMIT FOR 13 DAYS DURING SEPTEMBER. THE HIGHEST RATE OF 470 CFS OCCURRED ON SEPT. 1, WITH LOWER AMBIENT AIR AND RIVER TEMPERATURES, AND WITH ALL 4 COOLING TOWERS IN CONTINUOUS OPERATION. ONLY MODEST INCREASES IN BLOWDOWN FLOW WERE REQUIRED EARLY IN THE MONTH TO MAINTAIN THE COOLING WATER INLET TEMPERATURE AT 85 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * BLOWDOWN * FLOW * PRAIRIE ISLAND 1 (PWR) * RATE * COOLING TOWER * PRAIRIE ISLAND 2 (PWR) * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

118202

FISH IMPINGED ON INTAKE STRUCTURE AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTH W/ENV. RPT. 76-16 TO NRC OFFICE OF I & E, REGION III, OCT. 7, 1976, DOCKETS 50-202/306, TYPE--PWR,
MFC--BEST., AE--PIONEER SERV.

CAUSE - NO APPARENT CAUSE. FOR 4 SUCCESSIVE 7-DAY INTERVALS ENDING SEPT. 29, FISH LOST BY IMPINGEMENT ON THE INTAKE STRUCTURE WERE IN EXCESS OF ESTABLISHED LIMITS. IN SPIKE OF A DECLINING TREND IN RIVER WATER INTAKE FLOW DURING THE MONTH, IMPINGEMENT LOSSES CONTINUED. THE SITE BIOLOGISTS CONTINUED LIVE FISH RESCUE DURING THE PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN * PRAIRIE ISLAND 1 (PWR) * PRAIRIE ISLAND 2 (PWR) * ANIMAL, FISH * MORTALITY * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

119504

DAILY AVERAGE BLOWDOWN RATE EXCEEDS LIMIT AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
1 PGS, LTH W/ENV. RPT. 76-19 TO NRC OFFICE OF I & E, REGION III, NOV. 1, 1976, DOCKETS 50-202/306, TYPE--PWR,
MFC--BEST., AE--PIONEER SERV.

CAUSE - PREVENTATIVE MAINTENANCE WORK. DAILY AVERAGE BLOWDOWN FLOW RATES WERE IN EXCESS OF 150 CFS FOR THE FIRST 7 DAYS OF THE MONTH WITH THE HIGHEST FLOW OF 330 CFS ON OCT. 5. THERE WAS A SIMILAR 5-DAY PERIOD ENDING OCT. 5, BOTH WERE REQUIRED BECAUSE OF PREVENTATIVE MAINTENANCE WORK BEING PERFORMED ON THE COOLING TOWERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT * MAINTENANCE AND REPAIR * BLOWDOWN * FLOW * PRAIRIE ISLAND 1 (PWR) * RATE * COOLING TOWER * PRAIRIE ISLAND 2 (PWR) * FAILURE, IMMINENT

119505

FISH IMPINGED ON INTAKE STRUCTURE AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTH W/ENV. RPT. 76-18 TO NRC OFFICE OF I & E, REGION III, NOV. 4, 1976, DOCKETS 50-202/306, TYPE--PWR,
MFC--BEST., AE--PIONEER SERV.

CAUSE - NO APPARENT CAUSE. FISH LOST BY IMPINGEMENT ON THE INTAKE STRUCTURE EXCEEDED THE ESTABLISHED REPORTING LIMIT FOR 4 SUCCESSIVE 7-DAY INTERVALS ENDING OCTOBER 27. LIVE FISH RESCUE CONTINUED. BLOWDOWN FLOW DURING THE PERIOD WAS CONTROLLED TO THE NORMAL LEVEL OF 150 CFS EXCEPT FOR 2 SLIGHT EXCEEDENCES. THERE IS NO APPARENT CAUSE RELATED TO OPERATING CHANGES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN * PRAIRIE ISLAND 1 (PWR) * PRAIRIE ISLAND 2 (PWR) * ANIMAL, FISH * MORTALITY * CONDENSER COOLING SYSTEM * FAILURE, IMMINENT

120240

FISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
3 PGS, LTH W/ENV. RPT. 76-20 TO NRC OFFICE OF I & E, REGION III, DEC. 3, 1976, DOCKETS 50-202/306, TYPE--PWR,
MFC--BEST., AE--PIONEER SERV.

CAUSE - NO APPARENT CAUSE. FISH LOST BY IMPINGEMENT ON THE INTAKE STRUCTURE EXCEEDED ESTABLISHED LIMITS FOR 4 SUCCESSIVE 7-DAY INTERVALS ENDING NOVEMBER 20. THE LOSS WAS NOT INFLUENCED BY INCREASED APPROPRIATION FLOW VOLUME BECAUSE BLOWDOWN FLOW WAS CONTROLLED TO LESS THAN 150 CFS

120240 (CONTINUED)

DURING THE ENTIRE PERIOD. OVER A LONG PERIOD OF TIME, MANY FISH ON A RANDOM BASIS ENTER THE INTAKE CANAL. DUE TO A PLANT TRIP/OUT, TEMPERATURES IN THE CANAL SYSTEM DROPPED 15 F IN 6 HOURS. YOUNG OF THE YEAR FISH IN THE CANAL SYSTEM WERE INCAPACITATED BY THE COLD SHOCK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PRAIRIE ISLAND 1 (PWR) + PRAIRIE ISLAND 2 (PWR) + ANIMAL, FISH + MORTALITY + FILTER, SCREEN + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

120720

FISH IMPINGED ON INTAKE SCREENS AT PRAIRIE ISLAND 1 AND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
1 PG, LTR W/NO 70-21 TO NRC OFFICE OF I & E, REGION III, DEC. 30, 1970, DUCRET 50-202/306, TYPE--PWR, NRC--BEST., AE--PIONEER SERV.

CAUSE - NO APPARENT CAUSE. DURING A 70 DAY PERIOD, 2055 WHITE BASS AND 200 CATFISH WERE LOST BY IMPINGEMENT. A SUBSTANTIAL NUMBER OF FISH RESIDE IN THE WARM WATER OF THE PLANT COOLING WATER CANAL SYSTEM. THE MAJORITY OF THE FISH IMPINGED WERE YOUNG-OF-THE-YEAR FISH. INTAKE VELOCITY REMAINED LOW DURING THE ENTIRE PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PRAIRIE ISLAND 1 (PWR) + PRAIRIE ISLAND 2 (PWR) + ANIMAL, FISH + MORTALITY + FILTER, SCREEN + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

1C9002

LEAKAGE THROUGH CONTAINMENT ISOLATION VALVE EXCESSIVE AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/NO 75-45 TO NRC DIVISION OF OPERATING REACTORS, JAN. 7, 1976, DUCRET 50-306, TYPE--PWR, NRC--BEST., AE--PIONEER SERV.

CAUSE - LOOSE SEAT RETAINER ADJUSTING SCREWS. DURING CONTAINMENT LOCAL LEAK RATE TESTING WHILE THE UNIT WAS SHUT DOWN, MEASURED LEAKAGE THROUGH A CONTAINMENT PURGE EXHAUST VALVE EXCEEDED THE LIMIT. SEVERAL SEAT RETAINER ADJUSTING SCREWS ALONG THE TOP PORTION OF THE SEAT WERE FOUND TO BE LOOSE. THE SCREWS WERE RETIGHTENED. THE VALVE WAS RETESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT PURGE + TEST, LEAK RATE + FASTENER + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + LEAK RATE + PRAIRIE ISLAND 2 (PWR) + VALVES

109040

STRESS CRACKS FOUND IN SEAL WELDS ON PV HEAD PENETRATIONS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PAGES, LETTER WITH P-RO-70-1 TO NRC DIVISION OF OPERATING REACTORS, JAN. 13, 1976, DUCRET 50-306, TYPE--PWR, NRC--BEST., AE--PIONEER SERV.

CAUSE - INITIAL COOLING OF BELCS. DURING A COLD SHUTDOWN, INSPECTION OF THE REACTOR VESSEL HEAD REVEALED TRAVERSE CRACKS IN THE SEAL WELDS OF 3 PENETRATIONS. STRESS CRACKS OCCURRED DURING THE INITIAL COOLING OF THE ORIGINAL WELDS. NO CORROSION OF THE HEAD WAS OBSERVED. THE BELCS WERE REPAIRED AND TESTED SATISFACTORILY. SEAL WELDS ARE ONLY A SECONDARY LEAKAGE BARRIER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THERMAL MECHANICAL EFFECT + BELCS + FAILURE, FABRICATION ERROR + INITIAL CONDITIONS + PRAIRIE ISLAND 2 (PWR) + CRACK + PRESSURE VESSELS + CONTAINMENT PENETRATION

110304

SET POINT DRIFT IN CONTAINMENT PRESSURE TRANSMITTER AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/RO-70-7 TO NRC DIVISION OF OPERATING REACTORS, FEB. 5, 1976, DUCRET 50-306, TYPE--PWR, NRC--BEST., AE--PIONEER SERV.

CAUSE - RESISTOR FAILURE. WHILE OPERATING AT 100% POWER, A CONTAINMENT PRESSURE TRANSMITTER DRIFTED DOWNSCALE RESULTING IN THE BISTABLE SET POINTS BEING OUT OF LIMITS. A RESISTOR WAS REPLACED, THE TRANSMITTER RECALIBRATED, AND TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT + CONTAINMENT + INSTRUMENT, SWITCH + SET POINT + PRAIRIE ISLAND 2 (PWR) + POINT + FAILURE, INHERENT + SENSORS, PRESSURE

111414
 SET POINT DRIFT IN OVERTEMPERATURE SWITCH AT PRAIRIE ISLAND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-RO-70-10 TO NRC DIVISION OF OPERATING REACTORS, FEB. 19, 1976. DOCKET 50-306. TYPE--PUR. NRC--
 WEST., AE--PICNER SERV.

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR OPERATING AT 100% POWER, ONE
 OVERTEMPERATURE DELTA T SET POINT WAS FOUND TO BE SLIGHTLY OUT OF LIMITS. THE APPARENT CAUSE WAS
 INSTRUMENT DRIFT. THE CHANNEL WAS RECALIBRATED AND TESTED SUCCESSFULLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM
 OPERABILITY * SET POINT * PRAIRIE ISLAND 2 (PWR) * DRIFT * SENSORS, TEMPERATURE

112022
 SET POINT DRIFT IN PRESSURIZER PRESSURE SWITCH AT PRAIRIE ISLAND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-RO-70-11 TO NRC OFFICE OF I & E, REGION III, MARCH 25, 1976. DOCKET 50-306. TYPE--PUR. NRC--
 WEST., AE--PICNER SERV.

CAUSE - LOOSE LOOP RESISTOR. DURING A TEST WITH THE REACTOR AT 100% POWER, ONE LOW PRESSURIZER
 PRESSURE SET POINT WAS FOUND 9 PSI BELOW THE LIMIT DUE TO A LOOSE LOOP RESISTOR. THE RESISTOR
 WAS TIGHTENED AND THE CHANNEL TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

SAFETY INJECTION * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * TEST,
 SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * SET POINT * PRAIRIE ISLAND 2 (PWR) * CABLES AND CONNECTORS
 * DRIFT * SENSORS, PRESSURE

112716
 COOLING WATER SYSTEM ISOLATED AT PRAIRIE ISLAND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 1 PG. LTR W/P-RO-70-17 TO NRC OFFICE OF I & E, REGION III, MARCH 29, 1976. DOCKET 50-306. TYPE--PUR. NRC--
 WEST., AE--PICNER SERV.

CAUSE - MAINTENANCE ON SYSTEM. A VALVE WAS CLOSED ON THE COOLING WATER SYSTEM WHILE PERFORMING
 MAINTENANCE. THIS VIOLATED TECH SPECS IN THAT IT ISOLATED 1 OF THE 2 REDUNDANT COOLING WATER
 SUPPLIES TO UNIT 2 WHICH WAS IN HOT STANDBY AT THE TIME. UNIT 1 CORE WAS UNLOADED AT THE TIME.
 THE VALVE WAS REOPENED 2.5 HOURS LATER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

MAINTENANCE AND REPAIR * FAILURE, ADMINISTRATIVE CONTROL * PRAIRIE ISLAND 1 (PWR) * COMPONENT COOLING SYSTEM
 * VALVES

112006
 A LOOP OF COOLING WATER INOPERABLE AT PRAIRIE ISLAND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-RO-70-17 TO NRC OFFICE OF I & E, REGION III, APRIL 9, 1976. DOCKET 50-306. TYPE--PUR. NRC--
 WEST., AE--PICNER SERV.

CAUSE - PERSONNEL ERROR. DURING HOT STANDBY, REPLACEMENT OF A COOLING WATER LOOP FLOW ELEMENT WAS
 PLANNED. TO ACCOMPLISH THE NECESSARY ISOLATION, A MANUAL VALVE WAS CLOSED WHICH ISOLATED ONE
 LOOP FOR 2 HOURS. AN OPERATOR WAS STATIONED AT THE VALVE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

MAINTENANCE AND REPAIR * FAILURE, ADMINISTRATIVE CONTROL * PRAIRIE ISLAND 2 (PWR)

112014
 POWER TO STEAM EXCLUSION SYSTEM LOST TEMPORARILY AT PRAIRIE ISLAND 2
 NORTHERN STATES POWER CO., MINNEAPOLIS, MN
 2 PGS. LTR W/P-RO-70-10A TO NRC OFFICE OF I & E, REGION III, APRIL 14, 1976. DOCKET 50-306. TYPE--PUR. NRC--
 WEST., AE--PICNER SERV.

CAUSE - ERROR IN ELECTRICAL SCHEMATICS. DURING THE REFUELING OUTAGE, POWER TO BOTH TRAINS OF THE
 STEAM EXCLUSION SYSTEM WAS FOUND TO BE OFF. POWER IS FROM THE SAME SOURCE AS FOR THE AUXILIARY
 SAFEGUARD PACKS WHICH HAD JUST BEEN DEENERGIZED FOR MAINTENANCE. ELECTRICAL SCHEMATICS FROM
 WHICH PROCEDURES WERE WRITTEN WERE INCORRECT. POWER WAS RESTORED. SCHEMATICS WILL BE UPDATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

112050 *CONTINUED*
ELECTRIC POWER * REFUELING * FAILURE, DESIGN ERROR * ENGINEERED SAFETY FEATURE * PRAIRIE ISLAND 2 (PWI)

113522
TRAIN B OF STEAM EXCLUSION SYSTEM INOPERABLE AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/P-RO-70-19 TO NRC OFFICE OF I & E, REGION III, MAY 4, 1976, DCKET 50-306, TYPE--PWR, RFG--BEST.,
AE--PIONEER SERV.

CAUSE - INCORRECT ELECTRICAL SCHEMATICS. WHILE OPERATING AT 100% POWER, IT WAS DISCOVERED THAT
POWER TO TRAIN B OF THE STEAM EXCLUSION SYSTEM WAS OFF. POWER IS FROM AN AUXILIARY MAIN WHICH
HAD BEEN DEENERGIZED FOR MAINTENANCE ON ANOTHER SYSTEM. ELECTRICAL SCHEMATICS WERE INCORRECT.
THEY WILL BE UPDATED. POWER WAS RESTORED IN 1.75 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

ELECTRIC POWER * FAILURE, ADMINISTRATIVE CONTROL * ENGINEERED SAFETY FEATURE * PRAIRIE ISLAND 2 (PWI)

113772
SI RELAY FAILS TO LATCH AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/P-RO-70-21 TO NRC OFFICE OF I & E, REGION III, MAY 10, 1976, DCKET 50-306, TYPE--PWR, RFG--
BEST., AE--PIONEER SERV.

CAUSE - IMPROPER ADJUSTMENT. DURING TESTING WHILE OPERATING AT 100% POWER, A SAFETY INJECTION
RELAY FAILED TO MECHANICALLY LATCH AFTER ACTUATION. THE TOLERANCE BETWEEN THE ARMATURE AND THE
ELECTROMAGNETIC POLE WAS INCORRECT. THE LATCH SCREW WAS ADJUSTED AND THE RELAY TESTED TO ASSURE
PROPER OPERATION. ALL RELAYS WILL BE CLEANED, INSPECTED, AND ADJUSTED, IF NECESSARY, DURING
REFUELING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

*SAFETY INJECTION * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * PRAIRIE
ISLAND 2 (PWI) * RELAYS

113970
BATTERY CHARGER FAILS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/P-RO-70-20 TO NRC OFFICE OF I & E, REGION III, MAY 13, 1976, DCKET 50-306, TYPE--PWR, RFG--
BEST., AE--PIONEER SERVICE

CAUSE - VOLTAGE CONTROL CAPS LOOSE. WHILE THE REACTOR WAS OPERATING AT 100% POWER, BATTERY
CHARGER 12 FAILED DISABLING TRAIN B DC POWER FOR ABOUT 5 MINUTES. A SPARE CHARGER WAS
IMMEDIATELY PUT IN SERVICE. THE VOLTAGE CONTROL CARD WAS LOOSE IN ITS SOCKET. ALL CONTROL CARDS
WERE CLEANED AND ADJUSTED. CHARGERS WILL BE ADDED TO THE ANNUAL ELECTRICAL PREVENTIVE
MAINTENANCE PROGRAM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * FAILURE, MAINTENANCE ERROR * PRAIRIE ISLAND 2 (PWI) *
ELECTRONIC FUNCTION UNITS * BATTERIES & CHARGERS

114006
COOLING WATER VALVE TEST PERFORMED LATE AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/P-RO-70-22 TO NRC OFFICE OF I & E, REGION III, MAY 21, 1976, DCKET 50-306, TYPE--PWR, RFG--
BEST., AE--PIONEER SERV.

CAUSE - PERSONNEL ERROR. A REVIEW OF THE COOLING WATER SYSTEM ISOLATION VALVES TEST REVEALED THAT
IT WAS NOT PERFORMED WITHIN THE ACCEPTABLE TOLERANCE BAND. THIS WAS A PERSONNEL ERROR. ALTHOUGH
PERFORMED LATE, THE TEST WAS SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

CONTAINMENT ISOLATION * TESTING * FAILURE, MAINTENANCE ERROR * TEST INTERVAL * PRAIRIE ISLAND 2 (PWI) *
SERVICE WATER SYSTEM * VALVES

114776
BATTERY CHARGER FAILS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS, LTR W/P-RO-70-20A TO NRC OFFICE OF I & E, REGION III, JUNE 9, 1976, DCKET 50-306, TYPE--PWR, RFG--
BEST., AE--PIONEER SERV.

114775 *CONTINUED*

CAUSE - LOOSE VOLTAGE CONTROL CABLE. DURING A CAPACITY TEST OF BATTERY 12 WHILE THE UNIT WAS OPERATING AT 100% POWER, ITS BATTERY CHARGER FAILED DISABLING TRAIN # UC POWER FOR 5 MINUTES. THIS HAD SEVERAL STEPS OF 1 SAFEGUARD TRAIN IMPEDABLE. A SPARE CHARGER WAS IMMEDIATELY PUT IN SERVICE. THE VOLTAGE CONTROL CABLE WAS LOOSE IN ITS SCKET. ALL CONTROL CARDS WERE CLEANED AND ACCEPTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

FAILURE, COMPONENT + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + PRAIRIE ISLAND 2 (PWI) + ELECTRONIC FUNCTION UNITS + BATTERIES & CHARGERS

115472

HC PUMP SEAL LEAK OFF LINE WELD CRACKS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR N/P-NU-76-31 TO NRC OFFICE OF I & E, REGION III, JULY 2, 1976, DOCKET 50-306, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - NOT YET KNOWN. A CRACK WAS FOUND AT THE SOCKET WELDED JOINT OF SEAL RETURN LINE 1 AND THE SEAL HOUSING OF REACTOR CIRCULANT PUMP 22. THE UNIT WAS TAKEN TO COLD SHUTDOWN FOR REPAIRS. THE SCHEDULE 80 PIPE SECTION WAS REPLACED WITH SCHEDULE 100 PIPE. THE CAUSE IS NOT YET KNOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

FAILURE, PIPE + WELDS + MAIN COOLING SYSTEM + LEAK + PRAIRIE ISLAND 2 (PWI) + PUMPS + PIPES AND PIPE FITTINGS

118221

SET POINT DRIFT IN LO-LO STEAM PRESSURE SWITCH AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR N/P-NU-76-31 TO NRC OFFICE OF I & E, REGION III, AUG. 6, 1976, DOCKET 50-306, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - LEAD/LAG UNIT DRIFT. DURING TESTING WITH THE REACTOR AT 100% POWER, ONE LO-LO STEAM PRESSURE INPUT TO SAFEGUARD ACTUATION LOGIC WAS SEEN TO TRIP AT 429 PSIG. THE LOWER LIMIT IS 500 PSIG. THE LEAD/LAG UNIT WAS DRIFTED CAUSING THE DISTABLE TO TRIP BELOW THE LIMIT. THE UNIT WAS RECALIBRATED AND TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + SET POINT + PRAIRIE ISLAND 2 (PWI) + DRIFT + FAILURE, INHERENT + SENSORS, PRESSURE

117125

LEAKAGE OF CONTAINMENT ISOLATION VALVE EXCESSIVE AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR N/P-NU-76-36 TO NRC OFFICE OF I & E, REGION III, AUG. 26, 1976, DOCKET 50-306, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - SEAT IMPROPERLY POSITIONED. DURING LOCAL LEAK RATE TEST AFTER MAINTENANCE WITH THE REACTOR AT 100% POWER, AN ACCUMULATOR WITHOEN SUPPLY ISOLATION VALVE SHOWED EXCESSIVE LEAKAGE. THE SEAT MAY HAVE BEEN IMPROPERLY POSITIONED. VALVE TRIM WAS LAPPED AND NEW SEAT AND GASKETS WERE INSTALLED. RETEST SHOWED ACCEPTABLE LEAKAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + TEST, LEAK RATE + WITHOEN + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + LEAK RATE + PRAIRIE ISLAND 2 (PWI) + VALVES + ACCUMULATORS

117170

FILTER SYSTEM FAILS TO PASS FRESH LEAKAGE TEST AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR N/P-NU-76-36 TO NRC OFFICE OF I & E, REGION III, AUG. 26, 1976, DOCKET 50-306, TYPE--PWR, NRC--BEST., AE--PIIONEER SERV.

CAUSE - LOOSE FILTER CELL. DURING FRESH LEAKAGE TESTING OF SHIELD BUILDING VENTILATION CHARCOAL FILTER #2 WHILE OPERATING AT 100% POWER, THE EFFICIENCY MEASURED WAS 98.7%, WHICH IS LESS THAN THE 99% LIMIT. THE FILTER CELL HAS A REPLACEMENT WHICH WAS FOUND TO BE DIMENSIONALLY SLIGHTLY DIFFERENT FROM THE ORIGINAL RESULTING IN A LOOSE CELL. SPACER SHIMS WERE ADDED TO TIGHTEN IT. RETEST EFFICIENCY WAS 99.9%.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

FAILURE, EQUIPMENT + FILTER EFFICIENCY + VENTILATION SYSTEM + CHARCOAL ADSORBER + TEST, FILTER + CONTAINMENT FILTERING SYSTEM + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + PRAIRIE ISLAND 2 (PWI)

118241
DIESEL GENERATOR TRIPS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR W/P-RO-70-38 TO NRC OFFICE OF I & E, REGION III, SEPT. 20, 1970. DCKET 50-306. TYPE--PWH, MFG--
WEST., AE--PIIONEER SERV.

CAUSE - DISCONNECTED PIPE. DURING TESTING WITH THE REACTOR AT 100% POWER, DIESEL GENERATION 1
TRIPPED ON HIGH CRANKCASE PRESSURE. THE PIPE CONNECTING THE CRANKCASE EXHAUST TO THE SCAVENGING
AIR PIPE HAD BECOME DISCONNECTED. HOSE CLAMPS ON THE CONNECTING PIPE WERE APPARENTLY NOT
RE-TIGHTENED AFTER PREVENTIVE MAINTENANCE WAS DONE IN AUGUST. THE PIPE WAS RECONNECTED. THE
REDUNDANT DIESEL GENERATOR WAS CHECKED. HOSE CLAMPS WERE FOUND LOOSE AND WERE TIC WED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT + MAINTENANCE AND REPAIR + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR +
PRESSURE, INTERNAL + PRAIRIE ISLAND 2 (PWR) + ENGINES, INTERNAL COMBUSTION + GENERATION, DIESEL

118982
LAPSE OCCURS IN CONTAINMENT INTEGRITY AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR W/P-RO-70-41 TO NRC OFFICE OF I & E, REGION III, OCT. 20, 1970. DCKET 50-306. TYPE--PWH, MFG--
WEST., AE--PIIONEER SERV.

CAUSE - PROCEDURAL DEFICIENCY. DURING A PURGE OF THE CONTAINMENT VIA THE POST-LOCA HYDROGEN
CONTROL SYSTEM, THE VALVES USED WERE LEFT INCAPABLE OF BEING CLOSED IN ONE MINUTE AS REQUIRED BY
TECH SPECS. DURATION OF THE EVENT WAS 30 MINUTES. THE CAUSE WAS A DEFECTIVE PROCEDURE. THE
PROCEDURE WILL BE REVISED. THE UNIT WAS OPERATING AT 100% POWER AT THE TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CONTAINMENT PURGE + CONTAINMENT ISOLATION + PROCEDURES AND MANUALS + CONTAINMENT INTEGRITY + RESPONSE TIME +
FAILURE, ADMINISTRATIVE CONTROL + PRAIRIE ISLAND 2 (PWR) + VALVES

119001
TWO VALVES FAIL TO OPERATE DURING SI TEST AT PRAIRIE ISLAND
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR W/P-RO-70-44 TO NRC OFFICE OF I & E, REGION III, NOV. 20, 1970. DCKET 50-306. TYPE--PWH, MFG--
WEST., AE--PIIONEER SERV.

CAUSE - TROUBLE SWITCH FAILURE. DURING TESTING WHILE REFUELING, SAFETY INJECTION PUMP BULK ACID
SUPPLY ISOLATION VALVE MV-32100 FAILED TO OPEN. THE TROUBLE SWITCH MALFUNCTIONED AND WAS
REPLACED. ALSO, REACTOR COOLANT LOOP B HOT LEG SAMPLE ISOLATION VALVE LV-31007 FAILED TO CLOSE.
THE CAUSE HAS NOT YET BEEN DETERMINED. RE-TESTS OF BOTH VALVES WERE SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

PRAIRIE ISLAND 2 (PWR) + VALVES + SAFETY INJECTION + CONTAINMENT ISOLATION + TEST, SYSTEM OPERABILITY +
REFUELING + INSTRUMENT, SWITCH + FAILURE, EQUIPMENT + SAMPLING

120203
SOURCE RANGE CHANNEL FAILS DURING CORE UNLOADING AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR W/P-RO-70-46 TO NRC OFFICE OF I & E, REGION III, DEC. 3, 1970. DCKET 50-306. TYPE--PWH, MFG--
WEST., AE--PIIONEER SERV.

CAUSE - FAULTY PREAMPLIFIER. DURING CORE UNLOADING AT REFUELING, NUCLEAR SOURCE RANGE CHANNEL 2H-
22 FAILED. THE PREAMPLIFIER WAS FAULTY. IT WAS REPLACED. TESTING WILL BE MODIFIED TO MORE
THOROUGHLY TEST THE CHANNELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

PRAIRIE ISLAND 2 (PWR) + INSTRUMENT, STARTUP RANGE + FAILURE, COMPONENT + INSTRUMENT, AMPLIFIER + FAILURE,
INHERENT + REFUELING

120453
THREE VALVES FAIL TYPE C CONTAINMENT LEAKAGE TESTS AT PRAIRIE ISLAND 2
NORTHERN STATES POWER CO., MINNEAPOLIS, MN
2 PGS. LTR W/P-RO-70-48 TO NRC OFFICE OF I & E, REGION III, DEC. 3, 1970. DCKET 50-306. TYPE--PWH, MFG--
WEST., AE--PIIONEER SERV.

CAUSE - OUT OF ADJUSTMENT/GALLED SEAT. DURING THE REFUELING OUTAGE LOCAL LEAK RATE TESTING,
VALVES IN PENETRATIONS 11 (LETOCON LINE), 50 (POST LCCA MC CONTROL), AND 41A (VACUUM BREAKER)
EXHIBITED LEAKAGE IN EXCESS OF TECH SPEC LIMITS. FOR 11, THE SEAT WAS GALLED. THE VALVE STEM
AND SEAT WERE REPLACED. FOR 50, THE VALVE STEM JAM NUT CAME OFF. IT WAS REPLACED USING

120452 CONTINUED

LOCALITY: FOM 41A. THE VALVE WAS MALADJUSTED. IT WAS READJUSTED. RETESTS OF ALL VALVES SHOWED ACCEPTABLE RESULTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

RAINFIELD 2 (PWR) • CLEAR RATE • VALVES • CONTAINMENT ISOLATION • CONTAINMENT PENETRATION • TEST, SYSTEM OPERABILITY • TEST, LEAK • REFUELING • FAILURE, EQUIPMENT • FAILURE, MAINTENANCE ERROR • CONTAINMENT PENETRATION, PIPE

111892

EMERGENCY SUMP VALVE FAILS TO OPEN AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/NO 70-2 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, MARCH 9, 1976, DOCKET 50-312, TYPE--
PWR, NRC--R60, AE--DECHTEL

CAUSE - TIGHT PACKING OR STICKING SEAT. DURING TESTING OF THE DECAY HEAT SYSTEM SPAS VALVES WITH THE REACTOR SHUT DOWN, AN EMERGENCY SUMP VALVE WOULD NOT OPEN ON SIGNAL. AFTER IT WAS MANUALLY OPENED PART WAY, IT WAS CYCLED SUCCESSFULLY SEVERAL TIMES. FAILURE RESULTED FROM TIGHT PACKING OR STICKING IN THE SEAT. THE VALVE WILL BE CYCLED ONCE A MONTH UNTIL THE END OF CORE 1, CYCLE 1.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT • TEST, SYSTEM OPERABILITY • RANCHO SECO (PWR) • EMERGENCY COOLING SYSTEM • VALVES • LPCI

112107

REACTION BLEEDING EMERGENCY COOLER FAILS TO START AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/NO 70-1 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, MARCH 9, 1976, DOCKET 50-312, TYPE--
PWR, NRC--R60, AE--DECHTEL

CAUSE - LOOSE SCREW IN BREAKER. IN RESPONSE TO A NONCONFORMING REPORT, AN ATTEMPT WAS MADE TO ACTIVATE REACTOR BUILDING EMERGENCY COOLER A-5000 BY MANUAL PUSHBUTTON. IT FAILED TO START. IN THE REACTOR BUILDING SUPPLY BREAKER, A TERMINAL SCREW WHICH WAS NOT IN USE HAD VIBRATED LOOSE FROM ITS IMBEDDED TERMINAL AND DROPPED INTO THE BREAKER MECHANISM. IT BLOCKED OPERATION OF THE RELEASE MECHANISM. THE RELAY IN THE BREAKER WAS REPLACED. ALL UNUSED TERMINAL SCREWS ON CLASS 1 BREAKERS OF THIS TYPE WILL BE REMOVED WITHIN 60 DAYS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT AIR COOLING • FASTENER • TEST, SYSTEM OPERABILITY • RANCHO SECO (PWR) • FAILURE, INHERENT • BREAKER • BUCKERS

112602

SET POINT DRIFT IN PRESSURE TRANSMITTERS AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/NO 70-4 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, APRIL 10, 1976, DOCKET 50-312, TYPE--
PWR, NRC--R60, AE--DECHTEL

CAUSE - INSTRUMENT DRIFT. WHILE THE REACTOR WAS SHUT DOWN, A CALIBRATION CHECK OF REACTOR PROTECTION SYSTEM PRESSURE TRANSMITTERS REVEALED THAT ALL 4 HAD DRIFTED BEYOND THE 4 PSI ALLOWED IN THE SAFETY ANALYSIS. THREE HAD DRIFTED HIGH (1 PSI, 1.2 PSI, AND 4.0 PSI BEYOND THE 4 PSI TOLERANCE) WHICH WOULD HAVE PREVENTED A REACTOR TRIP ON THE LOW LIMIT OF 1900 PSI. THE FOURTH DRIFTED LOW 2.2 PSI BEYOND THE 4 PSI TOLERANCE. THE VERITROL MODEL NO. 504M03-7050 TRANSMITTERS WERE SET 10 PSI MORE CONSERVATIVE TO ALLOW FOR THE DRIFT OF 0.8 PSI/MONTH ALLOWED BY THE MANUFACTURER'S SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM • INSTRUMENT CALIBRATION • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • MAIN COOLING SYSTEM • RANCHO SECO (PWR) • SET POINT • DRIFT • SENSORS, PRESSURE

112825

WELD ON MAKEUP PUMP BYPASS VALVE LEAKS AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CALIFORNIA
2 PGS, LTR D/NO 70-3 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, APRIL 10, 1976, DOCKET 50-312, TYPE--
PWR, NRC--R60, AE--DECHTEL

CAUSE - DEFECTIVE WELD. WHILE OPERATING AT 82% POWER, A ROUTINE INSPECTION REVEALED LEAKAGE FROM A WELD ON THE BYPASS LINE TO THE MAKEUP PUMP SUCTION ISOLATION VALVE. A TEMPORARY WELD WAS MADE TO PREVENT LEAKAGE UNTIL THE UNIT WAS SHUT DOWN. THE CAUSE WAS DEFECTIVE WELD. THE DEFECTIVE WELD WILL BE GROUND OUT AND REWELD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

112002 <<CONTINUED>>

FUELS • FLAM • FAILURE, INSTALLATION ERROR • LEAK • RANCHO SECO (PWR) • BYPASS • FEEDWATER

112224

HIGH PRESSURE INJECTION PUMP TRIP AT RANCHO SECO
 SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
 3 PGS, LTR B/RD 70-5 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, APRIL 22, 1970, DCKET 50-312, TYPE--
 PWR, NPG--R60, AE--BECNTEL

CAUSE - UNKNOWN. WITH THE UNIT OPERATING AT 100% POWER, THE HIGH PRESSURE INJECTION PUMP A, WHICH WAS SUPPLYING MAKEUP AND ACP SEALS, TRIPPED OFF LINE. HPI PUMP B AND THE MAKEUP PUMP REMAINED AVAILABLE. TESTING REVEALED NO CAUSE FOR THE TRIP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAIN COOLING SYSTEM • RANCHO SECO (PWR) • FAILURE, IMMINENT • FEEDWATER • PUMPS

112522

IMPROPER LIFT MADE WITH POLAR CRANE AT RANCHO SECO
 SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
 3 PGS, LTR B/RD 70-7 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, APRIL 27, 1970, DCKET 50-312, TYPE--
 PWR, NPG--R60, AE--BECNTEL

CAUSE - INADEQUATE PROCEDURES. WHILE THE UNIT WAS SHUT DOWN WITH THE HEAD REMOVED, A SURVEILLANCE SPECIMEN TRANSFER CRAN WAS LIFTED OVER THE FUEL TRANSFER CANAL WITHOUT USING AN APPROVED PROCEDURE. THIS VIOLATED TECH SPECS. THERE WERE INADEQUATE PROCEDURES DESCRIBING OPERATION OF THE POLAR CRANE AND AUXILIARY MIST. NO DAMAGE OCCURRED. PROCEDURES HAVE BEEN WRITTEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS • SHIPPING CONTAINER • TRANSPORTATION AND HANDLING • SAMPLING • CRANE • FAILURE, ADMINISTRATIVE CONTROL • SURVEILLANCE PROGRAM • RANCHO SECO (PWR) • CRANE

113771

POWER RANGE AMPLIFIER NOT CALIBRATED PROPERLY AT RANCHO SECO
 SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
 3 PGS, LTR B/RD 70-8 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, APRIL 30, 1970, DCKET 50-312, TYPE--
 PWR, NPG--R60, AE--BECNTEL

CAUSE - MISINTERPRETATION OF TECH SPECS. A REVIEW OF SURVEILLANCE RECORDS REVEALED 10 INSTANCES WHERE A POWER RANGE AMPLIFIER WAS NOT CALIBRATED ACCORDING TO TECH SPECS. IN 9 CASES THE DIFFERENCE BETWEEN INDICATED NEUTRON POWER AND CORE THERMAL POWER RESULTING THE CALIBRATION WAS IN THE CONSERVATIVE DIRECTION. CAUSES WERE POSSIBLE DATA ERROR RESULTING IN A FALSE INDICATION OF DIFFERENCE IN POWER INDICATORS AND MISINTERPRETATION OF TECH SPEC REQUIREMENTS. CORRECT DATA OUTPUT HAS BEEN SPECIFIED AND REQUIREMENTS CLARIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DATA PROCESSING • INSTRUMENT CALIBRATION • FAILURE, ADMINISTRATIVE CONTROL • INSTRUMENT, POWER RANGE • RANCHO SECO (PWR)

110399

CRANE WITH LOAD PASSED OVER OPEN REACTOR VESSEL AT RANCHO SECO
 SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
 3 PGS, LTR B/RD 70-8 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, MAY 20, 1970, DCKET 50-312, TYPE--
 PWR, NPG--R60, AE--BECNTEL

CAUSE - OPERATOR UNWARE OF RESTRICTIONS. WITH THE REACTOR SHUT DOWN AND THE REACTOR VESSEL HEAD REMOVED, THE CRANE LIFTING TRIPUD WAS CARRIED OVER THE VESSEL BY THE POLAR CRANE CONTRARY TO TECH SPECS. A SIMILAR OCCURRENCE WAS REPORTED EARLIER. PROCEDURES WERE THEN WRITTEN AND APPROVED. THE CRANE OPERATORS WERE NOT AWARE OF ALL OF ITS RESTRICTIONS. A FORMAL TRAINING SESSION WILL BE ATTENDED BY CRANE OPERATIONS PRIOR TO THEIR OPERATING THE POLAR CRANE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OPERATION • PROCEDURES AND MANUALS • FAILURE, MAINTENANCE ERROR • RANCHO SECO (PWR) • CRANE • COMMUNICATION • PRESSURE VESSELS

110508

DIESEL GENERATOR FAILS TO START AT RANCHO SECO
 SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
 3 PGS, LTR B/RD 67-9 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, AUG. 13, 1970, DCKET 50-312, TYPE--
 PWR, NPG--R60, AE--BECNTEL

110505 CONTINUED

CASE - UNKNOWN. DURING SURVEILLANCE TESTING OF DIESEL GENERATOR B WHILE THE UNIT WAS IN COLD SPLURGE FOR MAIN GENERATOR REPAIRS. SEVERAL START FAILURES WERE EXPERIENCED. NO DEFINITE CAUSE FOR FAILURES COULD BE FOUND. ATTEMPTS TO DUPLICATE THE FAILURE AND ISOLATE THE CAUSE WERE UNSUCCESSFUL. AFTER 13 SUCCESSFUL STARTS, THE DIESEL GENERATOR WAS DECLARED IN SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE 12.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * RANCHO SECO (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

117700

LEAK DISCOVERED IN DECAY HEAT LOOPER VENT VALVE AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
J PG5, LTR BWDG 76-11 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION V, AUG. 20, 1976, DOCKET 50-312, TYPE--
PWR, NRC--060, AE--061MTEL

CASE - UNKNOWN. A LEAK WAS DISCOVERED FROM A WELD CONNECTING THE NIPPLE ON A VENT VALVE WITH A SAMPLE ON THE OUTLET OF DECAY HEAT COOLER B. LEAKAGE HAD BEEN EXPERIENCED ON THIS VALVE IN THE PAST. CORRECTIVE ACTION WAS UNSUCCESSFUL. MEASUREMENTS DO NOT INDICATE EXCESSIVE VIBRATION. THE NIPPLE AND SAMPLE WILL BE REPLACED. THE VALVE WILL BE SECURED TO A NEARBY COLUMN TO PREVENT VIBRATION AND EXCESSIVE TORQUE ON THE VENT CAP. THE SADDLE AND NIPPLE WILL BE SENT TO THE LABORATORY FOR TESTING. THE REACTOR WAS SHUT DOWN DURING THIS PERIOD.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE 12.00

FAILURE, PIPE * WELDS * SHUTDOWN COOLING SYSTEM * LEAK * RANCHO SECO (PWR) * PIPES AND PIPE FITTINGS

117652

DIESEL GENERATOR FAILS TO START AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
J PG5, LTR BWDG 76-10 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, AUG. 30, 1976, DOCKET 50-312, TYPE--
PWR, NRC--060, AE--061MTEL

CASE - PINION TEETH STRUCK RING GEAR TEETH. WHILE THE UNIT WAS SHUT DOWN, A START FAILURE OF DIESEL GENERATOR A WAS EXPERIENCED DURING A SPECIAL TEST UP THE AIR START SYSTEM CAPACITY. THE DC AIR START SYSTEM WAS ISOLATED TO TEST THE AC SYSTEM CAPACITY. THE TEETH ON THE PINION STRUCK THE TEETH ON THE RING GEAR AND WOULD NOT ENGAGE, PREVENTING OPERATION OF THE AIR START MOTORS. WORK IS IN PROGRESS TO ELIMINATE THIS PROBLEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE 12.00

EMERGENCY POWER, ELECTRIC * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * RANCHO SECO (PWR) * SYSTEM CAPACITY * PNEUMATIC SYSTEM * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110967

DIESEL GENERATOR FAILS TO START AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
J PG5, LTR BWDG 76-14 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, OCT. 14, 1976, DOCKET 50-312, TYPE--
PWR, NRC--060, AE--061MTEL

CASE - DIRTY OIL IN GOVERNOR. DURING AN ATTEMPT TO MANUALLY START DIESEL GENERATOR B WHILE THE REACTOR WAS SHUT DOWN, THE DIESEL FAILED TO START. SUBSEQUENT START ATTEMPTS RESULTED IN ABOUT A 50% FAILURE RATE. AFTER CHECKING THE SYSTEM AND ISOLATING THE PROBLEM TO THE GOVERNOR, IT WAS DETERMINED THAT PUSHING OUT THE OIL AND REFILLING WAS THE SOLUTION. DIRTY OIL AND DEPOSITS CAUSED THE FAILURES. THEN, 17 SUCCESSFUL STARTS WERE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE 12.00

FAILURE, EQUIPMENT * CRUISE * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * LUBRICATION * RANCHO SECO (PWR) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110907

DECAY HEAT SYSTEM LEAKAGE EXCEEDS LIMIT AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
J PG5, LTR BWDG 76-13 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, OCT. 18, 1976, DOCKET 50-312, TYPE--
PWR, NRC--060, AE--061MTEL

CASE - PUMP STUFFING BOX LEAKAGE. A REFUELING INTERVAL SURVEILLANCE CHECK FOR LEAKAGE FROM THE DECAY HEAT SYSTEM FOUND EXCESSIVE LEAKAGE (GREATER THAN THE 0.03 GPM LIMIT) AT THE PUMP. THE LEAK AT THE GUYDARD STUFFING BOX GASKET WAS REPAIRED. A RETEST SHOWED THAT THE SYSTEM TOTAL LEAKAGE RATE WAS 0.0185 GPM FOR THE ENTIRE LOOP. THE PUMP IS A B&B CANADA, SINGLE-STAGE, 3000 GPM CENTRIFUGAL PUMP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

11997 OCCURRED
CHARGE \$2.00

FAILURE, COMPONENT + TEST, LEAK RATE + REFUELING + TEST, SYSTEM OPERABILITY + SEAL + SHUTDOWN COOLING SYSTEM + LEAK RATE + RANCHO SECO (PWR) + FAILURE, INHERENT + PUMPS

11997
SHUTDOWN MARGIN LESS THAN DESIRED AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/RO 78-12 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, JCT. 22, 1978, DCKET 50-312, TYPE--
PWR, NRC--REG, AE--DECHTEL

CAUSE - MISINTERPRETATION OF CALCULATIONS. THE REACTOR WAS TAKEN LESS THAN -1% DELTA K/A ACTUAL SHUTDOWN WITH THE REACTOR COOLANT SYSTEM TEMPERATURE LESS THAN 200 F. AT ALL TIMES ADEQUATE SHUTDOWN MARGIN EXISTED. BORON INJECTION TO -1% DELTA K/A WAS INITIATED IMMEDIATELY. AN ERROR IN INTERPRETING SHUTDOWN CALCULATION LED TO THE INCIDENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RANCHO SECO (PWR) + REACTOR STARTUP EXPERIENCE + SHUTDOWN MARGIN + REACTOR PHYSICS + REACTOR CONTROL + FAILURE, OPERATOR ERROR + COMMUNICATION + MATHEMATICAL TREATMENT

12095
SUCTION VALVE TO DECAY HEAT PUMPS FAILS TO OPEN AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/RO 78-15 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, JCT. 22, 1978, DCKET 50-312, TYPE--
PWR, NRC--REG, AE--DECHTEL

CAUSE - BYPASS SWITCH FOR TROUBLE SWITCH. DURING TESTING WITH THE REACTOR SHUT DOWN, VALVE MV-2818 WHICH PROVIDES SUCTION TO THE DECAY HEAT PUMPS FROM THE EMERGENCY SUMP FAILED TO OPEN ON 3 ATTEMPTS. THE REDUNDANT VALVE MV-2815 ALSO FAILED TO OPEN. AFTER THE VALVE HAND WHEELS WERE MANUALLY TURNED, THE VALVES OPERATED FREELY. IT IS POSSIBLE THAT THE BYPASS SWITCHES FROM THE TROUBLE SWITCH WERE DROPPING OUT PRIOR TO THE DISC CLEARING THE SEAT RESULTING IN THE TROUBLE SWITCH STOPPING MOVEMENT. THE BYPASS SWITCHES WERE RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RANCHO SECO (PWR) + VALVES + SHUTDOWN COOLING SYSTEM + TEST, SYSTEM OPERABILITY + FAILURE, EQUIPMENT + FAILURE, MAINTENANCE ERROR + INSTRUMENT, SWITCH + BYPASS + VALVE OPERATORS + DECAY HEAT

12095
CHLORINE CONCENTRATION IN EFFLUENT EXCEEDS LIMIT AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/LE 78-1 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, DEC. 13, 1978, DCKET 50-312, TYPE--
PWR, NRC--REG, AE--DECHTEL

CAUSE - SUMP PUMP MALFUNCTION. ON MAY 5, 1978, A DAILY GWAB SAMPLE REVEALED A PLANT EFFLUENT CHLORINE CONCENTRATION OF 0.3 MG/L WHICH EXCEEDS THE 0.2 MG/L LIMIT. THE MOTOR COUPLING ON THE SEWAGE PUMP HAD WORKED LOOSE CAUSING CONTINUOUS OPERATION OF THE MOTOR. THE SEWAGE HYPOCHLORITE TANK OPERATES WHEN THE SUMP PUMP MOTOR IS OPERATING, RESULTING IN EXCESSIVE CHLORINATION. THE SEWAGE PLANT EFFLUENT WAS ISOLATED. CHLORINE CONCENTRATION RETURNED TO WITHIN LIMITS WITHIN 4 HOURS. THE PUMP WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RANCHO SECO (PWR) + CONCENTRATION + CHLORINE + EFFLUENT + WASTE, SEWAGE + FAILURE, EQUIPMENT + PUMPS

12098
CHLORINE CONCENTRATION IN EFFLUENT EXCEEDS LIMIT AT RANCHO SECO
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/LE 78-2 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, DEC. 19, 1978, DCKET 50-312, TYPE--
PWR, NRC--REG, AE--DECHTEL

CAUSE - IMPROPER HYPOCHLORITE MIX. ON MAY 12, 1978, A GWAB SAMPLE OF PLANT EFFLUENT SHOWED CHLORINE LEVELS UP 0.8 MG/L EXCEEDING THE 0.2 MG/L LIMIT. THE HYPOCHLORITE TANK FROM THE SEWAGE PLANT HAD A CRACK NEAR THE TOP SO THAT ONLY A HALF BATCH COULD BE MIXED AT A TIME. THE OPERATOR HAD ADDED ENOUGH CHEMICALS FOR A FULL BATCH. ALSO, THERE WAS POSSIBLY A SPILL THROUGH THE CRACK. THE TANK HAS BEEN REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RANCHO SECO (PWR) + CONCENTRATION + CHLORINE + EFFLUENT + WASTE, SEWAGE + FAILURE, OPERATOR ERROR + ADDITIVE

149706

REACTOR BUILDING SPRAY PUMP FAILS TO START AT HANCHO SECU
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/46 78-17 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, DEC. 20, 1978, DOCKET 50-412, TYPE--
PWR, NRC--RBD, AE--BECHTEL

CAUSE - BREAKER NOT RACKED IN PROPERLY. WHILE TESTING THE REACTOR BUILDING SPRAY SYSTEM WITH THE
UNIT AT 100% POWER, THE PUMP FAILED TO START. THE ITE MODEL K-800 BREAKER HAD NOT BEEN
COMPLETELY RACKED IN PREVENTING THE SPRING FROM CHANGING THE BREAKER. THE LUCKING WASP HAD NOT
LAPPED IN AS IT MUST. THE OPERATOR IMMEDIATELY CHANGED THE BREAKER IN THE FINAL SHORT DISTANCE
AND THE BREAKER PROPERLY CHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT 5000, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

HANCHO SECU (PWR) * PUMPS * CONTAINMENT SPRAY * FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * FAILURE,
OPERATOR ERROR * BREAKER

149701

DIESEL GENERATOR TRIPS DURING TESTING AT HANCHO SECU
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA
3 PGS, LTR D/46 78-18 TO NRC DIRECTOR OF REGULATORY OPERATIONS, REGION V, DEC. 22, 1978, DOCKET 50-412, TYPE--
PWR, NRC--RBD, AE--BECHTEL

CAUSE - CONTROL SWITCH FAILS CLOSE. WHILE THE REACTOR WAS AT 100% POWER, DIESEL GENERATOR A
TRIPPED OFF LINE 25 MINUTES INTO A 1-HR SURVEILLANCE TEST WHEN THE SPEED WAS DECREASED BY THE
CONTROL ROOM SWITCH. THE PASTER SPECIALTIES SERIES 2100 AUTO-TELLITE SWITCH FAILED IN THE CLOSED
POSITION CAUSING THE SPEED TO CONTINUE TO DECREASE UNTIL THE DG TRIPPED. THE DEFECTIVE SWITCH
WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT 5000, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

HANCHO SECU (PWR) * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * FAILURE, EQUIPMENT * INSTRUMENT,
SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, INHERENT * EMERGENCY POWER, ELECTRIC * CONTROL SYSTEM

149201

BORIC ACID TRANSFER PUMP FAILS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS, LTR D/46 50-201/78-1 TO U.S. NRC, REGION II, JAN. 13, 1978, DOCKET 50-201, TYPE--PWR, NRC--WEST, AE--
EDASCO

CAUSE - BEARING FAILURE. WHILE BORIC ACID STORAGE TANK B WAS BEING RECIRCULATED USING BORIC ACID
TRANSFER PUMP U, THE PUMP FAILED. THE REAR GRAPHITE BEARING HAD FAILED. FRAGMENTS OF THE
BEARING APPARENTLY ENTERED THE AREA BETWEEN THE MOTOR AND STATOR, CUTTING THE THIN STAINLESS
STEEL CAN ALLOWING BORIC ACID SOLUTION TO ENTER AND SHORT OUT THE MOTOR. THE PUMP WAS REPLACED
WITH A SPARE. THESE ARE 68-20R 4HP PUMPS, SERIES G WITH A MODIFIED STUB SHAFT.

AVAILABILITY - NRC PUBLIC DOCUMENT 5000, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

FAILURE, EQUIPMENT * POISCA, SCLUREL * CHEMICAL SMR * ROBINSON 2 (PWR) * BEARING * PUMPS

109811

FULL-LOAD DEFLECT ON WELDED AREAS IN THE CONTAINMENT LINER AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS, LTR D/46 50-201/78-1 TO U.S. NRC, REGION II, JAN. 14, 1978, DOCKET 50-201, TYPE--PWR, NRC--WEST, AE--ROBINSON

CAUSE - NOT DEFINITELY ESTABLISHED. IN 1974 NRC REQUESTED THAT THE CONTAINMENT LINER BE MONITORED
FOR UNUSUAL BULGING WHICH MAY HAVE BEEN CAUSED BY EXCESSIVE THERMAL EXPANSION, EXCESSIVE
DIFFERENTIAL PRESSURE ACROSS THE LINER, OR CYCLIC PIPE LOADING AT PENETRATIONS. STRAIN GAUGES
WERE PLACED AT VARIOUS LOCATIONS ON THE LINER. FOR THE 10-MONTH PERIOD SINCE THEY WERE
INSTALLED, THERE HAS BEEN VIRTUALLY NO MOVEMENT IN THE MAJORITY OF THE GAUGES. FROM THESE DATA,
IT HAS BEEN CONCLUDED THAT THE OBSERVED BULGES HAVE EXISTED IN THEIR PRESENT STATE SINCE INITIAL
CONSTRUCTION AND ARE NOT GROWING.

AVAILABILITY - NRC PUBLIC DOCUMENT 5000, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CONTAINMENT INTEGRITY * DEFLECTION * MEASUREMENT, STRAIN GAGE * ROBINSON 2 (PWR) * FAILURE, INSTALLATION
ERROR * CONTAINMENT LINER * SURVEILLANCE PROGRAM * OPERATING EXPERIENCE * EFFECT, AUC

110317

NPS TRIP RELAY FAILS AND TWO RELAYS HAVE DELAYED OPERATION AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS, LTR D/46 50-201/78-1 TO U.S. NRC, REGION II, FEB. 4, 1978, DOCKET 50-201, TYPE--PWR, NRC--WEST, AE--
EDASCO

110317 (CONTINUED)

CAUSE - HIGH VOLTAGE SUSPECTED. DURING TESTING WITH THE REACTOR AT 100% POWER, A REACTOR PROTECTION SYSTEM RELAY FAILED AND 2 OTHERS HAD DELAYED OPERATION. ALL 3 WERE REPLACED. THE FAILED UNIT HAD AN OPEN COIL WINDING. ALL 3 HAD DISCOLORED AND HAD BRITTLE WELDED SLEEVES WHICH ARE USED AS COIL LENSES IN WHICH THE OPERATING PLUNGERS TRAVEL. THE RELAYS ARE RATED FOR CONTINUOUS SERVICE AT 125/130 VDC. DURING AN EQUALIZING CHANGE IN A BATTERY, THAT TRIP OF RELAYS IS SUBJECT TO 140 VDC. THIS INCREASED VOLTAGE IS SUSPECTED TO BE THE CAUSE OF THE DEGRADATION. ALL RELAYS WILL BE REPLACED WITH ONES RATED FOR THE HIGHER VOLTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * RESPONSE TIME * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * ROBINSON 2 (PWR) * CARAGE * PLASTICS * RELAYS

110345

BORON CONCENTRATION IN SI ACCUMULATOR BELOW LIMITS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS, LTR W/RO 50-26176-3 TO U.S. NRC, REGION II, FEB. 9, 1976, DOCKET 50-261, TYPE--PWR, MW--BEST, AE--EBASCO

CAUSE - CHECK VALVE LEAK. A HIGH LEVEL ALARM WAS RECEIVED ON SAFETY INJECTION ACCUMULATOR B. THE ACCUMULATOR WAS DRAINED FROM 60% TO 77% AND SAMPLED. RESULTS INDICATED A BORON CONCENTRATION OF 1939 PPM WHICH IS BELOW THE 1950 PPM LIMIT. A CHECK VALVE WAS LEAKING SLIGHTLY RESULTING IN DILUTION. THE ACCUMULATOR WAS PARTIALLY DRAINED AND REFILLED FROM THE REFILLING WATER STORAGE TANK. SAMPLING WILL BE MORE FREQUENT UNTIL THE LEAKING VALVE CAN BE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BORON * FAILURE, EQUIPMENT * SAFETY INJECTION * ROBINSON 2 (PWR) * LEAK * VALVE, CHECK * DECONCENTRATION * FAILURE, INHERENT * ACCUMULATOR

112294

POSSIBLE INACCURACIES IN PREDICTION OF PEAK CLAD TEMPERATURE AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS, LTR W/RO 70-6 TO U.S. NRC, REGION II, MARCH 26, 1976, DOCKET 50-261, TYPE--PWR, MW--BEST, AE--EBASCO

CAUSE - STEAM GENERATOR TUBE PLUGGING. A REEVALUATION OF THE LOCA ANALYSIS BY WESTINGHOUSE INDICATED POSSIBLE INACCURACIES IN THE PREDICTION OF PEAK CLAD TEMPERATURE. THE EFFECT OF THE ADDED RESISTANCE RESULTING FROM STEAM GENERATOR TUBE PLUGGING WAS OVERLOOKED. THE LIMITING VALUE OF P SUB 0 WAS REDUCED FROM 2.30 TO 2.26 ACCORDING TO WESTINGHOUSE SUGGESTION. THIS REDUCTION DOES NOT AFFECT THE PRESENT OPERATION OF THE UNIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * DECLAODING * HEAT TRANSFER * ACCIDENT, LOSS OF COOLANT * FAILURE, ADMINISTRATIVE CONTROL * ROBINSON 2 (PWR) * THERMAL TRANSIENT * TEMPERATURE * WESTINGHOUSE * FUEL ELEMENTS

112302

POSSIBLE INACCURACIES IN PEAK CLAD TEMPERATURE PREDICTION AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS, LTR W/RO 70-6 TO U.S. NRC, REGION II, MARCH 26, 1976, DOCKET 50-261, TYPE--PWR, MW--BEST, AE--EBASCO

CAUSE - STEAM GENERATOR TUBE PLUGGING. A REEVALUATION OF THE LOCA ANALYSIS BY WESTINGHOUSE INDICATED POSSIBLE INACCURACIES IN THE PREDICTION OF PEAK CLAD TEMPERATURE. THE EFFECT OF STEAM GENERATOR TUBE PLUGGING HAD BEEN OVERLOOKED. ABOUT 34 OF THE TUBES ARE PLUGGED. AS A TEMPORARY ACTION, THE LIMITING VALUE OF P SUB 0 WAS REDUCED FROM 2.30 TO 2.26.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * DECLAODING * ACCIDENT, LOSS OF COOLANT * FAILURE, DESIGN ERROR * FLUID BLOCKAGE * ROBINSON 2 (PWR) * STEAM GENERATOR * THERMAL TRANSIENT * TEMPERATURE * FUEL ELEMENTS

112311

EMERGENCY DIESEL FAILS TO ASSURE RATED CAPACITY AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
2 PGS, LTR W/RO 70-4 TO U.S. NRC, REGION II, MARCH 29, 1976, DOCKET 50-261, TYPE--PWR, MW--BEST, AE--EBASCO

CAUSE - DEFECTIVE FUEL INJECTION PUMP. WHILE THE REACTOR WAS OPERATING AT 100% POWER, EMERGENCY DIESEL # FAILED TO ASSURE RATED CAPACITY DURING A TEST. FUEL PUMP TO C# 12 FAILED DUE TO CALLING UP INJECTOR PUMP PLUNGER AND DAMSEL BALL. THE DEFECTIVE PUMP * C#12.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 26 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * TEST, SYSTEM OPERABILITY * ROBINSON 2 (PWR) * FAILURE,

112111 -CONTINUED
 INNERENT * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

112112
 CONTAINMENT FAN COOLER UNIT FAILS TO FUNCTION AT ROBINSON 2
 CAROLINA POWER & LIGHT CO., RALEIGH, NC
 2 PGS. LTR W/NO 76-5 TO U.S. NRC, REGION II, MARCH 29, 1976, DOCKET 50-261, TYPE--PM, NRC--BEST., AE--EDASCO

CAUSE - DAMPERS FAIL TO OPERATE. DURING TESTING WITH THE REACTOR AT 100% POWER, THE NORMAL AND EMERGENCY DAMPERS ON A CONTAINMENT FAN COOLER FAILED TO FUNCTION. BOTH DAMPERS ON THE RESTRICTION UNIT FAN COOLER FAILED DUE TO OPERATOR MALFUNCTION. THE NORMAL SUPPLY DAMPER REQUIRED ALIGNMENT ADJUSTMENT AND LUBRICATION WHEREAS THE EMERGENCY DAMPER REQUIRED LUBRICATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT AIR COOLING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * ROBINSON 2 (PM) * LUBRICATION

112100
 EMERGENCY DIESEL FAILS TO ASSUME RATED CAPACITY AT ROBINSON 2
 CAROLINA POWER & LIGHT CO., RALEIGH, NC
 2 PGS. LTR W/NO 76-4 TO U.S. NRC, REGION II, MARCH 29, 1976, DOCKET 50-261, TYPE--PM, NRC--BEST., AE--EDASCO

CAUSE - DEFECTIVE FUEL INJECTOR PUMP. WHILE THE REACTOR WAS OPERATING AT 100% POWER, EMERGENCY DIESEL # FAILED TO ASSUME RATED CAPACITY DURING A TEST. JAMMING OF THE INJECTOR PUMP PLUNGER AND RAPID WALK RESULTED IN FUEL PUMP FAILURE TO CYLINDER 12. THE DEFECTIVE FUEL INJECTION PUMP WAS REPLACED. THE DIESEL WAS OUT OF SERVICE FOR 10.5 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * ROBINSON 2 (PM) * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

112201
 CONTAINMENT FAN COOLER DAMPERS FAIL TO FUNCTION AT ROBINSON 2
 CAROLINA POWER & LIGHT CO., RALEIGH, NC
 2 PGS. LTR W/NO 76-5 TO U.S. NRC, REGION II, MARCH 29, 1976, DOCKET 50-261, TYPE--PM, NRC--BEST., AE--EDASCO

CAUSE - INSUFFICIENT LUBRICATION. DURING A TEST WITH THE REACTOR AT 100% POWER, THE NORMAL AND EMERGENCY DAMPERS ON A CONTAINMENT FAN COOLER UNIT FAILED TO FUNCTION DUE TO OPERATOR MALFUNCTION. THE NORMAL SUPPLY DAMPER REQUIRED ALIGNMENT AND LUBRICATION WHEREAS THE EMERGENCY DAMPER REQUIRED LUBRICATION TO FAIL IT. THE UNIT WAS OUT OF SERVICE FOR 6 3/4 HOURS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTAINMENT AIR COOLING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * ROBINSON 2 (PM) * LUBRICATION * BLEEDERS

112372
 LOW TEMPERATURE IN BORIC ACID HEAT TRACING SYSTEM AT ROBINSON 2
 CAROLINA POWER & LIGHT CO., RALEIGH, NC
 4 PGS. LTR W/NO 76-7 TO U.S. NRC, REGION II, APRIL 16, 1976, DOCKET 50-261, TYPE--PM, NRC--BEST., AE--EDASCO

CAUSE - FAILURE TO FOLLOW PROCEDURES. WITH THE PLANT OPERATING AT 100% POWER, TESTING OF THE BORIC ACID HEAT TRACING SYSTEM FOUND CIRCUIT 56 PRIMARY HAD NO CURRENT FLOW BECAUSE OF A BURNED OPEN PIPE. TO REPAIR THE CIRCUIT, A BREAKER WAS OPENED IN EACH OF THE 2 (PRIMARY AND SECONDARY) HEAT TRACER PANELS. ABOUT 30 MINUTES LATER, A LOW TEMPERATURE ALARM FOR CIRCUIT 56 WAS RECEIVED. THE BREAKERS THAT HAD BEEN OPENED SUPPLIED POWER TO 2 OTHER CIRCUITS ALSO. MAINTENANCE PERSONNEL HAD FAILED TO OBTAIN A CLEARANCE PRIOR TO OPENING THE BREAKERS. THE BREAKERS WERE CLOSED AND TEMPERATURES RETURNED TO NORMAL. REPAIRS WERE COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * PCISCA, SOLUBLE * FAILURE, MAINTENANCE ERROR * CHEMICAL SHIM * ROBINSON 2 (PM) * OPERATORS

113525
 RADIAL FLOW TILT OCCURS AT ROBINSON 2
 CAROLINA POWER & LIGHT CO., RALEIGH, NC
 2 PGS. LTR W/NO 76-8 TO U.S. NRC, REGION II, MAY 3, 1976, DOCKET 50-261, TYPE--PM, NRC--BEST., AE--EDASCO

CAUSE - DROPPED ROD. DURING ROD EXERCISE TESTING WITH THE REACTOR AT 60% POWER, ROD L-4 UNPLUGGED DUE TO A LOOSE ELECTRICAL CONNECTION. A RADIAL TILT WAS INDUCED RESULTING IN OPERATION IN A

113532 *CONTINUED*

DEGRADED MODE. THE REACTOR WAS SHUT DOWN. A REPLACEMENT CONTROLLER WAS INSTALLED. DURING STARTUP TESTING, GROUP 2 SCDS DROPPED DUE TO FAILURE OF A MULTIPLYING RELAY IN A CONTROL CABINET. THE RELAY WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * TESTING * FLUX TILT * ROBINSON 2 (PWR) * REACTOR SHUTDOWN * CABLES AND CONNECTIONS * FAILURE, INHERENT * CONTROL RODS

113534

RADIAL FLUX TILT EXPERIENCE FROM REACTOR IMBALANCE AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
S PLS, LTR D/NO 70-9 TO U.S. NRC, REGION II, MAY 3, 1970, DCKET 50-201, TYPE--PWR, RW--BEST, AL--EASLC

CAUSE - DROPPED ROD. DURING RECOVERY FROM A FORCED OUTAGE PROMPTED BY A DROPPED ROD, A RADIAL TILT WAS EXPERIENCED DUE TO RADIAL REACTOR IMBALANCE. THE PREVIOUS POWER TILT CREATED THIS IMBALANCE. THE REACTOR WAS SHUT DOWN FROM 90% POWER AND REACTOR ALLOWED TO DEFLAT FOR 10 MINUTES TO PERMIT THE TILT TO LESS THAN 2%.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR * POWER DISTRIBUTION * FLUX TILT * ROBINSON 2 (PWR) * REACTOR SHUTDOWN * FAILURE, INHERENT

113535

LIMITATION ON CONSTANT AXIAL OFFSET CONTROL EXCEEDED AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
S PLS, LTR D/NO 70-10 TO U.S. NRC, REGION II, MAY 3, 1970, DCKET 50-201, TYPE--PWR, RW--BEST, AL--EASLC

CAUSE - VARIOUS FORCED POWER MANEUVERS. AS A RESULT OF VARIOUS FORCED POWER MANEUVERS DUE TO A DROPPED ROD, RADIAL TILTS, AND LOW RCP SEAL FLOW, THE TOTAL CUMULATIVE TIME OUTSIDE LOCAL LIMITS EXCEEDED THE 1 HOUR LIMIT. SEAL FLOW DECREASED AS A RESULT OF CHANGING PUMP AIR DRAINING. THE PUMPS WERE VENTED AND SEAL FLOW WAS REESTABLISHED. POWER WAS REDUCED RAPIDLY TO 70% DURING VENTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

POWER DISTRIBUTION * FLUX TILT * SEAL * ROBINSON 2 (PWR) * MAIN COOLING SYSTEM * FLOW * FAILURE, INHERENT * PUMPS

113752

BURIC ACID TRANSFER PUMP TRIPS ON HIGH PUMP TEMPERATURE AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
S PLS, LTR D/NO 70-11 TO U.S. NRC, REGION II, MAY 10, 1970, DCKET 50-201, TYPE--PWR, RW--BEST, AL--EASLC

CAUSE - HEAT TRACING SET TOO HIGH. WHILE THE REACTOR WAS OPERATING AT 100% POWER, BURIC ACID TRANSFER PUMP TRIPPED DUE TO HIGH PUMP TEMPERATURE CUT OUT. THE PRIMARY AND SECONDARY CIRCUITS FOR THE STRIP HEATERS IN THE PUMP ENCLOSURE WERE FOUND SET AT 250 F (MAXIMUM). SET POINTS WERE REDUCED TO 175 F AND THE PUMP RETURNED TO SERVICE. HEATERS HAD BEEN TURNED UP TO OFFSET HEAT LOSSES FROM THE PUMP ENCLOSURE. THE PUMP ENCLOSURE WAS COVERED WITH CERTIFIED ASBESTOS CLOTH TO REDUCE HEAT LOSSES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * FAILURE, OPERATOR ERROR * POISON, SOLUBLE * CHEMICAL WHEAT * ROBINSON 2 (PWR) * SET POINT * PUMPS * SENSORS, TEMPERATURE * HEATERS

113560

REACTOR CRITICALITY OCCURS WITH CONTROL RODS INSERTED BEYOND LIMITS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
S PLS, LTR D/NO 70-12 TO U.S. NRC, REGION II, MAY 10, 1970, DCKET 50-201, TYPE--PWR, RW--BEST, AL--EASLC

CAUSE - OPERATOR ERROR. DURING PERFORMANCE OF A REACTOR STARTUP FOR TRAINING, THE REACTOR WAS BROUGHT TO CRITICALITY WITH THE CONTROL RODS INSERTED INTO THE CORE BELOW THE TECH SPEC INSERTION LIMITS. THE REACTOR WAS SHUT DOWN AND EMERGENCY OPERATION WAS INITIATED. THE LICENSEE CONTROL OPERATOR FAILED TO RECOGNIZE THAT CRITICALITY WAS BEING APPROACHED. THE ESTIMATED CRITICAL POSITION CALCULATION WAS IN ERROR. THE ERROR RESULTED FROM THE METHOD OF DETERMINING REACTOR CONDITIONS FOLLOWING REACTOR SHUTDOWN. THE INVERSE COUNT RATE RATIO PLOT HAD ONLY 2 POINTS ON IT THE FIRST OF WHICH WAS OBTAINED WELL BELOW WHERE SUBCRITICAL MULTIPLICATION BECOMES SIGNIFICANT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CRITICALITY SAFETY * REACTIVITY, EXCESS * FAILURE, OPERATOR ERROR * ACCIDENT, REACTIVITY * REACTOR * ACCIDENT, CRITICALITY * ROBINSON 2 (PWR) * REACTOR PHYSICS * MATHEMATICAL TREATMENT * REACTOR SHUTDOWN

115046

LEADS REMOVED FROM BATTERY WHILE REACTOR WAS CRITICAL AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS. LTR D/LEN 76-13 TO U.S. NRC, REGION II, JULY 26, 1976, DCKET 50-201, TYPE--PWR, NFG--BEST., AE--EBASCO

CAUSE - PERSONNEL ERROR. WHILE PERFORMING MAINTENANCE ON BATTERY 2 WITH THE REACTOR CRITICAL AT ZERO POWER, LEADS WERE REMOVED FROM THE BATTERY RENDERING IT INOPERATIVE. PERSONNEL FAILED TO COMPLY WITH TECH SPECS. THE LEADS WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, MAINTENANCE ERROR + ROBINSON 2 (PWR) + CABLES AND CONNECTIONS + BATTERIES & CHARGERS

116025

ERRORS FOUND IN WESTINGHOUSE SAFETY ANALYSIS METHODS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS. LTR D/LEN 76-10 TO U.S. NRC, REGION II, AUG. 19, 1976, DCKET 50-201, TYPE--PWR, NFG--BEST., AE--EBASCO

CAUSE - INCORRECT ASSUMPTIONS. DEVELOPMENTS REGARDING WESTINGHOUSE SAFETY ANALYSIS RESULT IN SIGNIFICANT IMPACTS TO LOCA ANALYSIS PEAK CLAD TEMPERATURE AND ROD BUD DND PENALTY. WESTINGHOUSE INCORRECTLY ASSUMED THE FLUID TEMPERATURE IN THE VESSEL HEAD AS T-COLD. PENDING FURTHER INVESTIGATION IT WILL BE TREATED AS T-HOT IN LOCA ANALYSIS. RECENT TESTS INDICATE THAT AN INCREASE IN ROD BUD PENALTY WAS JUSTIFIED. THIS OCCURRENCE DID NOT SIGNIFICANTLY AFFECT PRESENT OPERATING CONDITIONS SINCE CURRENT VALUES ARE WELL BELOW THE NEW LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS + CLADDING + FUEL ELEMENT BOWING + ACCIDENT, LOSS OF COOLANT + DND + FAILURE, DESIGN ERROR + ROBINSON 2 (PWR) + MATHEMATICAL TREATMENT + FUEL ROD + TEMPERATURE

117452

ERRORS FOUND IN SAFETY ANALYSIS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
3 PGS. LTR D/LEN 76-10 TO U.S. NRC, REGION II, AUG. 19, 1976, DCKET 50-201, TYPE--PWR, NFG--BEST., AE--EBASCO

CAUSE - INCORRECT ASSUMPTIONS. DEVELOPMENTS REGARDING WESTINGHOUSE SAFETY ANALYSIS RESULTED IN SIGNIFICANT IMPACTS TO LOCA ANALYSIS PEAK CLAD TEMPERATURE AND ROD BUD DND PENALTY. AS A RESULT, C/PD HAS REDUCED ITS VALUE OF LIMITING F SUB O PAWR 2.26 TO 2.10 AND ACCOUNTED FOR AN INCREASE IN ROD BUD DND PENALTY BY ADJUSTING LIMITING F SUB DELTA H. FLUID TEMPERATURE IN THE VESSEL HEAD HAS BEEN ASSUMED EQUAL TO THE COLD LEG TEMPERATURE. IT WILL BE TREATED AS HOT LEG TEMPERATURE PENDING FURTHER INVESTIGATION. RECENT TESTS INDICATED THAT AN INCREASE IN ROD BUD PENALTY WAS JUSTIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS + CLADDING + FUEL ELEMENT BOWING + ACCIDENT, LOSS OF COOLANT + ANALYTICAL MODEL + HOT CHANNEL ANALYSIS + DND + FAILURE, DESIGN ERROR + ROBINSON 2 (PWR) + FUEL ROD + TEMPERATURE

117453

AUXILIARY FEEDWATER PUMP VALVE FAILS TO OPEN AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS. LTR D/LEN 76-15 TO U.S. NRC, REGION II, AUG. 31, 1976, DCKET 50-201, TYPE--PWR, NFG--BEST., AE--EBASCO

CAUSE - VALVE BINDING TO SEAT. DURING TESTING AT 100% POWER, AN AUXILIARY FEEDWATER PUMP DISCHARGE VALVE FAILED TO OPEN. THE VALVE WAS BINDING TO THE SEAT. SOME PULL-OUT TORQUE IS REQUIRED. LARGER CAPACITY MOTORS FOR THE VALVE OPERATORS WILL BE INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + MODIFICATION + TEST, SYSTEM OPERABILITY + FAILURE, DESIGN ERROR + ROBINSON 2 (PWR) + AUXILIARY + COOLING SYSTEM, SECONDARY + FEEDWATER + VALVE OPERATORS + VALVES

117824

POWER DISTRIBUTION OUT OF LIMITS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
2 PGS. LTR D/LEN 76-10 TO U.S. NRC, REGION II, SEPT. 3, 1976, DCKET 50-201, TYPE--PWR, NFG--BEST., AE--EBASCO

CAUSE - AGENC FOLLOWING POWER RAMP. AS A RESULT OF A AGENC CREATED POWER DISTRIBUTION, CONSISTENT WITH ZERO POWER OPERATION FOLLOWING FULL POWER OPERATION, THE TOTAL CUMULATIVE TIME OUTSIDE THE CAUC TARGET BANDS EXCEEDED THE 1 HOUR LIMIT DURING POWER OPERATION BELOW 90% POWER. TIME OUTSIDE OF TARGET BANDS WAS ACCUMULATED DURING A RETURN TO PWRN FOLLOWING TURBINE VIBRATION TESTING. IT OCCURRED 2 TO 10 HOURS AFTER A PWRN RAMP FROM FULL TO ZERO POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM

117654 *CONTINUED*
CHARGE \$2.00)

ROBINSON 2 (PWR) * POWER DISTRIBUTION * ROBINSON 2 (PWR) * FAILURE, INHERENT

120002
UPDATE REPORT ON PEAK CLAD TEMPERATURE DURING LOCA AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
2 PGS. LTR W/DATE TO LER 76-14 TO U.S. NRC, REGION II, SEPT. 17, 1976. DOCKET 50-261. TYPE--PWR, NRC--BEST., AE--EBASCO

CAUSE - DIFFERENT ECCS MODEL USED. THE UTILITY WAS NOTIFIED BY NRC THAT THE PEAK CLAD TEMPERATURE INCREASE WHICH BESTIMHOUSE PRESENTED TO EACH UTILITY SHOULD BE 50 F HIGHER DUE TO USE OF DIFFERENT VERSIONS OF THE ECCS WHEN MAKING THE COMPARISON OF PCF. THIS INCREASE RESULTS IN A REDUCTION OF THE LIMITING P SUB G TO 2.05.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ROBINSON 2 (PWR) * HOT CHANNEL FACTOR * HOT CHANNEL ANALYSIS * ACCIDENT, LOSS OF COOLANT * FAILURE, DESIGN ERROR * ANALYTICAL MODEL * EMERGENCY COOLING SYSTEM * ACCIDENT ANALYSIS * CLADDING * TEMPERATURE * FUEL ELEMENTS

110290
CONTAINMENT FAN COOLER UNIT DAMPERS FAIL TO FUNCTION AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS. LTR W/LER 76-17 TO U.S. NRC, REGION II, OCT. 7, 1976. DOCKET 50-261. TYPE--PWR, NRC--BEST., AE--EBASCO

CAUSE - IMPROPER ALIGNMENT AND DIET. DURING TESTING OF THE CONTAINMENT FAN COOLER UNITS WHILE OPERATING AT 100% POWER, THE NORMAL AND EMERGENCY DAMPERS ON 1 OF THE 4 UNITS FAILED TO FUNCTION PROPERLY. THE EMERGENCY DAMPER FAILED DUE TO BINDING OF THE 3-WAY SOLENOID VALVE WHICH ACTUATES THE DAMPER. FOREIGN MATERIAL WAS REMOVED FROM THE AIR CYLINDER PORTION OF THE SOLENOID VALVE. THE NORMAL DAMPER FAILED DUE TO OVERTRAVEL OF ITS CONTROL LINKAGE AND TO THE OPERATING AIR CYLINDER. A MECHANICAL STOP WAS INSTALLED ON THE ARM OF ALL 4 UNITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT AIR COOLING * CRUD * TEST, SYSTEM OPENABILITY * FAILURE, MAINTENANCE ERROR * ROBINSON 2 (PWR) * FAILURE, SIMULTANEOUS * VALVES

120441
BORIC ACID TRANSFER PUMP TRIPS ON HIGH TEMPERATURE AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS. LTR W/LER 76-18 TO U.S. NRC, REGION II, NOV. 16, 1976. DOCKET 50-261. TYPE--PWR, NRC--BEST., AE--EBASCO

CAUSE - DEFECTIVE STATOR AND BORN BEARINGS. DURING 100% POWER OPERATION, BORIC ACID TRANSFER PUMP B WAS TRIPPED BY ITS HIGH TEMPERATURE CUTOUT. ALSO, WHEN THE PUMP WAS RESTARTED, THE DISCHARGE PRESSURE INDICATION WAS 1 G. THE HIGH TEMPERATURE TRIP WAS CAUSED BY A DEFECTIVE STATOR AND BORN BEARINGS. THE LOW DISCHARGE PRESSURE INDICATION WAS CAUSED BY A FAULTY PRESSURE GAUGE. THE DEFECTIVE STATOR PLUS THE BORN FRONT AND REAR BEARINGS AND THE FAULTY GAUGE WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ROBINSON 2 (PWR) * PUMPS * CHEMICAL SPILL * POISON, SOLUBLE * FAILURE, EQUIPMENT * FAILURE, INHERENT * BEAR * SENSORS, PRESSURE * BEARING

119826
BORIC ACID TRANSFER PUMP TRIPS ON HIGH MOTOR TEMPERATURE AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC
4 PGS. LTR W/LER 76-19 TO U.S. NRC, REGION II, NOV. 26, 1976. DOCKET 50-261. TYPE--PWR, NRC--BEST., AE--EBASCO

CAUSE - HEATERS SET TOO HIGH. DURING 100% POWER OPERATION, BORIC ACID TRANSFER PUMP B TRIPPED DUE TO HIGH PUMP MOTOR TEMPERATURE CUTOUT. CIRCUITS EP2 (PRIMARY) AND EP2 (SECONDARY) FAN HEATER STRIPS IN THE PUMP ENCLOSURE WERE FOUND SET TOO HIGH THROUGH OPERATOR ERROR. SETTINGS WERE RETURNED TO NORMAL AND THE PUMP RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ROBINSON 2 (PWR) * PUMPS * POISON, SOLUBLE * TEMPERATURE * FAILURE, OPERATOR ERROR * HEATERS * RESET POINT * INSTRUMENT, PROTECTIVE * CHEMICAL SPILL

119827
PINHOLE LEAKS FOUND IN CANOPY SEAL BELLS AT ROBINSON 2
CAROLINA POWER & LIGHT CO., RALEIGH, NC

11927 (CONTINUED)
4 PGS. LTR W/REP TO NRC OFFICE OF I & E, REGION II, DEC. 1, 1976, DCKET 50-261, TYPE--PWR, MFG--BEST., AE--EDASCO

CAUSE - FLOW DEGRADATION. DURING THE REFUELING OUTAGE, SMALL PINHOLE LEAKS WERE FOUND ON 3 (1 CPM AND 2 PLUGS) CANDU SEAL BELLS. LEAKS WERE APPARENTLY THE RESULT OF BELL DEGRADATION. THE AFFECTED SURFACES WERE CLEANED, REMAIN BELLS, AND NONDESTRUCTIVELY EXAMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HADJINSON 2 (PWR) * LEAK * BELLS * CONTROL ROD DRIVES * FAILURE, IMMINENT * EFFECT, AGE * REFUELING * SEAL

112191
NRC SYSTEM PIPE FAILS AT SALEM 1
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS. LTR W/REP TO NRC OFFICE OF I & E, MARCH 10, 1976, DCKET 50-272, TYPE--PWR, MFG--BEST., AE--PUBLIC SERVICE

CAUSE - VIBRATION. DURING HOT FUNCTIONAL TESTING, EXCESSIVE VIBRATION WAS OBSERVED IN A 2-INCH INTERCONNECTING LINE BETWEEN THE RMH AND CVC SYSTEMS CAUSING FAILURE BY CRACKING OF A 3/4-INCH PIPE NIPPLE TO WHICH A VENT VALVE WAS CONNECTED. THE VALVE IN THE INTERCONNECTING LINE WAS IN THE CLOSED POSITION BUT WAS NOT FULLY SEATED BECAUSE OF MISALIGNMENT OF THE AIR SIGNAL TO THE VALVE OPERATOR. FLOW THROUGH THIS VALVE CAUSED THE VIBRATION. THE VENT PIPE WAS REPLACED WITH A 2-INCH PIPE NIPPLE AND A REDUCING INSERT. THE AIR SIGNAL TO THE VALVE OPERATOR WAS RECALIBRATED. ALSO, THE VALVE WAS FOUND TO BE INSTALLED BACKWARD. IT WILL BE REINSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * VIBRATION * FAILURE, INSTALLATION ERROR * SHUTDOWN COOLING SYSTEM * FLOW * LEAK * SALEM 1 (PWR) * CONSTRUCTION * CRACK * PIPES AND PIPE FITTINGS

112156
LVCS CHARGING PUMP SUCTION LINE HEADER WELD FAILS AT SALEM 1
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS. LTR W/REP TO NRC OFFICE OF I & E, MARCH 31, 1976, DCKET 50-272, TYPE--PWR, MFG--BEST., AE--PUBLIC SERVICE

CAUSE - PUMP VIBRATION. AS RCS LEAK TEST WAS BEING PERFORMED DURING HOT FUNCTIONAL TESTING, A CRACK DEVELOPED IN THE 6-INCH SUCTION LINE FEEDING POSITIVE DISPLACEMENT CHARGING PUMP 13. FAILURE OCCURRED AT THE WELD OF A PIPING BRANCH CONNECTING THE PUMP SUCTION LINE WITH THE MAIN 6-INCH SUCTION HEADER THAT SUPPLIES ALL 3 PUMPS. THE CRACK WAS CAUSED BY TRANSMITTED VIBRATION FROM PUMP 13. THE BRANCH CONNECTION WILL BE REPLACED BY A FORGED SCH-40 6/8" INCH TEE. ADDITIONAL PIPE RESTRAINTS WILL BE ADDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * VIBRATION * MAIN COOLING SYSTEM * SALEM 1 (PWR) * CONSTRUCTION * CRACK * FEEDWATER * PUMPS * PIPES AND PIPE FITTINGS

112157
AUXILIARY FEEDWATER PUMP BEARINGS FAIL AT SALEM 1
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS. LTR W/REP TO NRC OFFICE OF I & E, APRIL 2, 1976, DCKET 50-272, TYPE--PWR, MFG--BEST., AE--PUBLIC SERVICE

CAUSE - EXTEND MINIMUM FLOW OPERATION. DURING HOT FUNCTIONAL TESTING, THE AUXILIARY FEEDWATER PUMPS WERE OPERATED FOR EXTENDED PERIODS AT MINIMUM FLOW CONDITIONS. DURING TESTING, BOTH PUMPS EXPERIENCED THRUST BEARING FAILURES. OPERATION AT MINIMUM FLOW PUT CONSIDERABLE STRESS ON THE BEARING. THE LOW-FLOW CRIFICE DESIGNED FOR 50 GPM FLOW, WAS MODIFIED FOR 200 GPM FLOW. NEW RINGS WERE MACHINED AND INSTALLED FOR THE BEARING RETAINERS. BOTH THRUST BEARING HOUSING WERE PLACED TO RESIST THE GREATEST THRUST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * SALEM 1 (PWR) * BEARING * CONSTRUCTION * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS

112158
PUMPS INSTALLED ON PRESSURIZER PIPING MALFUNCTION AT SALEM 1
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS. LTR W/REP TO NRC OFFICE OF I & E, APRIL 2, 1976, DCKET 50-272, TYPE--PWR, MFG--BEST., AE--PUBLIC SERVICE

CAUSE - LOCKING SCREW IN PLACE AND CORROSION. DURING HOT FUNCTIONAL TESTING, HANGER MOVEMENT VERIFICATION GROUP REPORTED THAT 12 UNITS WERE RESTRICTING PIPE MOVEMENT. THIS IS 20% OF THE TOTAL INSTALLED ON THE PRESSURIZER SAFETY/RELIEF VALVE PIPING. HEAVY CORROSION OF THE INTERNAL

112158 *CONTINUED*

COMPONENTS CAUSED 3 UNITS TO JAM. LOCKING AND INSTALLATION SCREW HAD NOT BEEN REMOVED ON 4 UNITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * FASTENER * CORROSION * SHOCK ABSORBER * TEST, PRE-OPERATIONAL * TEST, SYSTEM OPERABILITY * SUPPORT STRUCTURE * FAILURE, INSTALLATION ERROR * SALEM 1 (PWH) * CONSTRUCTION * PIPES AND PIPE FITTINGS

113754

INDICATIONS FOUND IN STEAM GENERATOR HEAD CLADDING AT SALEM 1

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

2 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION I, MAY 20, 1976. DOCKET 50-272. TYPE--PWH, NRC--BEST., AE-- PUBLIC SERVICE

CAUSE - NOT STATED. FOLLOWING NOT FUNCTIONAL TESTS, DYE PENETRANT TESTING OF THE STAINLESS STEEL CLADDING IN THE LOWER HEAD OF STEAM GENERATOR 1A REVEALED LINEAR INDICATIONS. THE CONDITION WAS ESSENTIALLY THE SAME AS THAT FOUND AT INDIAN POINT 3 AFTER THEIR NOT FUNCTIONAL TESTS. ADDITIONAL INSPECTION IN THE COOL LEG SIDE UNCOVERED ADDITIONAL INDICATIONS. A 100% DYE PENETRANT EXAMINATION IS IN PROGRESS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CLADDING * STEEL, STAINLESS * FLAW * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * TEST, NONDESTRUCTIVE * STEAM GENERATOR * SALEM 1 (PWH) * CONSTRUCTION

114382

INDICATION FOUND IN STEAM GENERATOR HEAD CLADDING AT SALEM 1

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

5 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION I, MAY 20, 1976. DOCKET 50-272. TYPE--PWH, NRC--BEST., AE-- PUBLIC SERVICE

CAUSE - UNKNOWN. NONDESTRUCTIVE EXAMINATION OF THE STEAM GENERATORS REVEALED EXTENSIVE TRANSVERSE AND LONGITUDINAL CLADDING INDICATIONS AT HEAD OVERLAPS AND WITHIN THE WELD BEADS THAT ARE CONCENTRATED AT ONE LOCATION IN STEAM GENERATOR 1A. THESE PARALLEL THE DEFECTS FOUND AT INDIAN POINT 3. A REVIEW CONCLUDES THAT THE CRACKS IN THE CLADDING ARE ACCEPTABLE AS THE INTEGRITY OF THE SYSTEM IS NOT COMPROMISED. CRACKS ARE CONFINED TO THE CLADDING AND DO NOT PROGRESS INTO THE BASE METAL. THE CAUSE OF CRACKING HAS NOT BEEN DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CLADDING * TEST, NONDESTRUCTIVE * STEAM GENERATOR * SALEM 1 (PWH) * CONSTRUCTION * CRACK

115715

INDICATIONS FOUND IN STEAM GENERATOR HEAD CLADDING AT SALEM 1

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

5 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION I, MAY 20, 1976. DOCKET 50-272. TYPE--PWH, NRC--BEST., AE-- P5866

CAUSE - UNKNOWN. NONDESTRUCTIVE EXAMS OF THE STAINLESS STEEL CLADDING IN THE HEADS OF STEAM GENERATORS WERE CONDUCTED USING WATER WASHABLE DYE PENETRANT METHOD. TRANSVERSE AND LONGITUDINAL CRACKING IS CONCENTRATED IN 2X4 FT AREA OF THE UPPER BOWL OF THE COOL LEG OF SG1A. MINOR INDICATIONS WERE FOUND IN THE OTHER 3 SCS. THE CAUSE HAS NOT BEEN DETERMINED. THE DEFECTS WILL BE EXAMINED ULTRASONICALLY IF POSSIBLE. IT HAS BEEN CONCLUDED THAT THE CRACKS ARE ACCEPTABLE AS THEY DO NOT PENETRATE TO THE BASE METAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CLADDING * TEST, NONDESTRUCTIVE * FAILURE, CLADDING * STEAM GENERATOR * SALEM 1 (PWH) * CONSTRUCTION * CRACK

115053

SUPPLEMENTARY REPORT ON HYDRAULIC RUBBER FAILURE AT SALEM 1

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

3 PGS, LTR R/PT TO NRC OFFICE OF I & E, REGION I, JUNE 10, 1976. DOCKET 50-272. TYPE--PWH, NRC--BEST., AE-- PUBLIC SERVICE

CAUSE - CORROSION. DURING NOT FUNCTIONAL TESTING, 12 SHROBBER MALFUNCTIONED, 10 WERE RESTRICTING THERMAL PIPE MOVEMENT AND 2 WERE REMOVED FOR EVALUATION, AS REPRINTED PARTS. FIVE FUNCTIONED WITHIN REQUIRED OPERATIONAL LOAD LIMITS. SEVEN WERE DISASSEMBLED BECAUSE THEY WERE COMPLETELY JAMMED UP SHOWED OPERATIONAL LOAD VALVES IN EXCESS OF 2000 LBS DURING RE-TEST. FOUR UNITS REVEALED HEAVY CORROSION WHILE 3 UNITS DISPLAYED NO VISIBLE REASON FOR MALFUNCTIONS. NINE UNITS WERE REPLACED WITH PACIFIC SCIENTIFIC UNITS. SOME INC UNITS WERE REDESIGNED TO HAVE CORROSION RESISTANT BEAR SURFACES AND FEATURES TO PREVENT WATER ENTRY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

115022 CONTINUED
FAILURE, EQUIPMENT * CORROSION * SHOCK ABSORBER * FAILURE, DESIGN ERROR * EXAMINATION * SUPPORT STRUCTURE * SALEM I (PH) * CONSTRUCTION * PIPES AND PIPE FITTINGS

115092
PULAR GANTRY CHANE GEAR MISALIGNED AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION I, JUNE 17, 1976, DCKET 50-272, TYPE--PWR, MFG--WEST., AE--PUBLIC SERVICE

CAUSE - ASSEMBLY DEFICIENCY. WHILE PERFORMING A SERVICE-INSPECTION OF THE PULAR GANTRY CHANE CLEANING TUNNEL FROM THE PLANT CONSTRUCTION PHASE TO THE OPERATING PHASE, EXCESSIVE VIBRATION OF THE MAIN MOIST WAS OBSERVED. THE MOIST DRAW GEAR (HORN ASSEMBLY) AND PINION WERE MISALIGNED. THE HORN ASSEMBLY WAS REALIGNED AND SECURED ON THE WEARS DRESSED.

AVAILABILITY - NRC PUBLIC DOCUMENT NRCR, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT * TEST, PNEUMATIONAL * TEST, SYSTEM OPERABILITY * VIBRATION * FAILURE, INSTALLATION ERROR * SALEM I (PH) * CONSTRUCTION * CHANE

115712
FAN COIL UNIT MOTOR FAILS TO START ON LOW SPEED AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION I, JULY 1, 1976, DCKET 50-272, TYPE--PWR, MFG--WEST., AE--PSEG

CAUSE - NOT YET DETERMINED. DURING THE INITIAL TESTING, FAN COIL UNIT MOTOR IS FAILED TO START ON THE LOW SPEED SETTING. THE 100/300 HP 400V MOTOR WAS RETURNED TO THE VENDOR. NO DEFICIENCIES WERE FOUND. AFTER REASSEMBLY, IT OPERATED. THE MOTOR WAS REINSTALLED. AFTER SEVERAL SUCCESSFUL STARTS, IT EXHIBITED INTERMITTENT STARTING PROBLEM. IT WAS AGAIN REMOVED AND SENT TO THE VENDOR FOR REPAIR. A MOTOR FROM UNIT 2 WAS INSTALLED IN ITS PLACE.

AVAILABILITY - NRC PUBLIC DOCUMENT NRCR, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT AIR COOLING * FAILURE, FABRICATION ERROR * TEST, PNEUMATIONAL * TEST, SYSTEM OPERABILITY * SALEM I (PWR) * CONSTRUCTION * MOTORS * BLOWERS

117602
CONCENTRATION OF BOWEL ACID TANKS BELOW LIMIT AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
2 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION I, SEPT. 3, 1976, DCKET 50-272, TYPE--PWR, MFG--WEST., AE--PSEG

CAUSE - CHARGING PUMP DISCHARGE VALVE LEAKAGE. DURING INITIAL FUEL LOADING, ROUTINE ANALYSIS OF BOWEL ACID TANK SAMPLES REVEALED CONCENTRATIONS OF 17120 AND 17015 PPM. TECH SPECS REQUIRE 20100 PPM. TWO CHARGING PUMP DISCHARGE VALVES LEAKED THROUGH CAUSING DILUTION OF THE BURN INJECTION AND BOWEL ACID TANKS WHICH WERE BEING RECIRCULATED. THE CHARGING VALVES, MODEL 535000, SHOWED SEAT REMAINS INDICATIVE OF FOREIGN MATERIAL. THEY WERE RELAMPED.

AVAILABILITY - NRC PUBLIC DOCUMENT NRCR, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * POISON, SOLUBLE * SAMPLING * REACTOR STARTUP EXPERIENCE * STORAGE CONTAINER * CHEMICAL SPIN * LEAK * SALEM I (PWR) * CONCENTRATION * FAILURE, IMPEMENT * VALVES

117904
CONTAINMENT AIR SAMPLE PUMP FAILS AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
3 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION I, SEPT. 3, 1976, DCKET 50-272, TYPE--PWR, MFG--WEST., AE--PSEG

CAUSE - BEARINGS AND SHAFT SEALS SEIZE. DURING INITIAL FUEL LOADING, THE CONTAINMENT AIR SAMPLE PUMP FOR AIR PARTICULATE AND GASEOUS RADIATION MONITORS FAILED. THE PUMP WAS REPLACED WITH A SPARE WHICH ALSO FAILED. A SECOND SPARE WAS INSTALLED AND IS IN SERVICE. THE CUMMINS WILKING MACHINE CO. PUMP, MODEL W-10A, FAILED DUE TO SEIZURE OF BEARING AND/OR SHAFT SEALS. CAUSE OF FAILURE IS STILL UNDER INVESTIGATION.

AVAILABILITY - NRC PUBLIC DOCUMENT NRCR, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * SAMPLING * REACTOR STARTUP EXPERIENCE * FAILURE, SEQUENTIAL * SEAL * MONITORING SYSTEM, RADIATION * CONTAINMENT ATMOSPHERE * SALEM I (PWR) * BEARING * FUEL LOADING * PUMPS * RADIATION MONITORS

118215
RESIDUAL HEAT REMOVAL FLOW LOST AT SALEM I

110219 (CONTINUED)

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
3 PGS. LTR D/NO 76-04/3-L TO NRC OFFICE OF I & E, REGION I, SEPT. 20, 1976. DCKET 50-472. TYPE--PWR, MF--
WEST., AE--PSEEG

CAUSE - VITAL INSTRUMENT BUS POWER TRANSFER, WITH INITIAL CORE LOADING COMPLETED AND PWR SYSTEM IN SERVICE, VITAL INSTRUMENT BUS IA WAS BEING TRANSFERRED TO AN ALTERNATE SOURCE OF POWER TO ALLOW THE VITAL BUS INVERTER TO BE DE-ENERGIZED. DURING THE TRANSFER, THE PWR PUMP SUCTION VALVE CLOSED RESULTING IN LOSS OF CIRCULATING CAPACITY. THE VOLTAGE TRANSIENT CAUSED THE VALVE TO CLOSE DUE TO AN ERRONEOUS HIGH PRESSURE SIGNAL. THE VALVE WAS REOPENED AND THE SYSTEM RETURNED TO NORMAL IN 19 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER + REACTOR STARTUP EXPERIENCE + FLOW BLOCKAGE + INSTRUMENT, ABNORMAL INDICATION + SHUTDOWN COOLING SYSTEM + FLOW + SALEM I (PWR) + TRANSIENT + FAILURE, INHERENT + VALVES

110207

CONTAINMENT RADIATION MONITOR SET POINTS CALCULATED INCORRECTLY AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
5 PGS. LTR D/NO 76-08/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 20, 1976. DCKET 50-272. TYPE--PWR, MF--
WEST., AE--PSEEG

CAUSE - INCORRECT FLOW RATE USED. WHILE THE REACTOR WAS IN SHUTDOWN, VERIFICATION BY STATION PERSONNEL OF SET POINTS FOR THE 3 CONTAINMENT RADIATION MONITORS INDICATED CALCULATIONS UTILIZED AIR SAMPLE FLOW OF 10 SCFM. ACTUAL AIR SAMPLE FLOW IS 3.5 SCFM. THIS WAS DUE TO PERSONNEL ERROR. FINAL ANALYSIS SHOULD ONLY 1 OF THE 3 CHANNELS TO BE LESS CONSERVATIVE THAN REQUIRED. ALL SET POINTS WERE RECALCULATED AND NEW SET POINTS ESTABLISHED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT + PROCEDURES AND MANUALS + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + MATHEMATICAL TREATMENT + FLOW + SALEM I (PWR) + SET POINT + RADIATION MONITORS

110727

LETDOWN VALVE CLOSURE AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
4 PGS. LTR D/NO 76-07/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 29, 1976. DCKET 50-272. TYPE--PWR, MF--
WEST., AE--PSEEG

CAUSE - INADVERTENT GROUND ON VITAL INSTRUMENT BUS. WITH THE REACTOR AT 90 PSIG AND 112 F PRIOR TO INITIAL CRITICALITY, AN INADVERTENT GROUND WAS APPLIED ON VITAL INSTRUMENT BUS 10 WHEN A TECHNICIAN USED A GROUNDED OSCILLOSCOPE TO CHECK VOLTAGE WAVE FORM. THE RESULTING VOLTAGE FLUCTUATION CAUSED THE LET DOWN VALVE TO CLOSE. THE CHARGING PUMP WAS SECURED AND THE PWR OPERATED RELIEF VALVE OPERATED. THE PRESSURE INCREASED TO ABOUT 200 PSIG. THE LET DOWN VALVE WAS REOPENED AND PWR FLOW WAS RESTORED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TESTING + REACTOR STARTUP EXPERIENCE + FAILURE, MAINTENANCE ERROR + MAIN COOLING SYSTEM + SHUTDOWN COOLING SYSTEM + PRESSURE TRANSIENT + SALEM I (PWR) + VALVES

110002

PERMISSIVE P-10 ACTIVATED DURING POWER TRANSFER AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
3 PGS. LTR D/NO 76-08/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 29, 1976. DCKET 50-272. TYPE--PWR, MF--
WEST., AE--PSEEG

CAUSE - VOLTAGE TRANSIENT, WITH THE UNIT IN COLD SHUTDOWN AND WHILE PWR RANGE CHANNEL N02 WAS IN TEST, TRANSFER OF VITAL INSTRUMENT BUS IC POWER TO VITAL BUS INVERTER IC ACTIVATED PERMISSIVE P-10, WHICH IN TURN DEENERGIZED SOURCE RANGE CHANNELS N11 AND N12. THE APPARENT CAUSE WAS A VOLTAGE TRANSIENT WHILE SWITCHING VITAL BUS POWER SUPPLY. CHANNEL N2 WAS TAKEN OUT OF TEST AND SOURCE RANGE CHANNELS BECAME OPERABLE WITHIN 5 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM + ELECTRIC POWER, VITAL + REACTOR STARTUP EXPERIENCE + INSTRUMENT, PWR RANGE + INSTRUMENT, STARTUP RANGE + SALEM I (PWR) + TRANSIENT + FAILURE, INHERENT

110010

THREE RMS CHANNELS NOT TESTED AT SALEM I
PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
3 PGS. LTR D/NO 76-03/3-L TO NRC OFFICE OF I & E, REGION I, SEPT. 30, 1976. DCKET 50-272. TYPE--PWR, MF--
WEST., AE--PSEEG

118818 (CONTINUED)

CAUSE - OMITTED FROM PROCEDURE. WHILE THE REACTOR WAS IN SHUTDOWN, A NRC INSPECTOR FOUND THAT 3 HPS CHANNEL CHECKS WERE NOT BEING PERFORMED IN ACCORDANCE WITH TECH SPECS. THE CONTROL CONSOLE READING SHEET DID NOT SPECIFICALLY INDICATE THAT THESE CHANNELS BE CHECKED DURING MODE 0 OPERATION. THE CCDS WAS REVISED TO INCLUDE THE CHANNEL CHECKS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS • TESTING • REACTOR STARTUP EXPERIENCE • FAILURE, ADMINISTRATIVE • INITIAL • TEST INTERVAL • SALEM I (PWR) • RADIATION MONITORS

119173

FAN COIL UNIT SERVICE WATER PIPING FAILS AT SALEM I

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

3 PGS. LTR #/NO 78-00/3L TO NRC OFFICE OF I & E, REGION I, OCT. 21, 1976. DCKET 50-272, TYPE--PWR, NRC--BEST., AE--PSEEG

CAUSE - FLEXIBLE HOSE RUPTURED. PRIOR TO INITIAL CRITICALITY UPON OPENING FAN COIL UNIT IS SERVICE WATER COOLING VALVES, A HMR VALVE CLOSED. INVESTIGATION WITHIN THE CONTAINMENT REVEALED A SERVICE WATER PIPE RUPTURE ON FCU 15. THE SERVICE WATER SUPPLY WAS ISOLATED. THE HMR VALVE WAS MANUALLY OPENED. THE FCU FLEXIBLE HOSE RUPTURED AS A RESULT OF SERVICE WATER PRESSURE STRESS ALONG UPON THE ANACONDA-ZINCH-FLEXIBLE MONEL PIPE. HOSES WERE REPLACED WITH SOLID PIPE. CHEMICAL CONTAMINATION OF COMPONENTS WITHIN THE CONTAINMENT REQUIRED AN EXTENSIVE CLEANUP PROGRAM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HYDRAULIC EFFECT • FAILURE, PIPE • CONTAINMENT AIR COOLING • CONTAMINATION • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • EQUIPMENT • CHEMICAL • SALEM I (PWR) • SERVICE WATER SYSTEM • PIPES AND PIPE FITTINGS

140063

UPDATE REPORT ON CONTAINMENT AIR SAMPLE PUMP FAILURE AT SALEM I

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

3 PGS. LTR #/NO 78-02/1-0 TO NRC OFFICE OF I & E, REGION I, OCT. 21, 1976. DCKET 50-272, TYPE--PWR, NRC--BEST., AE--PSEEG

CAUSE - IMPROPER STORAGE DURING CONSTRUCTION. DURING INITIAL FUEL LOADING, THE CONTAINMENT AIR SAMPLE PUMP FOR 3 RADIATION MONITORS FAILED. THE PUMP WAS REPLACED WITH A SPARE WHICH ALSO FAILED. PUMPS FAILED DUE TO SEIZED BEARING AND/OR SHAFT SEALS. INVESTIGATION FOUND THAT FAILURES WERE DUE TO IMPROPER STORAGE DURING CONSTRUCTION AND INSUFFICIENT AIR FLUID FLOWING INSTALLATION. SAMPLE VALVES WERE REPLACED WITH LARGER VALVES AND SAMPLE LINE RESTRICTIONS DUE TO BENDS REMOVED. STORAGE OF THE SPARE PUMPS WILL BE IMPROVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SALEM I (PWR) • REACTOR STARTUP EXPERIENCE • PUMPS • BEARING • SEAL • FAILURE, INSTALLATION ERROR • TRANSPORTATION AND HANDLING • REIFICATION • RADIATION MONITORS • CONTAINMENT ATMOSPHERE

119472

BOTH INTERMEDIATE RANGE NUCLEAR INSTRUMENTS INOPERABLE AT SALEM I

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

4 PGS. LTR #/NO 78-10/3L TO NRC OFFICE OF I & E, REGION I, OCT. 27, 1976. DCKET 50-272, TYPE--PWR, NRC--BEST., AE--PSEEG

CAUSE - PRIOR SETTING OF DETECTORS. WHILE THE UNIT WAS SHUT DOWN, BOTH INTERMEDIATE RANGE NUCLEAR INSTRUMENT CHANNELS WERE FOUND INOPERABLE. DURING INITIAL FUEL LOADING, A SMALL AMOUNT OF WATER SPILLED ON THE REACTOR CAVITY FLOOR AND LEAKED INTO THE DETECTOR BELLS. WHEN THE WATER EVAPORATED, A RESIDUE WAS LEFT WHICH INCREASED CONTACT RESISTANCE ON THE INSTRUMENT CABLE CONNECTION. ONE DETECTOR WAS CLEANED AND REINSTALLED. THE OTHER WAS REPLACED WITH A SPARE AND RETURNED TO THE VENDOR FOR FURTHER CHECKS. THESE ARE WESTINGHOUSE COMPENSATED ION CHAMBERS, TYPE BL-22707.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT • CHUD • REACTOR STARTUP EXPERIENCE • TEST, SYSTEM OPERABILITY • FAILURE, MAINTENANCE ERROR • INSTRUMENT, INTERMEDIATE RANGE • SALEM I (PWR) • CABLES AND CONNECTORS

119814

ROUTINE SURVEILLANCE NOT PERFORMED ON TIME AT SALEM I

PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ

5 PGS. LTR #/NO 78-09/3L TO NRC OFFICE OF I & E, REGION I, NOV. 5, 1976. DCKET 50-272, TYPE--PWR, NRC--BEST., AE--PSEEG

CAUSE - LOWER CARDS MISFILED. WHILE THE UNIT WAS SHUT DOWN, THE SHIFT SUPERVISOR DISCOVERED A ROUTINE SURVEILLANCE MEASUREMENTS THAT HAD NOT BEEN PERFORMED AND WERE OVERDUE. THE INSPECTION CHECK CARDS HAD BEEN FILED UNDER THE WRONG DUE DATE. ALSO, THE COMPUTER GENERATED OVERDUE REPORT

119814 (CONTINUED)
 WAS NOT BEING USED TO MONITOR THE INSPECTION CAMO FILL SYSTEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * TEST INTERVAL * TESTING * FAILURE, ADMINISTRATIVE CONTROL

119787
 ROUTINE SURVEILLANCE MISSED AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 4 PGS. LTR D/RO 76-11/3L TO NRC OFFICE OF I & E, REGION 1, NOV. 17, 1976. DISCRET 50-272, TYPE--PWR, RFO--BEST.. AE--PSE66

CAUSE - LAST SURVEILLANCE CARD NOT RETURNED. WHILE RECEIVING COMPLETED SURVEILLANCE IN PREPARATION FOR ENTERING MODE 4 FROM MODE 3, THE SHIFT SUPERVISOR IDENTIFIED A SURVEILLANCE THAT WAS 17 DAYS OVERDUE. IT WAS MISSED BECAUSE THE LAST COMPLETED SURVEILLANCE CARD HAD NOT BEEN RETURNED FOR CLEARANCE THROUGH THE COMPUTER. THE COMPUTER DOES NOT ISSUE A NEW CARD UNTIL THE PREVIOUS ONE HAS BEEN CLEARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * TEST INTERVAL * TESTING * FAILURE, ADMINISTRATIVE CONTROL

120270
 DIESEL GENERATOR TRIPS ON HIGH JACKET WATER TEMPERATURE AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 5 PGS. LTR D/RO 76-12/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 1, 1976. DISCRET 50-272, TYPE--PWR, RFO--BEST.. AE--PSE66

CAUSE - SERVICE WATER VALVE FAILED CLOSED. WHILE THE REACTOR WAS SHUT DOWN, DIESEL 1A WAS STARTED AND LOADED DURING TESTING. IT TRIPPED ON HIGH JACKET WATER TEMPERATURE. THE VALVE LINEUP WAS CORRECT BUT THERE WAS NO SERVICE WATER PRESSURE DOWNSTREAM OF VALVE 125W21. HEADEN 11 50 WAS OUT OF SERVICE FOR MAINTENANCE. THE SET SCREW HOLDING THE UNIVER TRAIN ON 125W21 LOOSENED, WHICH PROHIBITED THE MOTOR FROM MOVING THE VALVE STEAR. THIS CAUSED THE BUTTERFLY TO BE INOPERABLE UNTIL THE VALVE ROTOR AND POSITION INDICATION BEHE FUNCTIONAL. LEWIS LOCK TIGHT WAS APPLIED TO THE SET SCREW OF THE VALVE STEM DRIVE GEAR KEYWAY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * FAILURE, EQUIPMENT * COOLING * SERVICE WATER * VALVES * FASTENER * FAILURE, INSTALLATION ERROR * TEST, SYSTEM OPERABILITY

120475
 SERVICE WATER PUMP MOTOR FAILS AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 4 PGS. LTR D/RO 76-13/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 3, 1976. DISCRET 50-272, TYPE--PWR, RFO--BEST.. AE--PSE66

CAUSE - CRACKS IN INSULATION ON WINDING. WHILE THE REACTOR WAS SHUT DOWN, SERVICE WATER PUMP MOTOR 1B FAILED ON OVERCURRENT. INVESTIGATION FOUND CRACKS ON ALL OF THE 30 PUMP MOTORS. FAILURE OCCURRED AT A SURFACE OPENING IN THE SPURT RESIN IN AN AREA CLOSE TO THE END MILD SUPPORT BAR. THIS EXPOSED THE WINDINGS TO THE SALT WATER ATMOSPHERE. CRACKS OCCURRED DURING FABRICATION AS THE RESIN CURED. THE END SUPPORT BAR WAS REMOVED. AFTER STEAM-CLEANING, ALL SPURT SURFACES EXPOSED TO ATMOSPHERE WERE COVERED WITH DOW CURING SILICON RUBBER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * MOTORS * PUMPS * SERVICE WATER SYSTEM * FAILURE, FABRICATION ERROR * FAILURE, EQUIPMENT * CRACK * INSULATION

120593
 PARALLEL VALVES ON BIT CLEARED OF PUDEE AND TAGGED AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 5 PGS. LTR D/RO 76-23/3L TO NRC OFFICE OF I & E, REGION 1, DEC. 30, 1976. DISCRET 50-272, TYPE--PWR, RFO--BEST.. AE--PSE66

CAUSE - INADEQUATE PROCEDURAL GUIDANCE. DURING MODE 3 OPERATION WHILE RECOVERING FROM INADVERTENT SI ACTUATIONS, THE 2 PARALLEL SUCTION VALVES AND 2 PARALLEL DISCHARGE VALVES ON THE BIT WERE CLEARED OF ELECTRIC POWER AND TAGGED. THIS WAS DONE BY THE SHIFT SUPERVISOR TO ENHANCE PERSONNEL PROTECTION WHILE DRAINING THE BIT TANK DURING RECOVERY. A SI SIGNAL SHOULD HAVE PRESSURIZED THE TANK CAUSING HIGH PRESSURE WATER TO BE DISCHARGED THROUGH THE DRAIN VALVE. THE CAUSE WAS PROCEDURAL INADEQUACY. PROCEDURES WERE MODIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM

12003 CONTINUED
 CHANGE \$2.00

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * CONTAINMENT ISOLATION * VALVES * POISON, SOLUBLE * FAILURE, ADMINISTRATIVE CONTROL * PROCEDURES AND MANUALS * STORAGE CONTAINERS

12004
 BORON INJECTION TANK INOPERABLE AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 4 PGS. LTR W/BU 70-1973L TO NRC OFFICE OF I & E, REGION I, DEC. 30, 1970. DCKET 50-272. TYPE--PWR, NRC--WEST., AE--PSE&G

CAUSE - INADVERTENT SAFETY INJECTION ACTUATIONS. DURING MODE 3 OPERATION, THE BORON INJECTION TANK WAS DECLARED INOPERABLE DUE TO A INADVERTENT SAFETY INJECTION ACTUATIONS, EACH OF WHICH REDUCED THE BORON CONCENTRATION BELOW THE MINIMUM ALLOWABLE CONCENTRATION. THE BORON CONCENTRATION WAS INCREASED TO RETURN THE BIT TO OPERABLE STATUS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * CONCENTRATION * POISON, SOLUBLE * STORAGE CONTAINERS * SAFETY INJECTION * FAILURE, INHERENT * EMERGENCY COOLING SYSTEM

14001
 30 STEAM FLOW TRANSMITTER INOPERABLE AT SALEM 1
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 3 PGS. LTR W/BU 70-1073L TO NRC OFFICE OF I & E, REGION I, DEC. 30, 1970. DCKET 50-272. TYPE--PWR, NRC--WEST., AE--PSE&G

CAUSE - INCORRECT INSTALLATION OF SENSING LINE. WHILE IN MODE 30 STEAM GENERATOR 12 FLOW TRANSMITTER FT-524 WAS DECLARED INOPERABLE. CONDENSATE COLLECTED IN THE SENSING LINE LOW SIDE PRODUCING A FALSE HIGH SIGNAL. THE SLOPE OF THE 1-INCH PIPE IS INCORRECT. THE PIPE WILL BE RELOCATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

SALEM 1 (PWR) * REACTOR STARTUP EXPERIENCE * SENSORS, FLOW * INSTRUMENT, SWITCH * FAILURE, INSTRUMENT * INSTRUMENT, ABNORMAL INDICATION * FAILURE, INSTALLATION ERROR * PIPES AND PIPE FITTINGS * CONTAINMENT ISOLATION

11002
 DEFICIENCY IN AUTOMATIC TRANSFER OF A RV OUTSIDE FEED AT SALEM 1 AND 2
 PUBLIC SERVICE ELECTRIC & GAS CO., NEWARK, NJ
 4 PGS. LTR W/BU TO NRC OFFICE OF I & E, REGION I, JUNE 2, 1970. DCKETS 50-272/311. TYPE--PWR, NRC--WEST., AE--PUBLIC SERVICE

CAUSE - DESIGN DEFICIENCY. DURING A REVIEW OF SETTINGS FOR THE RELAYS WHICH INITIATE BUS TRANSFER AND THOSE WHICH PROVIDE UNDERVOLTAGE SIGNALS TO THE SAFEGUARD EMERGENCY CONTROLS SYSTEM, A CONDITION WAS DISCOVERED WHICH COULD REQUIRE OPERATOR ACTION TO ASSURE THAT VITAL BUS LOADS WOULD SEQUENCE ONTO THE BUS. DESIGN CRITERIA REQUIRE FULLY AUTOMATIC ACTION. THE CIRCUITRY HAS BEEN REDESIGNED TO ELIMINATE THE PROBLEM. MODIFICATIONS SHOULD BE COMPLETED BY 7-15-70.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

CONTROL SYSTEM * ACCIDENT, LOSS OF POWER * RELAY, POWER, VITAL * MODIFICATION * FAILURE, DESIGN ERROR * SALEM 1 (PWR) * SALEM 2 (PWR) * CONSTRUCTION

11034
 OFFSHORE WATER TEMPERATURE SENSOR FAILS AT SAN CYPRIE 1
 SOUTHERN CALIFORNIA Edison, PLEASANTON, CA
 1 PG. LTR TO NRC OFFICE OF I & E, REGION V, JAN. 20, 1970. DCKET 50-200. TYPE--PWR, NRC--WEST., AE--DCE&MEL

CAUSE - SENSOR FAILURE. DURING A VERIFICATION CHECK, 1 OF THE 6 OFFSHORE WATER TEMPERATURE SENSORS WAS DISCOVERED TO HAVE FAILED. THE MALFUNCTIONING SENSOR WAS REPLACED IMMEDIATELY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHANGE \$2.00

OCEAN AND SEA * WATER * SAN CYPRIE 1 (PWR) * TEST, SYSTEM OPERABILITY * MONITORING, PROGNOSIS, ENVIRONMENTAL * SENSORS, TEMPERATURE

11101
 TWO OCEAN TEMPERATURE SENSORS FAIL AT SAN CYPRIE 1
 SOUTHERN CALIFORNIA Edison CO., PLEASANTON, CA
 2 PGS. LTR W/BU TO NRC OFFICE OF I & E, REGION V, MARCH 3, 1970. DCKET 50-200. TYPE--PWR, NRC--WEST., AE--

111001 *CONTINUED*
BECHTEL

CAUSE - NOT STATED. DURING A VERIFICATION CHECK, 2 OFFSHORE CONTINUOUS WATER TEMPERATURE RECORDING SYSTEM SENSORS WERE DISCOVERED TO HAVE FAILED. NEW PERMANENT DIGITAL TEMPERATURE MONITORING BOWY SYSTEMS WERE INSTALLED TO SUPERSEDE THE EXISTING ANALOG STRIP CHART TEMPERATURE RECORDERS. THE ANALOG SYSTEM WILL CONTINUE TO BE USED AS A BACKUP UNTIL RELIABILITY IS CONFIRMED FOR THE DIGITAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

OCEAN AND SEA * SAN ONOFRE I (PWR) * FAILURE * INSTRUMENT * MODIFICATION * TEST, SYSTEM OPERABILITY * MONITORING PROGRAM, ENVIRONMENTAL * FAILURE, INHERENT * SENSORS, TEMPERATURE

114077

CRACK FOUND IN EXTENSION SHAFT OF THE CASK LIFTING DEVICE AT SAN ONOFRE I
SOUTHERN CALIFORNIA Edison, SAN CLEMENTE, CA
2 PGS, LTR D/RPT TO U.S. NRC, REGION V, MARCH 23, 1976, DCKET 50-206, TYPE--PWR, RFO--BEST, AC--BECHTEL

CAUSE - DESIGN DEFICIENCY. A VISUAL INSPECTION OF THE SPENT FUEL SHIPPING CASK LIFTING DEVICE REVEALED A CRACK IN THE PROTECTIVE PAINT COVERING OF THE DEVICE EXTENSION SHAFT. FURTHER INSPECTION SHOWED THAT THE CRACK EXTENDED TO AT LEAST 1/2-INCH BELOW THE SURFACE. IT IS THOUGHT THAT THE CRACK RESULTED FROM STRESS RISERS PRODUCED BY WELDING OVER THE THREADED AREA USED TO JOIN THE COUPLING TO THE EXTENSION SHAFT. A NEW SHAFT WAS MADE WITHOUT WELDING AT THIS LOCATION. AN EXISTING COUPLING LOCKING PIN WILL BE USED TO PREVENT UNSCREWING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

STRESS * BELDS * SAN ONOFRE I (PWR) * MODIFICATION * TEST, SYSTEM OPERABILITY * TEST, NONDESTRUCTIVE * FAILURE, DESIGN ERROR * COMPONENTS * CRANE * CRACK

114078

CRACKS FOUND IN CASK RECTANGULAR COUPLING LIFTING DEVICE AT SAN ONOFRE I
SOUTHERN CALIFORNIA Edison, CA
3 PGS, LTR D/RPT TO NRC OFFICE OF I & E, REGION V, MAY 14, 1976, DCKET 50-206, TYPE--PWR, RFO--BEST, AC--BECHTEL

CAUSE - IMPROPER WELD PROCEDURES. MAGNETIC PARTICLE INSPECTION OF THE SPENT FUEL CASK RECTANGULAR COUPLING DEVICE NOTED LINEAR CRACKS IN THE WELDS AND PARENT METAL IN THE HEAT AFFECTED ZONE. SLAG POCKETS AND BRIDGED AREAS WERE FOUND AFTER SURFACE UNTZING. LAMINAR INDICATIONS HAVE BEEN EXPOSED IN THE SIDE PLATES IN THE AREA OF THE WELD. THE CAUSE WAS USE OF IMPROPER WELDING TECHNIQUES AND PROCEDURES, AND FAILURE TO COMPLY WITH ORIGINAL MATERIAL SPECIFICATIONS. A NEW COUPLING DEVICE WAS MANUFACTURED AND WELDED USING CERTIFIED MATERIALS, WELDERS, AND WELDING PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * WELDS * SAN ONOFRE I (PWR) * FAILURE, FABRICATION ERROR * TEST, SYSTEM OPERABILITY * TEST, NONDESTRUCTIVE * COMPONENTS * CRANE * CRACK

115452

STEAM GENERATOR STEAM FLOW INDICATION DRIFTS DOWNWARD AT SAN ONOFRE I
SOUTHERN CALIFORNIA Edison CO., REDCREAG, CA
2 PGS, LTR D/RPT TO NRC OFFICE OF I & E, REGION V, JUNE 18, 1976, DCKET 50-206, TYPE--PWR, RFO--BEST, AC--BECHTEL

CAUSE - LEAK IN INSTRUMENT VALVE. WHILE OPERATING AT FULL POWER, STEAM GENERATOR #1 INDICATED STEAM FLOW STARTED DECREASING ON A SLOW RAMP TO 15% FLOW. THE SUPPLEMENTARY SYSTEM WAS TRANSFERRED TO MANUAL CONTROL WITH CONTINUOUS OPERATOR SURVEILLANCE. THE CAUSE WAS A LEAK IN THE STEAM FLOW TRANSMITTER HIGH SIDE BLOWDOWN VALVE. A PLUG WAS INSTALLED IN THE VALVE TO STOP LEAKAGE. THE VALVE WILL BE REPLACED DURING THE NEXT OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * STEAM * SAN ONOFRE I (PWR) * INSTRUMENT, ABNORMAL INDICATION * STEAM GENERATOR * LEAK * FAILURE, INHERENT * VALVES * SENSORS, FLOW

115736

VOIDS FOUND IN DIESEL GENERATOR BUILDING WALL AT SAN ONOFRE I
SOUTHERN CALIFORNIA Edison CO., REDCREAG, CA
8 PGS, LTR D/RPT TO NRC OFFICE OF I & E, REGION V, JUNE 29, 1976, DCKET 50-206, TYPE--PWR, RFO--BEST, AC--BECHTEL

CAUSE - INSUFFICIENT CONCRETE SLUMP. INADEQUATE PLACEMENT OF CONCRETE WAS FOUND IN THE DIESEL GENERATOR BUILDING PRIMARILY IN LOCATIONS WHERE FORMING AND REINFORCING STEEL WERE SUCH AS TO

115726 (CONTINUED)

MADE PLACEMENT VERY DIFFICULT. THE CAUSE WAS THAT CONCRETE SLUMP WAS INSUFFICIENT AT THE POINT OF PLACEMENT AND PERSONNEL PERFORMING THE WORK DID NOT TAKE MEASURES NECESSARY TO ENSURE ADEQUATE FLOW. THE BUNNYCORBED CONCRETE AREAS WILL BE REPAIRED. THREE DIFFERENT METHODS WILL BE USED DEPENDING ON THE DEPTH AND SIZE OF THE AREA.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONCRETE - SAN ONOFRE I (PWR) - FLAW - BUILDING - FAILURE, INSTALLATION ERROR - CONCRETE, REINFORCED - VOID - STRUCTURE

115872

UNIT TRIPS OFF THE LINE AT SAN ONOFRE I

SOUTHERN CALIFORNIA Edison CO., HESEBAC, CA

2 PGS, LTR #/NO 76-19 TO U.S. NRC, REGION V, JULY 14, 1976, DCKET 50-206, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - SPURIOUS RC FLOW SIGNAL. THE UNIT TRIPPED OFF THE LINE FROM 70% POWER DUE TO A SPURIOUS LOW REACTOR COOLANT FLOW SIGNAL FROM LOOP C TRANSMITTER. THE TRANSMITTER FEEDBACK MOTOR FAILED. NO APPARENT CAUSE WAS FOUND. THE MOTOR WAS REPLACED AND THE TRANSMITTER RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT - REACTOR PROTECTION SYSTEM - SAN ONOFRE I (PWR) - INSTRUMENT, SWITCH - SCRAM, SPURIOUS - MAIN COOLING SYSTEM - REACTOR SHUTDOWN - SENSORS, LEVEL

115877

SEA WATER TEMPERATURE MONITORING SYSTEM INOPERABLE AT SAN ONOFRE I

SOUTHERN CALIFORNIA Edison CO., HESEBAC, CA

1 PG, LTR #/PT TO NRC OFFICE OF I & E, REGION V, JULY 15, 1976, DCKET 50-206, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - HEAVY WAVE ACTION. DURING TESTING OF THE SEA WATER TEMPERATURE MONITORING SYSTEM, IT WAS DISCOVERED THAT THE SURFPORT CABLE FOR THE 3 SENSORS FOR THE DIGITAL TEMPERATURE MONITORING BUCY SYSTEM HAD BEEN SEVERED. AS A RESULT, TEMPERATURE DATA FOR A 2 WEEK PERIOD WAS NOT OBTAINED. ALSO, 2 OF THE 3 BUCY ANCHOR CABLES HAD FAILED, RESULTING IN THE HYD THERMOGRAPH SYSTEM ONLY MEASURING BOTTOM TEMPERATURES. FAILURES ARE BELIEVED TO BE THE RESULT OF HEAVY WAVE ACTION DURING MUCH OF JUNE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

OCEAN AND SEA - SAN ONOFRE I (PWR) - FAILURE, INSTRUMENT - MONITORING PROGRAM, ENVIRONMENTAL - WEATHER, SEVERE - CABLES AND CONNECTORS - OCEAN, PACIFIC - SENSORS, TEMPERATURE

116534

VOLTAGE SUPPLY TO EXCORE ARIAL OFFSET SYSTEM READING LOW AT SAN ONOFRE I

SOUTHERN CALIFORNIA Edison CO., HESEBAC, CA

2 PGS, LTR #/PT TO U.S. NRC, REGION V, AUG. 5, 1976, DCKET 50-206, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - SHORT TO GROUND. DURING 90% POWER OPERATION, THE OPERATOR, ON ROUTINE ROUNDS, NOTICED THE VOLTAGE SUPPLY FOR CHANNEL 7 OF THE EXCORE ARIAL OFFSET MONITORING SYSTEM WAS READING ABNORMALLY LOW. INVESTIGATION REVEALED A SHORT TO GROUND OF A DETECTOR IN THE CABLE FROM THE DETECTOR TO THE INSTRUMENTATION. THE CAUSE IS UNKNOWN AT THIS TIME. REPAIRS WILL BE MADE AT THE NEXT REFUELING OUTAGE. THE INSTRUMENT WAS DECLARED OUT OF COMMISSION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, NUCLEAR - SAN ONOFRE I (PWR) - MONITOR - INSTRUMENT, ABNORMAL INDICATION - CABLES AND CONNECTORS - FAILURE, IMMINENT - INSTRUMENTS, MISC.

117154

BORIC ACID TRANSFER PUMP DISCHARGE LINE BLOCKED AT SAN ONOFRE I

SOUTHERN CALIFORNIA Edison CO., HESEBAC, CA

3 PGS, LTR #/NO 75-20 TO NRC OFFICE OF I & E, REGION V, AUG. 25, 1976, DCKET 50-206, TYPE--PWR, NRG--BEST., AE--BECHTEL

CAUSE - NO HEAT TRACING ON A SECTION. FOLLOWING A NORMAL SHUTDOWN, A BLOCKAGE OF CRYSTALLIZED BORIC ACID SOLUTION WAS DISCOVERED IN THE BORIC ACID TRANSFER PUMP DISCHARGE LINE. BLOCKAGE OCCURRED BECAUSE THE 3 FOOT SECTION OF PIPE PENETRATING THE CONCRETE ROOF OF THE AUXILIARY BUILDING WAS NOT HEAT TRACED OR INSULATED AND WAS SUSCEPTABLE TO BORIC ACID SOLUTION PRECIPITATION. ALSO, LEAKAGE OF CONCENTRATED BORIC ACID (2%) PAST THE STORAGE TANK ISOLATION VALVE AGGRAVATED THE CONDITION. THE LEAKING VALVE WAS REPAIRED. THE BLOCKAGE REMOVED. HEAT TRACING AND INSULATION WILL BE ADDED NEXT SCHEDULED REFUELING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

117154 *CONTINUED*

POISON, SOLUBLE * SAN ONOFRE 1 (PWR) * THERMAL INSULATION * CHEMICAL SYSTEM * FLOW BLOCKAGE * COOLANT PURIFICATION SYSTEM * FAILURE, INSTALLATION ERROR * INSULATION * PIPES AND PIPE FITTINGS * HEATERS

117488

STEAM GENERATOR TUBE FAILS AT SAN ONOFRE 1
SOUTHERN CALIFORNIA EDISON CO., RESEAR, CA
2 PGS. LTR #/NO 76-22 TO NRC OFFICE OF I & E, REGION V, AUG. 25, 1976, DCKET 50-200, TYPE--PWR, NRU--BEST., AE--BECHTEL

CAUSE - WALL THINNING. DURING 100% POWER OPERATION, THE STEAM GENERATOR - TATION MONITOR INDICATED HIGH ACTIVITY ON STEAM GENERATOR C DOWNDOWN. A PRIMARY TO SECONDARY LEAK RATE OF 1-5 GPM WAS CONFIRMED. THE UNIT WAS REMOVED FROM SERVICE. HYDRO TESTING REVEALED A LEAK IN ONE TUBE CAUSED BY WALL THINNING. THE TUBE WAS EXPLOSIVELY PLUGGED. FURTHER TESTING WILL BE PERFORMED DURING THE UPCOMING REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAN ONOFRE 1 (PWR) * CORROSION * WATER TREATMENT * FAILURE, DESIGN ERROR * FAILURE, TUBING * STEAM GENERATOR * TUBING * REACTOR SHUTDOWN

118184

FEEDWATER CONTROL SYSTEM BACKUP PUMP SUPPLY FAILS AT SAN ONOFRE 1
SOUTHERN CALIFORNIA EDISON CO., RESEAR, CA
3 PGS. LTR #/NO 76-22 TO NRC OFFICE OF I & E, REGION V, SEPT. 16, 1976, DCKET 50-200, TYPE--PWR, NRU--BEST., AE--BECHTEL

CAUSE - RECTIFIER DIODES FAIL. DURING 83% POWER OPERATION, VITAL BUS 1 TRANSFERRED TO ITS BACKUP POWER SOURCE, WHICH PRECIPITATED THE TRANSFER OF ALL 3 FEEDWATER CONTROL SYSTEMS TO THEIR BACKUP PUMP SUPPLIES. THE BACKUP PUMP SUPPLY WAS DEGRADED. THE ONTAGE RECTIFIER DIODES IN THE 15" SUPPLY HAD FAILED. FEEDWATER CONTROL WAS IMMEDIATELY TRANSFERRED BACK TO ITS NORMAL SUPPLY. THE POWER SUPPLY WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTROL SYSTEM * REACTOR PROTECTION SYSTEM * SOLID STATE DEVICE * ELECTRIC PUMP * SAN ONOFRE 1 (PWR) * FAILURE, INHERENT * CONTROL SYSTEM, SECONDARY * FEEDWATER

119781

DEFECTS FOUND IN STEAM GENERATOR TUBES AT SAN ONOFRE 1
SOUTHERN CALIFORNIA EDISON CO., RESEAR, CA
3 PGS. LTR #/NO 76-8 TO U.S. NRC, REGION V, NOV. 15, 1976, DCKET 50-200, TYPE--PWR, NRU--BEST., AE--BECHTEL

CAUSE - TUBE THINNING. DURING THE REFUELING OUTAGE EDDY CURRENT EXAMINATION OF ALL 3 STEAM GENERATORS, GREATER THAN 50% TUBE WALL THINNING WAS FOUND IN 15 TUBES IN STEAM GENERATOR A, 11 IN SG B, AND 30 IN SG C. TUBE THINNING OCCURRED AT THE ANTI-VIBRATION BARS AND 2 INCHES ABOVE THE TUBE SHEET IN THE BESTINGHOUSE STEAM GENERATORS, MODEL 27. ALL TUBES WITH GREATER THAN 50% THINNING INDICATIONS WILL BE PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAN ONOFRE 1 (PWR) * TUBING * STEAM GENERATOR * FAILURE, TUBING * TEST, SYSTEM OPERABILITY * REFUELING * TEST, NONDESTRUCTIVE

119784

THERMAL SHIELD FLEXURES FAIL AT SAN ONOFRE 1
SOUTHERN CALIFORNIA EDISON CO., RESEAR, CA
4 PGS. LTR #/NO 76-9 TO NRC OFFICE OF I & E, REGION V, NOV. 16, 1976, DCKET 50-200, TYPE--PWR, NRU--BEST., AE--BECHTEL

CAUSE - CYCLE FATIGUE. DURING THE REFUELING OUTAGE, REMOTE VISUAL EXAMINATION OF REACTOR VESSEL INTERNALS WERE PERFORMED UTILIZING STANDARD UNDERWATER TELEVISION SYSTEM WITH ALL EXAMINATIONS RECORDED ON VIDEO-TAPE. FOUR OF THE 6 FLEXURE SUPPORTS, LOCATED AT THE TOP OF THE THERMAL SHIELD HAVE FAILED. ALL IN THE SAME MANNER, THEY FAILED BECAUSE OF CYCLE FATIGUE RELATED TO DYNAMIC OSCILLATIONS OF THE THERMAL SHIELD CAUSED BY COOLANT FLOW INDUCED VIBRATION. FAILURE HAD NO ADVERSE EFFECTS ON THE THERMAL SHIELD AND THE REMAINDER OF THE REACTOR INTERNAL STRUCTURES. THE FLEXURES WILL BE LEFT AS THEY ARE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAN ONOFRE 1 (PWR) * CORE COMPONENTS * THERMAL SHIELD * FAILURE, COMPONENT * FATIGUE, FATIGUE * FLOW * VIBRATION * FAILURE, DESIGN ERROR * REFUELING * INSERVICE INSPECTION * REMOTE MANIPULATING AND VIEWING * COMPONENTS

122265
 BEAN FOUND IN ANTI-VIBRATION DAMS OF STEAM GENERATOR AT SAN ONOFRE 1
 SOUTHERN CALIFORNIA EDISON CO., RESEDA, CA
 3 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION V, DEC. 1, 1976. LOCKETS 50-200. TYPE--PWR. NRC--BEST..
 AE--BE/TEL

CASE - MECHANICAL FRETTING WITH TUBES. DURING VISUAL INSPECTION OF STEAM GENERATOR C WHILE IN THE REFUELING OUTAGE, 2 ANTI-VIBRATION DAMS WERE REMOVED FOR EXAMINATION. EACH HAS SEVERAL LOCATIONS WHERE THE 50 TUBES HAVE RUMI INTO THE DAM. IN SOME CASES, ONLY 25% OF THE DAM DIAMETER REMAINS. BEAN APPEARS TO BE THE RESULT OF MECHANICAL FRETTING BETWEEN THE DAM AND TUBE. ADDITIONAL ANTI-VIBRATION DAMS WITH RECTANGULAR CROSS SECTION WILL BE DESIGNED AND INSTALLED. ABOUT 50 TUBES WILL BE PLUGGED AS A RESULT OF TUBE THINNING IN THE ANTI-VIBRATION DAM AREA.

AVAILABILITY - NRC PUBLIC DOCUMENT ACOP, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SAN ONOFRE 1 (PWR) * STEAM GENERATOR * TUBING * BEAN * VIBRATION * INSERVICE INSPECTION * REFUELING * FAILURE, TUBING * FAILURE, DESIGN ERROR

115612
 QUALITY PROGRAM DEFICIENCIES IDENTIFIED FOR CONTAINMENT POLAR CHANGES AT SAN ONOFRE 2 AND 3
 SOUTHERN CALIFORNIA EDISON CO., RESEDA, CA
 28 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION V, JUNE 28, 1976. LOCKETS 50-361/362. TYPE--PWR. NRC--COMB..
 AE--BE/TEL

CASE - CHANGES IN RESPONSIBILITY. RESPONSIBILITY FOR SPECIFIC ASPECTS OF PROCUREMENT OF THE CONTAINMENT POLAR CHANGES HAS BOTH BEEN RETAINED BY THE UTILITY AND DELEGATED TO ITS AE. THE UTILITY APPROVED THE MANUFACTURER'S QUALITY ASSURANCE PROGRAM DOCUMENTATION WHEREAS THE AE LATER FOUND IT TO BE DEFICIENT. AUDITS WERE NOT SCHEDULED PROPERLY. THE UTILITY DELEGATED RESPONSIBILITY IN STAGES AND CONTINUED TO RETAIN PARTIAL RESPONSIBILITY. CORRECTIVE ACTION HAS BEEN TAKEN AND DOCUMENTATION HAS BEEN CORRECTED. THE CHANGES WILL MEET THEIR REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ACOP, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * CONSTRUCTION * RECORDS * SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR) * CORE

117722
 TUBE GUIDES LOST IN STEAM GENERATORS DURING FABRICATION AT SAN ONOFRE 2 AND 3
 SOUTHERN CALIFORNIA EDISON CO., RESEDA, CA
 9 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION V, AUG. 11, 1976. LOCKETS 50-361/362. TYPE--PWR. NRC--COMB..
 AE--BE/TEL

CASE - UNKNOWN. DURING THE STEAM GENERATOR TUBING OPERATION AT CE'S FACILITIES, TUBE GUIDES WHICH ARE USED TO FACILITATE INSTALLATION OF THE TUBES OCCASIONALLY BECAME DISLODGED FROM THE TUBE ENDS. ORDINARILY, THE DISLODGED GUIDES DROP INTO THE STEAM GENERATORS IN SUCH A MANNER THAT THEY CAN BE RETRIEVED. HOWEVER, IN 2 SG'S, A GUIDE BECAME DISLODGED IN EACH WHICH COULD NOT BE LOCATED IN SEARCH EFFORTS AND IS PRESUMED TO BE IN THE SECONDARY SIDE OF THE SG. AN ANALYTICAL AND TEST PROGRAM HAS BEEN INITIATED TO EVALUATE THE EFFECTS OF A LOOSE TUBE GUIDE. IF RESULTS CONCLUDE THAT THE GUIDES COULD ADVERSELY EFFECT SAFE OPERATIONS, APPROPRIATE CORRECTIVE ACTION WILL BE TAKEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ACOP, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * FABRICATION FACILITY * TESTING * FAILURE, FABRICATION ERROR * COMPONENTS * STEAM GENERATOR * CONSTRUCTION * SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR)

117169
 REINFORCED CONCRETE CONSTRUCTION DEFICIENCY AT SAN ONOFRE 2 AND 3
 SOUTHERN CALIFORNIA EDISON CO., RESEDA, CA
 5 PGS, LTR W/MT TO NRC OFFICE OF I & E, REGION V, AUG. 13, 1976. LOCKETS 50-361/362. TYPE--PWR. NRC--LOMB..
 AE--BE/TEL

CASE - QUALITY ASSURANCE LMPER. DURING A REVERIFICATION INSPECTION PROGRAM TO DOCUMENT ADEQUATE ATTACHMENT OF CONCRETE EMBEDMENT PLATE ANCHOR BOLTS WHICH UTILIZED UT TECHNIQUES, SEVERAL TYPES OF DEFICIENCIES WERE IDENTIFIED. SOME ANCHOR BOLTS HAD BEEN MISCUTTED OUTSIDE SPECIFIED LIMITS. FILLET WELDS DID NOT MEET SPECIFICATIONS. SOME ANCHOR BOLTS HAD BEEN OMITTED. TPO PLATES HAD ALL ANCHOR BOLTS OMITTED. DOCUMENTATION WAS INCOMPLETE. THESE DEFICIENCIES REPRESENT A VIOLATION IN PART OF THE QA PROGRAM. ENGINEERING ANALYSIS INDICATE THAT THE DEFICIENCIES DO NOT AFFECT THE INTENDED SAFETY FUNCTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ACOP, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WELDS * FASTENER * TEST, NONDESTRUCTIVE * SUPPORT STRUCTURE * FAILURE, INSTALLATION ERROR * QUALITY ASSURANCE * PLATE * CONSTRUCTION * CONCRETE * REINFORCED * SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR)

118954

SULLIVAN BOLT PROBLEM AT SAN ONOFRE 2 AND 3
SOUTHERN CALIFORNIA EDISON CO., ROSEMEAD, CA
3 PGS, LTR RPT TO NRC OFFICE OF I & E, REGION V, OCT. 6, 1976, COCKETS 50-361/362, TYPE--PM, RFD--CUM, AE--
-RECYTEL

CASE - QA PROGRAM BREAKDOWN. A FORMER EMPLOYEE OF SULLIVAN BOLT CO. STATED THAT HE HAD MANUFACTURED A NUT WHICH WAS NOT IN COMPLIANCE WITH CERTAIN DESIGN CRITERIA. IT WAS INTERLUED FOR USE IN THE FOUNDATION BOLTING OF THE NSSS STEAM GENERATORS. ONE OF 66 NUTS PURCHASED FROM SCHMITT STEEL WAS MISSING. THE REPLACEMENT, MANUFACTURED IN-HOUSE, WAS REPORTED TO BE 3 INCHES IN THICKNESS INSTEAD OF THE SPECIFIED 2.5 INCHES. A STOP-WORK ORDER HAS BEEN ISSUED UNTIL THE PROBLEM IS RESOLVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION FACILITY * FASTENER * FAILURE, FABRICATION ERROR * THICKNESS * QUALITY ASSURANCE * STEAM GENERATOR * CONSTRUCTION * SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR)

119009

FINAL REPORT ON DEFICIENCIES IN FOUNDATION BOLTING MATERIAL AT SAN ONOFRE 2 AND 3
SOUTHERN CALIFORNIA EDISON CO., ROSEMEAD, CA
40 PGS, LTR RPT TO NRC OFFICE OF I & E, REGION V, NOV. 5, 1976, COCKETS 50-361/362, TYPE--PM, RFD--CUM, AE--
RECYTEL

CASE - BREAKDOWN IN QUALITY ASSURANCE. A FORMER EMPLOYEE OF SULLIVAN BOLT CO. REPORTED THAT HE HAD MANUFACTURED A NUT WHICH WAS NOT IN COMPLIANCE WITH CERTAIN REQUIREMENTS IN THE DESIGN CRITERIA. THE NUT WAS FOUND AND PUT IN A QUARANTINE AREA. INVESTIGATION REVEALED AN APPARENT QA PROGRAM CRISIS. DEFICIENCIES FOUND IN ITEMS SUPPLIED BY THIS VENDOR INCLUDE MATERIAL AND DIMENSION NONCOMPLIANCE. EVALUATION SHOWS THAT NONE OF THE DEFICIENCIES IDENTIFIED INDICATE THAT THE BOLTS AND NUTS WOULD NOT HAVE PERFORMED THEIR REQUIRED DESIGN FUNCTION SAFELY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR) * CONSTRUCTION * QUALITY ASSURANCE * MATERIAL * FASTENER * STEAM GENERATOR * FAILURE, ADMINISTRATIVE CONTROL * DESIGN CRITERIA

120206

BREAKDOWN IN QUALITY ASSURANCE FOR WELDED NELSON STUDS AT SAN ONOFRE 2 AND 3
SOUTHERN CALIFORNIA EDISON CO., ROSEMEAD, CA
4 PGS, LTR RPT TO NRC OFFICE OF I & E, REGION V, NOV. 19, 1976, COCKETS 50-361/362, TYPE--PM, RFD--CUM, AE--
RECYTEL

CASE - PROCEDURAL DEFICIENCY. PRIOR TO PLACEMENT OF CONCRETE FOR BUILDING FLUJIM IN CERTAIN LOCATIONS, DEVICES IDENTIFIED AS NELSON STUDS ARE ATTACHED TO STRUCTURAL STEEL MEMBERS BY RESISTANCE WELDING. THE STUDS BECOME EMBEDDED WHEN THE CONCRETE IS PUMPED AND SET. AS A WELD CONNECTION, NELSON STUD WELDING ON SITE DID NOT RECEIVE THE WELDING IN-PROCESS BEING TEST. BECAUSE INSPECTION PROCEDURES DID NOT ADEQUATELY PROVIDE FOR TESTING AND DOCUMENTATION AND WORK PROCEDURES WERE NOT FOLLOWED, ALL EXPOSED NELSON STUDS HAVE BEEN TESTED. FROM THIS TESTING, FAILURE DATA WERE GENERATED FOR EVALUATION OF THE EMBEDDED NELSON STUDS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SAN ONOFRE 2 (PWR) * SAN ONOFRE 3 (PWR) * CONSTRUCTION * QUALITY ASSURANCE * TESTING * TEST, NONDESTRUCTIVE * WELD * FASTENER * STEEL * CONCRETE, REINFORCED * BUILDING * FAILURE, ADMINISTRATIVE CONTROL * PROCEDURES AND MANUALS

119526

LINEAR INDICATIONS FOUND ON REACTOR VESSEL NOZZLES AT SEQUOYAH 1
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
1 PG, LTR RPT TO NRC OFFICE OF I & E, REGION II, OCT. 12, 1976, COCKET 50-327, TYPE--PM, RFD--BEST, AE--TV

CASE - POSSIBLE LACK OF FUSION. RADIOGRAPHIC EXAMINATION HAS REVEALED LINEAR INDICATIONS IN 3 FIELD WELDS ON REACTOR PRESSURE VESSEL NOZZLES WHICH WOULD BE A POSSIBLE LACK OF FUSION. ULTRASONIC EXAMINATION HAS VERIFIED EXISTENCE OF INDICATIONS AND PINPOINTED EXACT LOCATION. A REPAIR PROCEDURE IS BEING PREPARED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WELDS * PLAS * TEST, NONDESTRUCTIVE * NOZZLE * FAILURE, INSTALLATION ERROR * MAIN COOLING SYSTEM * SEQUOYAH 1 (PWR) * CONSTRUCTION * PRESSURE VESSELS

115530

CRACKED SEATS FOUND IN MASONEILAN VALVES AT SEQUOYAH 1
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

115520 (CONTINUED)

1 PGS. LTR W/HPMT TO NRC OFFICE OF I & E, REGION II, OCT. 12, 1976. DOCKET 50-327. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - NOT STATED. WASCHELIAN DIAPHRAGM VALVES, TYPES 3/0 1458NE AND 2H4580D, HAVE BEEN FOUND WITH CORRODED SEAT METALERS. INSTALLATION OF THESE TYPES OF VALVES HAS STOPPED UNTIL CORRECTIVE ACTION CAN BE TAKEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * COMPLETION * SEQUOYAH 1 (PWR) * CONSTRUCTION * VALVES

120492

DEFICIENCY IN LOWER INTERNALS FOUND AT SEQUOYAH 1

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

1 PGS. LTR W/HPMT TO NRC OFFICE OF I & E, REGION II, NOV. 29, 1976. DOCKET 50-327. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - FABRICATION ERROR. AN INSPECTION REVEALED SEVERAL SIGNIFICANT PROBLEMS. THESE CONDITIONS INCLUDE EXCESS RUST, WELDING CRACKS, WELD SPATTER, WELD SLAG, LACK OF FUSION, AND DEBRIS. A REPAIR PROCEDURE IS BEING DEVELOPED WITH WESTINGHOUSE TO FULLY IDENTIFY AND CORRECT THESE DEFICIENCIES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAH 1 (PWR) * CONSTRUCTION * CORE COMPONENTS * WELDS * FAILURE, FABRICATION ERROR * CRUD * EXAMINATION

120768

FINAL REPORT ON REACTOR VESSEL NOZZLE INDICATION FOUND AT SEQUOYAH 1

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

2 PGS. LTR W/HPMT TO NRC OFFICE OF I & E, REGION II, DEC. 22, 1976. DOCKET 50-327. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - FABRICATION DEFICIENCIES. RADIOGRAPHIC EXAMINATION OF FIELD WELDS HAS REVEALED LINEAR INDICATIONS IN 3 REACTOR VESSEL NOZZLES. DEFECTS IN RC-1-9 ARE IN THE FIELD WELD AND REPAIR IS BEING INITIATED USING ROUTINE PROCEDURES. DEFECTS IN RC-1-17 AND RV-1-32 ARE IN THE ASTM A-508 CLASS 2 NOZZLE TO STAINLESS STEEL BUTTEN FUSION ZONE. PROCEDURES ARE BEING DEVELOPED TO REMOVE DEFECTS AND REPAIR THE NOZZLES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAH 1 (PWR) * CONSTRUCTION * WELDS * PRESSURE VESSELS * PLUMB * TEST, NONDESTRUCTIVE * FAILURE, FABRICATION ERROR * NOZZLE

111614

DEFECTIVE TERMINAL BLOCKS FOUND AT SEQUOYAH 1 AND 2

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

2 PGS. LTR W/FINAL RPT TO NRC OFFICE OF I & E, FEB. 10, 1976. DOCKETS 50-327/328. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - OVERSIZE DRIVE SCREW NUTS. AS CABLE TERMINATION WAS BEGUN ON MAIN CONTROL ROOM AND 400V SPLITDOWN BOARDS, SOME TERMINAL PLATES ON WESTINGHOUSE SUPPLIED TERMINAL BLOCKS (STYLE NO. 502-247) WERE FOUND TO BE LOOSE AND DID NOT PROPERLY ANCHOR THE TERMINAL. THE PROBABLE CAUSE IS OVERSIZE DRIVE SCREW NUTS IN THE TERMINAL BLOCKS. ALL OF THIS TYPE OF TERMINAL BLOCK WILL BE INSPECTED. ANY DEFECTIVE BLOCK WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, FABRICATION ERROR * ENGINEERED SAFETY FEATURE * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS

112226

FINAL REPORT ON HOIST AND FOUNDATION DESIGN DEFICIENCY AT SEQUOYAH 1 AND 2

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

3 PGS. LTR W/FINAL RPT TO NRC OFFICE OF I & E, MARCH 15, 1976. DOCKETS 50-327/328. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - DESIGN ERROR. WHILE INVESTIGATING THE STRUCTURAL DESIGN EFFECTS OF INCREASING THE FLUID CAPACITY OF THE REFUELING WATER STORAGE TANK, TVA DETERMINED THAT THE ORIGINAL SEISMIC QUALIFICATION OF THE TANKS AND FOUNDATION WAS QUESTIONABLE. THE DESIGN HAS BEEN MODIFIED. THE TANK HEIGHT WAS INCREASED TO PROVIDE FOR THE INCREASE IN VOLUME. FIVE STIFFENING RINGS WERE ADDED. THE FOUNDATION WAS MODIFIED TO PROVIDE BETTER BEARING AND INCREASED STRENGTH.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WATER * HEATED CULANT * PURIFICATION * REFUELING * STORAGE CONTAINER * FAILURE, DESIGN ERROR * FOUNDATION

112232 *CONTINUED*
ENGINEERING * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * SEISMIC DESIGN * CONSTRUCTION

11322:
DEFECTIVE VENDOR WIRING FOUND IN INSTRUMENTATION RACKS AT SEQUOYAH 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
1 PGS. LTR R/PT TO NRC OFFICE OF I & E, APRIL 16, 1976, DUCKETS 50-3277326, TYPE--PWR, RFG--BEST., AC--TVA

CAUSE - FABRICATION DEFICIENCY. IMPROPER WIRE/LUG SIZE COMBINATIONS AND LACK OF OBJECTIVE EVIDENCE OF SUFFICIENT CRIMPS WERE FOUND IN THE BALANCE-OF-PLANT INSTRUMENTATION RACKS SUPPLIED BY BAILEY METAL CO. ABOUT 10% OF THESE TERMINATIONS WERE DEFICIENT. CORRECTIVE ACTION WILL BE TAKEN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, FABRICATION ERROR * CONTROL PANEL/ROOM * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS

113971
FINAL REPORT ON DEFECTIVE VENDOR WIRING IN INSTRUMENT RACKS AT SEQUOYAH 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION II, MAY 13, 1976, DUCKETS 50-3277326, TYPE--PWR, RFG--BEST., AE--TVA

CAUSE - QUALITY CONTROL FAILURE. ABOUT 10% OF THE WIRING TERMINATIONS IN THE BALANCE OF PLANT INSTRUMENTATION RACKS SUPPLIED BY BAILEY METAL CO. WAS FOUND TO BE DEFICIENT AS EVIDENCED BY IMPROPER WIRE/LUG SIZE COMBINATIONS AND LACK OF ADEQUATE CRIMPS. ALL PANELS INVOLVED IN THIS PROBLEM WERE IDENTIFIED. DEFECTIVE TERMINATIONS WILL BE REPAIRED BY TVA EMPLOYEES. QUALITY CONTROL FAILURE RESULTED FROM THE TRANSFER OF THE WORK IN PROCESS AT THE TIME WHEN THE COMPANY PURCHASED THE PRODUCT LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, FABRICATION ERROR * QUALITY ASSURANCE * CONTROL PANEL/ROOM * ENGINEERED SAFETY FEATURE * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * CONSTRUCTION * CABLES AND CONNECTORS

115460
FINAL REPORT ON RUST ON INSIDE SURFACE OF REACTOR VESSEL AT SEQUOYAH 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION II, JUNE 21, 1976, DUCKETS 50-3277326, TYPE--PWR, RFG--BEST., AE--TVA

CAUSE - INSUFFICIENT CLADDING. IN SEPTEMBER 1974 FOLLOWING ERECTION OF THE REACTOR PRESSURE VESSELS, SEVERAL AREAS WERE FOUND IN EACH VESSEL WHICH HAD INSUFFICIENT STAINLESS STEEL CLADDING. THE DEFICIENCY WOULD HAVE ALLOWED A SMALL AMOUNT OF CORROSION. EXPOSED BASE METAL WAS REPAIRED BY ROTTERDAM DOCKYARD CO. USING APPROVED PROCEDURES. THE REPAIR IS COMPLETE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CLADDING * MAINTENANCE AND REPAIR * CORROSION * FAILURE, FABRICATION ERROR * THICKNESS * MAIN COOLING SYSTEM * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * CONSTRUCTION * PRESSURE VESSELS

115940
UNACCEPTABLE INDICATIONS IN SPENT FUEL POOL LINER PLATE WELDS AT SEQUOYAH 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION II, JULY 12, 1976, DUCKETS 50-3277326, TYPE--PWR, RFG--BEST., AE--TVA

CAUSE - PROBABLY LACK OF FUSION. THE FINAL DYE PENETRANT INSPECTION ON THE STAINLESS-STEEL SPENT FUEL POOL LINER PLATE WELDMENTS DISCLOSED UNACCEPTABLE INDICATIONS. INVESTIGATION REVEALED AN UNDETERMINED QUANTITY OF UNACCEPTABLE WELDS. THE CAUSE IS POSSIBLY LACK OF FUSION. A PLAN FOR THE ANALYSIS OF THE EXTENT OF THE CONDITION HAS BEEN DEVELOPED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAINTENANCE AND REPAIR * FUEL STORAGE * WELDS * FLAW * STEEL LINER * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * TEST, NONDESTRUCTIVE * FAILURE, INSTALLATION ERROR * SEQUOYAH 1 (PWR) * SEQUOYAH 2 (PWR) * CONSTRUCTION

119778
WELD DEFECTS FOUND IN SPENT FUEL POOL LINER PLATES AT SEQUOYAH 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
3 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION II, SEP. 13, 1976, DUCKETS 50-3277326, TYPE--PWR, RFG--BEST.,

116776 (CONTINUED)
AE--TVA

CAUSE - FABRICATION ERROR. PERFORMANCE OF THE REQUIRED FINAL DYE PENETRANT INSPECTION ON THE STAINLESS STEEL SPENT FUEL PULL LINES PLATE ELEMENTS DISCLOSED QUESTIONABLE INDICATIONS. INVESTIGATION REVEALED AN UNDETERMINED QUANTITY OF WELD DEFECTS. UT EXAMINATION CONFIRMED THE PRESENCE OF WELD DEFECTS, POSSIBLE LACK OF FUSION. ALL REJECTABLE AREAS WILL BE REPAIRED. ALL LINES BEING IN THE AUXILIARY BUILDING AND INSIDE CONTAINMENT WHICH WILL BE UNDER WATER AT SOME TIME IN PLANT LIFE SHALL BE VACUUM BUBBLE TESTED TO A VACUUM OF 2 PSIA.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAN 1 (PWR) + SEQUOYAN 2 (PWR) + CONSTRUCTION + WELDS + STEEL LINER + SPENT FUEL POOL + FLAW + FAILURE, INSTALLATION ERROR + TEST, NONSTRUCTIVE + STRUCTURAL INTEGRITY

116776
DEFICIENT CONCRETE CELLS IN THE EACH PUMPING STATION ACCESS ROADWAY AT SEQUOYAN 1 AND 2 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS. LTR W/RT TO NRC OFFICE OF I & E, REGION II, OCT. 29, 1976. DOCKETS 50-327/328. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - CONSTRUCTION DEFICIENCY. ALL OVERBURDEN AND WEATHENED ROCK IN THE AREA OF THE ACCESS ROADWAY CELLS WILL BE REMOVED. THE ROCK SURFACE ON WHICH THE CELLS ARE TO BE FOUNDED WILL BE CLEANED AND MAPPED BY GEOLOGIST CIVILS BEFORE THE CONSTRUCTION OF THE ACCESS ROADWAY. AFTER CONSTRUCTION, INTEGRITY OF THE STRUCTURE AND FOUNDATION WILL BE VERIFIED BY CORE DRILLING. THIS IS THE FINAL INTERIM REPORT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAN 1 (PWR) + SEQUOYAN 2 (PWR) + CONSTRUCTION + ACCOMPANIMENT + CONDENSED COOLING SYSTEM + FAILURE, INSTALLATION ERROR + FOUNDATION ENGINEERING + STRUCTURAL INTEGRITY + GEOLOGY + CONCRETE + INTERACTION, SOIL AND STRUCTURE

140551
NRC RELAYS FOUND WITH INTERNAL SHORT CIRCUITS AT SEQUOYAN 1 AND 2 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
1 PG. LTR W/RT TO NRC OFFICE OF I & E, REGION II, DEC. 6, 1976. DOCKETS 50-327/328. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - UNKNOWN AT THIS TIME. INTERNAL SHORT CIRCUITS HAVE BEEN FOUND IN NRC RELAYS (STYLE 25031A15). ALL NRC RELAYS WILL BE CHECKED IN PREOPERATIONAL CHECKOUTS TO DETERMINE IF THE PROBLEM IS GENERIC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAN 1 (PWR) + SEQUOYAN 2 (PWR) + CONSTRUCTION + RELAYS + FLAW + FAILURE, FABRICATION ERROR + TEST, SYSTEM OPERABILITY + TEST, PREOPERATIONAL

123492
PLASTIC VALVE MARKER TAGS DEFICIENT AT SEQUOYAN 1 AND 2 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
1 PG. LTR W/RT TO NRC OFFICE OF I & E, REGION II, DEC. 15, 1976. DOCKETS 50-327/328. TYPE--PWR, MFG--WEST., AE--TVA

CAUSE - NOT STATED. THE DIFFERENT PLASTICS WERE TESTED AT TVA SIMULATED LABORATORIES. ONE OF THE PLASTICS USED FAILED DURING THE TEST. A REPLACEMENT MATERIAL IS NOW BEING TESTED. ALL TAGS MADE FROM THE PLASTIC WHICH FAILED WILL BE IDENTIFIED AND REPLACED BY A SUITABLE (AND TESTED) MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SEQUOYAN 1 (PWR) + SEQUOYAN 2 (PWR) + CONSTRUCTION + PLASTICS + IDENTIFICATION + VALVES + TEST, PROOF + TEST, SYSTEM OPERABILITY

117872
ACCIDENT ANALYSIS MAY BE NONCONSERVATIVE AT SNUPPS
SNUPPS, ROCKVILLE, MD
10 PGS. LTR W/RT TO NRC OFFICE OF I & E, SEPT. 3, 1976. DOCKETS STN 50-482/483/484/485/486. TYPE--PWR, MFG--WEST., AE--DECFTEL

CAUSE - INCORRECT ASSUMPTIONS. TWO ASPECTS OF THE ACCIDENT ANALYSIS FOR THE SNUPPS REACTORS WERE POSSIBLY NONCONSERVATIVE. RECENT INFORMATION INDICATES THAT THE REACTOR VESSEL UPPER HEAD TEMPERATURE WOULD BE SOMEWHERE BETWEEN COLD LEG AND HOT LEG TEMPERATURES. ANALYSIS HAVE BEEN REPEATED USING HOT LEG TEMPERATURES RATHER THAN THE PREVIOUSLY USED COLD LEG TEMPERATURE. PEAK CLAD TEMPERATURE WOULD NOT EXCEED 2200 F IF PEAKING FACTOR WAS LIMITED TO 2.24. FUEL ROD BOWING MAY AFFECT CALCULATED DNB. OPERATING DATA FOR THE 17X17 FUEL ASSEMBLIES TO BE USED ARE LIMITED

117872 *CONTINUED*

SO THE POTENTIAL FOR BOWING IS UNKNOWN AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * ANALYTICAL MODEL * DNB * FAILURE, DESIGN ERROR * FUEL MOD * CONSTRUCTION * TEMPERATURE * SNIPPS (PWR) * STANDARDIZATION

118295

FINAL REPORT ON CHARGING PUMP IC RESTART FAILURE AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

4 PGS, LTR W/HPRT TO NRC OFFICE OF I & E, JAN. 5, 1978, DOCKET 50-335, TYPE--PWR, RFG--CUMB., AE--CBASLJ

CAUSE - TIME SEQUENCE OF EVENTS IMPROPER, DURING PREOPERATIONAL TESTING OF THE ECCS, CHARGING PUMP IC FAILED TO START DURING A SIMULATED LOSS OF OFFSITE POWER. FAILURE IS ATTRIBUTED TO THE TIME SEQUENCE OF EVENTS WHICH ENABLED THE DIESEL GENERATION BREAKER TO CLOSE BEFORE THE 900V SWITCHGEAR BREAKER FOR THE PUMP COULD BEGIN ITS STARTING SPINUP. TO CORRECT THIS, CHARGING PUMP IC WAS MOVED TO DIESEL LOADING 7TH BLOCK (10 SEC TIME DELAY). NEWER TIME IS ABOUT 3 SECONDS. THIS PROVIDES SUFFICIENT TIME FOR REWIND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * FAILURE, EQUIPMENT * ACCIDENT, LOSS OF POWER * RESPONSE TIME * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * MAIN COOLING SYSTEM * CONSTRUCTION * ST. LUCIE 1 (PWR) * BREAKER * OPERATED * PUMPS

111485

IMPROPER CONTAINMENT BOUNDARY QUALITY GROUP DESIGNATION AT ST. LUCIE

FLORIDA POWER & LIGHT CO., MIAMI, FL

2 PGS, LTR W/HPRT TO NRC OFFICE OF I & E, JAN. 22, 1978, DOCKET 50-335, TYPE--PWR, RFG--LUMB., AE--CBASLJ

CAUSE - DESIGN ERROR. DURING UPDATING OF PIPING AND INSTRUMENTATION DIAGRAMS, IT WAS NOTED THAT LINES AND CONTAINMENT ISOLATION VALVES ATTACHED TO 14 CONTAINMENT PENETRATION ASSEMBLIES WERE DESIGNATED AS QUALITY GROUP C, SINCE THEY ARE PART OF THE CONTAINMENT BOUNDARY, THEY SHOULD BE GROUP B. A REVIEW TO DETERMINE THE REQUIREMENTS NECESSARY FOR UPGRADING THE LINES AND VALVES IS BEING PERFORMED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * CONTAINMENT ISOLATION * FAILURE, DESIGN ERROR * QUALITY ASSURANCE * SEISMIC DESIGN * CONSTRUCTION * ST. LUCIE 1 (PWR) * VALVES * PIPES AND PIPE FITTINGS

111630

QUALITY GROUP DESIGNATION OF PENETRATIONS IMPROPER AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

6 PGS, LTR W/FINAL RPT TO NRC OFFICE OF I & E, FEB. 19, 1978, DOCKET 50-335, TYPE--PWR, RFG--LUMB., AE--CBASLJ

CAUSE - DESIGN DEFICIENCY. DURING UPDATING OF PIPING AND INSTRUMENTATION DIAGRAMS, LINES AND CONTAINMENT ISOLATION VALVES ATTACHED TO 14 CONTAINMENT PENETRATION ASSEMBLIES WERE FOUND TO BE DESIGNATED AS QUALITY GROUP C. SINCE THEY ARE PART OF CONTAINMENT BOUNDARY, THE APPROPRIATE DESIGNATION IS B. THE NECESSARY ADDITIONAL NUC AND OTHER QA AND CODE REQUIREMENTS TO UPGRADE THE LINES AND VALVES HAVE BEEN PERFORMED. NO MAJOR REPAIR WORK RESULTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * CONTAINMENT INTEGRITY * MODIFICATION * FAILURE, DESIGN ERROR * QUALITY ASSURANCE * SEISMIC DESIGN * CONSTRUCTION * ST. LUCIE 1 (PWR) * VALVES * PIPES AND PIPE FITTINGS * CONTAINMENT PENETRATION

112124

SIX HYDRAULIC SEISMIC SMUDBERS HAVE LOW FLUID LEVEL AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

5 PGS, LTR W/RPT TO NRC OFFICE OF I & E, MARCH 19, 1978, DOCKET 50-335, TYPE--PWR, RFG--CUM., AE--CBASLJ

CAUSE - CALIBRATION PLATE MISALIGNED. DURING A PRE-CORE LOADING INSPECTION, 6 HYDRAULIC SEISMIC SMUDBERS WERE FOUND TO HAVE AN APPARENT LOW FLUID LEVEL. IN 5 CASES THE FLUID LEVEL APPEARED LOW DUE TO CALIBRATION PLATE MISALIGNMENT. THE OTHER UNIT LEAKED THROUGH A DEEP HOLE DUE TO A DAMAGED ACCUMULATOR PISTON SEAL. FOUR UNITS WERE RETAINED AT THE SPOT FOR ADJUSTMENTS TO THE LEVEL CALIBRATION SYSTEM AND WERE REPLACED WITH QUALIFIED SPARES. ONE RECEIVED MINOR REPAIR AND THE OTHER REQUIRED NO REPAIR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * OSNUCK ABSORBER * TEST, PREOPERATIONAL * FAILURE, MAINTENANCE ERROR * SUPPORT STRUCTURE * SURVEILLANCE PROGRAM * CONSTRUCTION * ST. LUCIE 1 (PWR) * PIPES AND PIPE FITTINGS

111912

ALL ESPAS SIGNALS GO TO BYPASS ON LOSS OF POWER AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 2 PGS. LTR D/NO 335-76 TO NRC OFFICE OF I & E, REGION II, MARCH 18, 1976. DOCKET 50-335. TYPE--PWR. NRC--
 CURR., AE--EDASCO

CAUSE - CIRCUITRY DESIGN ERROR. DURING PREOPERATIONAL CORE LOADING, AN ENGINEERING REVIEW INDICATED THAT UPON LOSS OF POWER ALL ESPAS SIGNALS WOULD GO TO THE BYPASS MODE WHEREAS ONLY THE CEAS AND HAS SIGNALS SHOULD DO SO. THIS RESULTED FROM AN ESPAS CIRCUITRY DESIGN ERROR. CIRCUIT MODIFICATIONS ARE BEING MADE AND WILL BE COMPLETED BEFORE ENTERING MODE 4.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM + ACCIDENT, LOSS OF POWER + JUSTIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + DEVICE + ENGINEERED SAFETY FEATURE + BYPASS + ST. LUCIE 1 (PWR)

112271

CONTAINMENT INTEGRITY BREACHED AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-1 TO NRC OFFICE OF I & E, REGION II, APRIL 2, 1976. DOCKET 50-335. TYPE--PWR. NRC--
 CURR., AE--EDASCO

CAUSE - UNKNOWN. DURING INITIAL CORE LOADING, THE WATER LEVEL IN THE REFUELING CAVITY WAS FOUND TO BE 2 INCHES BELOW THE TOP OF THE FUEL TRANSFER TUBE PROVIDING A DIRECT ACCESS TO THE OUTSIDE ATMOSPHERE. THE EXACT CAUSE HAS NOT BEEN DETERMINED. DURING TESTING OF THE REFUELING CANAL SURP PUMP MOTOR, WATER MAY HAVE BEEN PUMPED FROM THE REFUELING CAVITY OR AN INCORRECT LINEUP OF VALVES IN THE DRAIN SYSTEM COULD HAVE BEEN THE CAUSE. THE WATER LEVEL WAS RESTORED TO NORMAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT INTEGRITY + REACTOR STARTUP EXPERIENCE + REFUELING + CANAL + SYSTEM CAPACITY + ST. LUCIE 1 (PWR) + FUEL LOADING

112376

CONTAINMENT INTEGRITY VIOLATED AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-4 TO NRC OFFICE OF I & E, REGION II, APRIL 5, 1976. DOCKET 50-335. TYPE--PWR. NRC--
 CURR., AE--EDASCO

CAUSE - OPERATION OF VACUUM RELIEF VALVES. DURING INITIAL CORE LOADING, A CONTAINMENT PURGE FAIL WAS STARTED AND CONTAINMENT PRESSURE BECAME SUBATMOSPHERIC CAUSING A CONTAINMENT VACUUM RELIEF VALVE TO OPEN. THIS VIOLATED TECH SPEC REQUIREMENT. FUEL HANDLING WAS STOPPED UNTIL THE VALVE CLOSED. TECH SPECS DID NOT CONSIDER THE UNIQUE FUNCTION OF THESE VACUUM RELIEF VALVES IN THAT THEY DO NOT CLOSE AUTOMATICALLY ON ISOLATION BUT DO CLOSE AUTOMATICALLY WHEN CONTAINMENT PRESSURE APPROACHES ATMOSPHERIC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT INTEGRITY + CONTAINMENT VACUUM BREAKER + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + ST. LUCIE 1 (PWR) + FUEL LOADING

112704

SET POINT DRIFT IN SPENT FUEL CRANE OVERLOAD INTERLOCK AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-2 TO NRC OFFICE OF I & E, REGION II, APRIL 5, 1976. DOCKET 50-335. TYPE--PWR. NRC--
 CURR., AE--EDASCO

CAUSE - INTERLOCK MALFUNCTION. DURING INITIAL CORE LOADING, THE SPENT FUEL CRANE OVERLOAD INTERLOCK SET POINT WAS FOUND TO HAVE DRIFTED ABOVE 4000 POUNDS. THE INTERLOCK WOULD OCCASIONALLY PREVENT A FUEL ASSEMBLY FROM BEING LIFTED. CONVERSELY, WHEN TESTED, THE INTERLOCK WOULD OCCASIONALLY PERMIT LOADS IN EXCESS OF 2000 POUNDS TO BE LIFTED, INDICATING AN INTERMITTENT CONDITION. THE LOAD WILL BE ADMINISTRATIVELY CONTROLLED DURING INITIAL LOADING. THE ADEQUACY OF THE DESIGN AND NECESSARY REPAIR OR REPLACEMENT WILL BE COMPLETED BEFORE THE FIRST SCHEDULED REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, INTERLOCK + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + REACTOR STARTUP EXPERIENCE + REFUELING + TEST, SYSTEM OPERABILITY + SET POINT + DRIFT + ST. LUCIE 1 (PWR) + CRANE

112705

TWO RADIATION MONITORING CHANNELS INOPERABLE AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-5 TO NRC OFFICE OF I & E, REGION II, APRIL 9, 1976. DOCKET 50-335. TYPE--PWR. NRC--

112705 *CONTINUED*
 COMB., AE--EBASCO

CAUSE - LOOSE POWER CONNECTION. DURING INITIAL CORE LOADING, POWER WAS LOST TO CHANNEL 1 CONTAINMENT AREA RADIATION MONITORING INSTRUMENTATION. AT THE TIME, CHANNEL A WAS OUT OF SERVICE FOR A MODIFICATION. AN ELECTRICAL CONNECTION WAS LOOSE BECAUSE OF IMPROPER LANDING OF A TERMINATION. THE TERMINATION WAS LANDED PROPERLY AND POWER RESTORED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * ELECTRIC POWER * REACTOR STARTUP EXPERIENCE * FAILURE, INSTALLATION ERROR * CABLES AND CONNECTORS * ST. LUCIE I (PLR) * RADIATION MONITORS

112672
 FIVE MECHANICAL PIPE RESTRAINTS FOUND INOPERABLE AT ST. LUCIE I
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR W/NO 335-70-9 TO NRC OFFICE OF I & E, REGION II, APRIL 12, 1976, DOCKET 50-335, TYPE--PWR, MFG--
 COMB., AE--EBASCO

CAUSE - RUSTING OF INTERNAL PARTS. DURING PREOPERATIONAL TESTING OF PIPING RESTRAINTS WHILE HEATING UP FOR POST-CORE MCT FUNCTIONAL TESTING, 5 MECHANICAL SNUBBERS WERE FOUND TO BE LOCKED UP. THEY WERE PROMPTLY REPLACED WITH OPERABLE UNITS. TWO DEFECTIVE UNITS WERE DISASSEMBLED. MOISTURE HAD CAUSED OXIDATION OF INTERNAL CARBON PARTS WHICH HAD THEN CAUSED THE SNUBBERS TO LOCK. THEY WERE MODEL MSVA-1 SNUBBERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TRANSPORTATION AND HANDLING * CORROSION * REACTOR STARTUP EXPERIENCE * SMALLER ABSORBER * SUPPORT STRUCTURE * COMPONENTS * SURVEILLANCE PROGRAM * ST. LUCIE I (PWR) * PIPES AND PIPE FITTINGS

113492
 RC LOOP TEMPERATURE INDICATION ERRATIC AT ST. LUCIE I
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR W/NO 335-70-7 TO NRC OFFICE OF I & E, REGION II, APRIL 23, 1976, DOCKET 50-335, TYPE--PWR, MFG--
 COMB., AE--EBASCO

CAUSE - WIRE DIAGRAM ERROR. DURING PREOPERATIONAL TESTING OF THE REACTOR PROTECTION SYSTEM, ERRATIC REACTOR COOLANT LOOP 1 SUB M TEMPERATURE INDICATION WAS OBSERVED. REVIEW OF WIRING DIAGRAMS REVEALED AN ERROR. CLARITY OF THE AVERAGE T SUB M SIGNAL FROM THE LOOPS TO THE CORE PROTECTION CALCULATION FOR THERMAL HAZARD/LOW PRESSURE REACTOR TRIP WAS FOUND REVERSED ON THE DIAGRAMS. MODIFICATIONS WERE COMPLETED PRIOR TO CONTINUING HEATUP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * INSTRUMENT, ABNORMAL INDICATION * MAIN COOLING SYSTEM * CABLES AND CONNECTORS * ST. LUCIE I (PWR) * SENSORS, TEMPERATURE

113237
 TRANSITION FROM SHUTDOWN COOLING TO RC PUMPS EXCEEDS LIMIT AT ST. LUCIE I
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR W/NO 335-70-6 TO NRC OFFICE OF I & E, REGION II, APRIL 26, 1976, DOCKET 50-335, TYPE--PWR, MFG--
 COMB., AE--EBASCO

CAUSE - TOO RESTRICTIVE LIMITS. DURING HEATUP FOR POST-CORE MCT FUNCTIONAL TESTING, THE LHM PRESSURE SAFETY INJECTION PUMPS WERE STOPPED WHEN THE RC SYSTEM PRESSURE REACHED 200 PSIA. THE TRANSITION TO REACTOR COOLANT PUMP OPERATION TOOK 35 MINUTES, EXCEEDING THE 15 MINUTE TECH SPEC LIMIT. VERIFICATION THAT RCS TEMPERATURE AND PRESSURE WERE WITHIN LIMITS AND THAT A PRESSURIZER BUBBLE HAD BEEN DRAWN REQUIRED MORE THAN 15 MINUTES. A CHANGE IN TECH SPECS WILL BE REQUESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20543 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RESPONSE TIME * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * OPERATOR ACTION * ST. LUCIE I (PWR) * PUMPS

113492
 TWO UNIONS IMPROPERLY WELDED INTO LINES AT ST. LUCIE I
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR W/NO 335-70-8 TO NRC OFFICE OF I & E, REGION II, APRIL 27, 1976, DOCKET 50-335, TYPE--PWR, MFG--
 COMB., AE--EBASCO

CAUSE - WORK ORDER & QC DEFICIENCY. DURING PREOPERATIONAL TESTING, 2 FEMALE UNIONS WERE IMPROPERLY WELDED INTO THE COOLING LINES FOR LPSI PUMPS 1A AND 1B. DISCREPANCIES FOUND DURING QC SURVEILLANCE WERE (1) WELDING PROCEDURE NOT QUALIFIED, (2) WELDER NOT QUALIFIED, AND (3) NOT PERFORMED. THE PLANT WORK ORDER DID NOT INCLUDE WELDING AND NOT INSTRUCTIONS. QC REVIEWER OF THE WORK ORDER DID NOT RESULT IN A REQUEST FOR ADDITIONAL WELDING INFORMATION. A QUALIFIED

113492 CONTINUED

BELDEN CUT CUT AND REPLACE THE UNIONS USING QUALIFIED PROCEDURE. NOT WAS CONDUCTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SAFETY INJECTION * WELDING * REACTOR STARTUP EXPERIENCE * TEST, NONDESTRUCTIVE * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * ST. LUCIE 1 (PWR) * PIPES AND PIPE FITTINGS

113493

REACTOR COOLANT SYSTEM FLOW RATE LESS THAN EXPECTED AT ST. LUCIE 1
FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR W/RO 335-70-15 TO NRC OFFICE OF I & E, REGION II, MAY 3, 1976, DOCKET 50-335, TYPE--PWR, NRC--COMB., AL--EBASCO

CALLS - TEST RESULTS. BASED ON ANALYSIS OF POST-CORE HOT FUNCTIONAL RCS FLOW MEASUREMENTS, THE FLOW RATE IS ONLY 354100 GPM. CURRENT PSAR, TECH SPECS, AND SET POINT ANALYSES ARE BASED ON A 370000 GPM FLOW RATE. INTERIM TECH SPEC CHANGES HAVE BEEN REQUESTED. ANALYSIS FOR OPERATION CONSISTENT WITH THE PROPOSED CHANGES HAVE BEEN COMPLETED. FURTHER TESTING TO VERIFY ACTUAL FLOW RATE WILL BE CONDUCTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

HEAT TRANSFER * TESTING * REACTOR STARTUP EXPERIENCE * MAIN COOLING SYSTEM * FLOW * RATE * ST. LUCIE 1 (PWR) * PUMPS

113762

MAIN STEAM LINE SAFETY VALVES GAGGED AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

6 PGS. LTR W/RO 335-70-10 TO NRC OFFICE OF I & E, REGION II, MAY 7, 1976, DOCKET 50-335, TYPE--PWR, NRC--COMB., AL--EBASCO

CALLS - PLANNED FOR TEST. WITH THE PLANT IN HOT STANDBY DURING PREOPERATIONAL TESTING, 9 MAIN STEAM SAFETY VALVES WERE EXPERIENCING WEEPAGE. THE VALVES WERE GAGGED ACCORDING TO MANUFACTURER'S RECOMMENDATION TO DETERMINE IF WEEPAGE WAS CAUSED BY CUT VALVE SEATS. NO MORE THAN 2 WERE GAGGED AT A TIME. VALVE SEATS WERE NOT CUT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TESTING * PRESSURE RELIEF * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * MAIN COOLING SYSTEM * LEAK * ST. LUCIE 1 (PWR) * VALVES

113764

AUXILIARY FEEDWATER PUMP TRIPS ON OVERSPEED AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR W/RO 335-70-11 TO NRC OFFICE OF I & E, REGION II, MAY 7, 1976, DOCKET 50-335, TYPE--PWR, NRC--COMB., AL--EBASCO

CALLS - FAULTY SPEED CONTROL. DURING PREOPERATIONAL TESTING, THE STEAM DRIVEN AUXILIARY FEEDWATER PUMP TRIPPED ON OVERSPEED. SUBSEQUENT ATTEMPTS TO ELECTRICALLY CYCLE THE GOVERNOR VALVE WERE UNSUCCESSFUL AND THE VALVE WAS MANUALLY CLOSED. THE GOVERNOR VALVE ACTUATOR WOULD NOT RESPOND TO VOLTAGE 5 V FROM THE CONTROLLER BECAUSE OF AN OPEN CIRCUIT IN A SOLDER JOINT IN THE EXTERNAL APPHEND. HAT MATES WITH THE ACTUATOR. ALSO, THE HAMP GENERATOR SIGNAL CONVERTOR GAIN COULD NOT BE SE RELY. A SPARE CONVERTER WAS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * CABLES AND CONNECTORS * ST. LUCIE 1 (PWR) * AUXILIARY * FEEDWATER * PUMPS

113767

MAIN CIRCULATING WATER SYSTEM LEVEL HIGHER THAN ANTICIPATED AT ST. LUCIE 1

FLORIDA POWER & LIGHT CO., MIAMI, FL

2 PGS. LTR W/RO 335-70-12 TO NRC OFFICE OF I & E, MAY 7, 1976, DOCKET 50-335, TYPE--PWR, NRC--COMB., AL--EBASCO

CALLS - HIGH TIDES. DURING INITIAL TESTING OF THE MAIN CIRCULATING WATER PUMPS, A HIGHER THAN ANTICIPATED DISCHARGE CANAL LEVEL WAS OBSERVED WITH ALL 4 PUMPS IN OPERATION. AT PERIODS OF HIGH TIDE, LEVELS EXCEEDED THE SPILLOVER POINT. NO HEAT WAS BEING ADDED DURING THIS PERIOD. THE CAUSATIVE FACTORS APPEAR TO BE (A) OCEAN TIDAL LEVELS HIGHER THAN ACCOUNTED FOR IN THE PLANT DESIGN AND (B) MARINE FOULING THAT BUILT UP IN THE DISCHARGE PIPE DURING CONSTRUCTION AND INITIAL OPERATION. THE PIPE WILL BE CLEANED. LIMITED SPILLOVER AT HIGH TIDES ARE DEEMED TO HAVE NO SIGNIFICANT ENVIRONMENTAL IMPACT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

113767 *CONTINUED*
 REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR *
 ENVIRONMENT * CANAL * SYSTEM CAPACITY * ST. LUCIE 1 (PWR) * CONDENSED COOLING SYSTEM * DISCHARGE

114000
 MSIV CLOSURE TIME EXCEEDS LIMIT AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/RO J35-70-12 TO NRC OFFICE OF I & E, REGION II, MAY 12, 1976. CUCKET 50-335, TYPE--PM, HPG--
 COMB., AE--EBASCO

CAUSE - CUSHION NEEDLE VALVE OUT OF ADJUSTMENT. DURING PREOPERATIONAL TESTING OF THE MAIN STEAM
 ISOLATION VALVES, VALVE 1B DID NOT OBTAIN FULL CLOSURE WITHIN THE 6 SECOND LIMIT. CLOSURE TIME
 WAS ABOUT 7 SECONDS. AIR TRAPPED BY THE PISTON IN THE PNEUMATIC CYLINDER WAS CAUSING THE PISTON
 TO BE SLOWED DURING THE LAST 5% OF PISTON TRAVEL. THE CUSHION NEEDLE VALVE WAS ADJUSTED TO
 BYPASS SOME OF THE TRAPPED AIR. ALSO, SPECIAL TESTING FOUND THAT THE AIR ACCUMULATOR WAS
 UNDERSIZED. THE ACCUMULATED VOLUME FOR BOTH MSIV'S HAS BEEN INCREASED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

CONTAINMENT ISOLATION * RESPONSE TIME * MODIFICATION * REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL *
 TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * FAILURE, MAINTENANCE ERROR * MAIN COOLING SYSTEM *
 PNEUMATIC SYSTEM * ST. LUCIE 1 (PWR) * VALVES * ACCUMULATORS

114000
 STEAM AUXILIARY FEEDWATER PUMP FAILS TO START PROPERLY AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/RO J35-70-13 TO NRC OFFICE OF I & E, REGION II, MAY 13, 1976. CUCKET 50-335, TYPE--PM, HPG--
 COMB., AE--EBASCO

CAUSE - WIRING DIAGRAM ERROR. DURING PREOPERATIONAL TESTING, STEAM AUXILIARY FEEDWATER PUMP WOULD
 NOT START FROM THE HOT SHUTDOWN CONTROL PANEL WITH THE SWITCH IN THE 0 POSITION. IT WOULD START
 IN THE A POSITION (STEAM SUPPLY FROM THE A-HEADERS). TWO LEADS IN THE PANEL WERE INCORRECTLY
 TERMINATED BECAUSE OF A CONTROL WIRING DIAGRAM ERROR. TO COMPLY WITH THE ORIGINAL DESIGN INTENT,
 THE LEADS WERE MOVED TO THE CORRECT CONTACTS. THE WIRING DIAGRAM WAS CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

STEAM * REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR *
 CABLES AND CONNECTORS * ST. LUCIE 1 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * OPERATOR * PUMPS

114001
 PERSONNEL AIRLOCK LEAKS EXCESSIVELY AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/RO J35-70-14 TO NRC OFFICE OF I & E, REGION II, MAY 18, 1976. CUCKET 50-335, TYPE--PM, HPG--
 COMB., AE--EBASCO

CAUSE - MISALIGNED LATCHING DEVICE. AT ONE POINT DURING PREOPERATIONAL TESTING, THE OUTER
 PERSONNEL ACCESS DOOR TO CONTAINMENT WOULD NOT PASS THE AIR LEAKAGE TEST. A HOLDING PIN IN THE
 DOOR LATCHING DEVICE WAS BENT. THE PIVOT ARM IN THE LATCHING DEVICE BECAME LOOSE, CAUSING THE
 DEVICE TO MISALIGN AND BEND THE HOLDING PIN. THE LATCHING DEVICE WAS REPAIRED, AND THE DOOR WAS
 SATISFACTORILY LEAK TESTED AND RETURNED TO SERVICE WITHIN 24 HOURS. SIGNS HAVE BEEN POSTED WHICH
 INSTRUCT PERSONNEL TO OPERATE AIRLOCK DOORS CAREFULLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, COMPONENT * FAILURE, OPERATOR ERROR * TEST, LEAK RATE * CONTAINMENT AIR LOCK * REACTOR STARTUP
 EXPERIENCE * TEST, SYSTEM OPERABILITY * LEAK RATE * ST. LUCIE 1 (PWR)

114003
 TWO CONTROL ROOM AIR CONDITIONERS OUT OF SERVICE AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/RO J35-70-16 TO NRC OFFICE OF I & E, REGION II, MAY 21, 1976. CUCKET 50-335, TYPE--PM, HPG--
 COMB., AE--EBASCO

CAUSE - BROKEN BELT AND LOW OIL LEVEL. DURING PREOPERATIONAL TESTING WITH THE PLANT IN HOT
 STANDBY CONDITION, CONTROL ROOM AIR CONDITIONER 3C WAS OUT OF SERVICE BECAUSE OF A BROKEN PAN
 BELT. THIS WAS DUE TO NORMAL WEAR. DURING THIS TIME, AIR CONDITIONER 3A TRIPPED ON LOW OIL
 LEVEL. OIL WHICH IS NORMALLY SEPARATED FROM THE COOLANT IN THE EXPANSION CHAMBER WAS NOT
 RETURNING PROPERLY TO THE COMPRESSOR. A SERVICE REPRESENTATIVE PROVIDED ASSISTANCE IN BALANCING
 THE EXPANSION CHAMBER TO RESTORE THE PROPER FLOW OF OIL BACK TO THE COMPRESSOR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, EQUIPMENT * VENTILATION SYSTEM * REACTOR STARTUP EXPERIENCE * FAILURE, SEQUENTIAL * FAILURE,
 INSTALLATION ERROR * CONTROL PANEL/ROOM * COOLING * ST. LUCIE 1 (PWR) * BEAM * PNEUMATIC

114904
PART LENGTH CONTROL ELEMENT ASSEMBLIES INSERTED BELOW LIMIT AT ST. LUCIE I
FLORIDA POWER & LIGHT CO., MIAMI, FL
3 PGS. LTR B/W/ 335-70-18 TO NRC OFFICE OF I & E, REGION II, MAY 26, 1976. DOCKET 50-335. TYPE--PWR, MFG--
CUMB., AE--EDASCO

CAUSE - FAULTY REED SWITCH. DURING CONTROL ELEMENT ASSEMBLY CALIBRATION PREOPERATIONAL TESTS, THE
NCS ROOM CONCENTRATION WAS BEING DILUTED AT A RATE OF 100 GPM AND GROUP I WAS BEING INSERTED TO
WATCH REACTIVITY. A NOTICE INHIBIT SIGNAL WAS GENERATED. MINOR DILUTION WAS STOPPED. EMERGENCY
REACTIVITY BEGINS AND PART LENGTH CONTROL ELEMENT ASSEMBLIES WERE INSERTED. REACTOR POWER WAS
MAINTAINED LESS THAN 0.5%. OPERATION WITH PLCEAYS LESS THAN 90% WITHIN 10 MIN VIOLATED TECH SPECS.
THE CAUSE WAS A SHORT CIRCUIT IN THE LOWER ELECTRICAL LIMIT CIRCUIT FOR GROUP I AND IT CAUSED BY
A FAULTY REED SWITCH. THE REED SWITCH WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

CONTROL * INSTRUMENT * SWITCH * REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY *
ST. LUCIE I (PWR) * FAILURE, INHERENT * CONTROL ROD DRIVES

114754
BACKUP CEA POSITION INDICATION LOST AT ST. LUCIE I
FLORIDA POWER & LIGHT CO., MIAMI, FL
3 PGS. LTR B/W/ 335-70-19 TO NRC OFFICE OF I & E, REGION II, JUNE 4, 1976. DOCKET 50-335. TYPE--PWR, MFG--
CUMB., AE--EDASCO

CAUSE - COMPUTER MALFUNCTION. DURING PREOPERATIONAL LOW POWER PHYSICS TESTING, THE DIGITAL DATA
PROCESSOR MALFUNCTIONED WITH GROUP 0 RODS AT 110 INCHES AND REACTOR POWER AT 0.018. THIS
RESULTED IN LOSS OF THE CEA PULSE COUNTING POSITION INDICATION WHICH IS CONTRARY TO TECH SPECS.
ALL REED SWITCH POSITION INDICATION CHANNELS WERE VERIFIED OPERABLE. THE CONTROL PROGRAM SKIPPED
100000 COUNTS OF THE DATA BASE CAUSING THE COMPUTER TO STOP. NO CAUSE COULD BE FOUND. THE DATA
BASE HAS BEEN PUT ON PAPER TAPE TO ENABLE THE COMPUTER TO BE RETURNED TO SERVICE MORE QUICKLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

* COMPUTER PROGRAM * COMPUTER, DIGITAL * FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL
* INSTRUMENT, POSITION * ST. LUCIE I (PWR) * CONTROL RODS

114753
POWER DEPENDENT INSERTION LIMIT CHANGES AT ST. LUCIE I
FLORIDA POWER & LIGHT CO., MIAMI, FL
3 PGS. LTR B/W/ 335-70-20 TO NRC OFFICE OF I & E, REGION II, JUNE 11, 1976. DOCKET 50-335. TYPE--PWR, MFG--
CUMB., AE--EDASCO

CAUSE - CONTROL WIRING DIAGRAM ERROR. DURING POWER ASCENSION TO THE 20% PLATEAU, IT WAS OBSERVED
THAT THE POWER DEPENDENT INSERTION LIMIT WAS CHANGING IN THE NONCONSERVATIVE DIRECTION AS POWER
WAS BEING INCREASED. THE CAUSE WAS AN ERROR IN AN APS INTERFACE CIRCUITRY CONTROL WIRING
DIAGRAM. THE ERROR CAUSED THE POWER SIGNAL BEING SENT FROM THE APS TO THE METERSCOPE (VISUAL
DISPLAY OF ROD POSITION) TO DECREASE AS REAL POWER INCREASED. CIRCUIT MODIFICATIONS WERE MADE TO
COMPLY WITH THE ORIGINAL DESIGN INTENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

CONTROL SYSTEM * REACTOR PROTECTION SYSTEM * REACTOR POWER * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN
ERROR * INSTRUMENT, POSITION * ST. LUCIE I (PWR) * CONTROL RODS

114755
SUPPLEMENTARY HEIGHT ON PIPE RESTRAINT FAILURES AT ST. LUCIE I
FLORIDA POWER & LIGHT CO., MIAMI, FL
4 PGS. LTR B/W/ 335-70-9 SUPPLEMENT RPT TO NRC OFFICE OF I & E, REGION II, JUNE 10, 1976. DOCKET 50-335. TYPE--
PWR, MFG--CUMB., AE--EDASCO

CAUSE - OXIDATION OF INTERNAL COMPONENTS. DURING PREOPERATIONAL TESTING OF PIPING RESTRAINTS, 5
INC MECHANICAL SNUBBERS WERE FOUND TO BE LOCKED UP AT THE 260 F HEATUP PLATEAU AS REPORTED
EARLIER. ALL INC SNUBBERS HAVE SINCE BEEN REPLACED BY PACIFIC SCIENTIFIC SNUBBERS. FOUR OF THE
PAIRED SNUBBERS HAD RUST AND WATER INSIDE THE CENTER SECTION WHICH CAUSED ROTATIONAL BINDING.
THE FIFTH UNIT HAD AN IMPROPER END FITTING (NO BALL BUSHING) AND ITS INDICATOR BAR WAS SLIGHTLY
BENT. WITH THE CORRECT END FITTING, IT OPERATED PROPERLY AND WAS NOT DISASSEMBLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT * WATER * CORROSION * REACTOR STARTUP EXPERIENCE * SNUBBER ABSORBER * TEST, PREOPERATIONAL *
TEST, SYSTEM OPERABILITY * EXAMINATION * SUPPORT STRUCTURE * ST. LUCIE I (PWR) * PIPES AND PIPE FITTINGS

115430

115430 *CONTINUED*
 HYDROGEN SAMPLING SYSTEM VALVES NOT TESTED PROPERLY AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-20 TO ARC OFFICE OF I & E, REGION II, JUNE 10, 1976. DCKET 50-335. TYPE--PWR, NFG--
 COMB., AE--EBASCO

CAUSE - PURCHASE ORDER DEFICIENCY. DURING A REVIEW, IT WAS DETERMINED THAT THE HYDROGEN SAMPLING
 SYSTEM ISOLATION VALVES HAD NOT BEEN TYPE TESTED FOR THE PROPOSED ENVIRONMENT AS REQUIRED. THE
 TEST REQUIREMENT WAS NOT SPECIFIED IN THE PURCHASE ORDER. CORRECTIVE ACTION IS BEING TAKEN.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

HYDROGEN * CONTAINMENT ISOLATION * TESTING * SAMPLING * REACTOR STARTUP EXPERIENCE * ENVIRONMENT * FAILURE.
 ADMINISTRATIVE CONTROL * ST. LUCIE 1 (PWR) * VALVES

115435
 JG AIR START SOLENOID VALVE CLOGGED WITH DIRT AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-21 TO ARC OFFICE OF I & E, REGION II, JUNE 10, 1976. DCKET 50-335. TYPE--PWR, NFG--
 COMB., AE--EBASCO

CAUSE - CLEANING SCHEDULE NOT SPECIFIED. DURING PREOPERATIONAL TESTING, DIESEL GENERATOR A WAS
 BEING TESTED WHEN ONE OF THE AIR START SYSTEM SOLENOID VALVES AND ITS ASSOCIATED AIR LINE WERE
 FOUND TO BE CLOGGED WITH DIRT. THEY WERE CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S
 GUIDELINES. HOWEVER, THE MAINTENANCE MANUAL DID NOT SPECIFY A CLEANING FREQUENCY. CLEANING HAS
 BEEN INCORPORATED IN THE PREVENTIVE MAINTENANCE PROGRAM.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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PROCEDURES AND MANUALS * COMB * REACTOR STARTUP EXPERIENCE * TEST, PREOPERATIONAL * TEST, SYSTEM OPERABILITY *
 FAILURE, ADMINISTRATIVE CONTROL * FLOW BLOCKAGE * PNEUMATIC SYSTEM * ST. LUCIE 1 (PWR) * VALVES *
 GENERATOR, DIESEL * PIPES AND PIPE FITTINGS

115434
 STEAM DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-22 TO ARC OFFICE OF I & E, REGION II, JUNE 21, 1976. DCKET 50-335. TYPE--PWR, NFG--
 COMB., AE--EBASCO

CAUSE - CONTROL VALVE MALFUNCTION. WITH THE PLANT IN HOT STANDBY, AN UNSUCCESSFUL ATTEMPT WAS
 MADE TO START THE STEAM DRIVEN AUXILIARY FEEDWATER PUMP. THE OVSPEED TRIP CONTACTS IN THE
 STEAM SUPPLY VALVE CONTROL CIRCUIT WERE CORRODED. ALSO, A LUG HAD CORRODED OFF THE SUPPLY LEAD.
 AFTER THE WIRE WAS RELOGGED, THE PUMP OPERATED SATISFACTORILY. A SEALING COMPOUND WAS APPLIED TO
 THE CONTROL CIRCUIT HOUSING.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

CONTROL SYSTEM * FAILURE, EQUIPMENT * CORROSION * REACTOR STARTUP EXPERIENCE * CABLES AND CONNECTIONS * ST.
 LUCIE 1 (PWR) * AUXILIARY * FEEDWATER * PUMPS

115432
 PRIMARY MAKEUP WATER VALVE FAILS TO CLOSE AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-24 TO ARC OFFICE OF I & E, REGION II, JUNE 24, 1976. DCKET 50-335. TYPE--PWR, NFG--
 COMB., AE--EBASCO

CAUSE - DIRTY TORQUE SWITCH CONTACTS. DURING PREOPERATIONAL TESTING WITH THE REACTOR AT 50%
 POWER, A PRIMARY MAKEUP WATER CONTAINMENT ISOLATION VALVE WOULD NOT CLOSE AUTOMATICALLY.
 CONTACTS ON THE TORQUE SWITCH WERE DIRTY. THEY WERE CLEANED AND THE VALVE RETURNED TO SERVICE.

AVAILABILITY - ARC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * FAILURE,
 MAINTENANCE ERROR * MAIN COOLING SYSTEM * ST. LUCIE 1 (PWR) * FEEDWATER * VALVE OPERATORS * VALVES

115433
 HOT SHUTDOWN CONTROL PANEL TEMPERATURE INDICATION IN ERROR AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/NO 335-76-23 TO ARC OFFICE OF I & E, REGION II, JUNE 24, 1976. DCKET 50-335. TYPE--PWR, NFG--
 COMB., AE--EBASCO

CAUSE - OUT OF CALIBRATION. DURING A TEST ON THE HOT SHUTDOWN CONTROL PANEL, THE COOL LEAD
 TEMPERATURE INDICATION FOR A REACTOR COOLANT LOOP WAS 555 F. THE CORRECT READING IN THE CONTROL
 ROOM WAS 536 F. THE INSTRUMENT WAS OUT OF CALIBRATION. IT WAS RECALIBRATED.

115023 CONTINUED
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT CALIBRATION + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + INSTRUMENT, ABNORMAL INDICATION + MAIN COOLING SYSTEM + ST. LUCIE 1 (PWR) + SENSORS, TEMPERATURE

115021
 CEA MODULE FOR A REGULATING ROD FAILS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/PW 335-70-25 TO NRC OFFICE OF I & E, REGION II, JUNE 25, 1970, DOCKET 50-335, TYPE--PWR, RFG--
 CORN., AE--EASLCO

CAUSE - FAILURE OF INTEGRATED CIRCUIT COMPONENTS. WHILE OPERATING AT 50% POWER, IT WAS FOUND THAT REGULATING ROD SV WAS INMOVABLE BECAUSE ITS CEA MODULE HAD MALFUNCTIONED. THIS PREVENTED DEWENT BUT THE ROD WAS TRIPPABLE. THE MODULE WAS REPLACED AND THE ROD RESTORED TO OPERABLE STATUS IN 1.25 HOURS. TWO INTEGRATED CIRCUIT COMPONENTS IN THE HAIR/LOWER CIRCUIT OF THE MODULE HAD FAILED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT + CONTROL SYSTEM + REACTOR STARTUP EXPERIENCE + ST. LUCIE 1 (PWR) + FAILURE, INHERENT + CONTROL ROD LEAVES

115040
 STATIC INVERTER FAILS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/PW 335-70-26 TO NRC OFFICE OF I & E, REGION II, JUNE 29, 1970, DOCKET 50-335, TYPE--PWR, RFG--
 CORN., AE--EASLCO

CAUSE - FAULTY OSCILLATOR CIRCUIT BOARD. DURING POWER ASCENSION TESTING WITH THE REACTOR AT 50% POWER, 1 OF THE 4 REDUNDANT 120 VAC INSTRUMENT POWER BUSES WAS LOST DUE TO MALFUNCTION OF STATIC INVERTER IC. THE BUS WAS RETURNED TO SERVICE IMMEDIATELY BY USE OF 1 OF THE 2 REDUNDANT MAINTENANCE BUSES. THE OSCILLATOR CIRCUIT BOARD IN THE IC INVERTER WAS FOUND TO BE FAULTY. IT WAS REPLACED AND THE INVERTER TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT + REACTOR STARTUP EXPERIENCE + ST. LUCIE 1 (PWR) + FAILURE, INHERENT + ELECTRONIC FUNCTION UNITS + GENERATORS

115043
 ERRORS FOUND IN STRAIN-11 COMPUTER CODE AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/PW 335-70-31 TO NRC OFFICE OF I & E, REGION II, JUNE 30, 1970, DOCKET 50-335, TYPE--PWR, RFG--
 CORN., AE--EASLCO

CAUSE - MODELING ERRORS. THE NASS VENDOR FOUND SEVERAL ERRORS IN THE STRAIN-2 COMPUTER CODE WHICH LED TO AN OVERPREDICTION OF THE ALLOWABLE PLMGR. PRELIMINARY CALCULATION USING A CORRECTED VERSION COUPLED WITH AN ADDITIONAL CONSERVATISM OF 1 KW/FT RESULTED IN A PLMGR LIMIT OF 14.7 KW/FT. THE VENDOR HAS SUBMITTED A NEW MODEL TO NRC. THE NEW MODEL GIVES AN ALLOWABLE PLMGR OF 14.0 KW/FT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

COMPUTER PROGRAM + ANALYTICAL MODEL + HOT SPOT + POWER DISTRIBUTION + FLOW CHANNEL ANALYSIS + MODIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + ST. LUCIE 1 (PWR)

115045
 BACKUP CEA POSITION INDICATION LOST AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/PW 335-70-27 TO NRC OFFICE OF I & E, REGION II, JUNE 30, 1970, DOCKET 50-335, TYPE--PWR, RFG--
 CORN., AE--EASLCO

CAUSE - INTEGRATED CIRCUIT FAILURE. WHILE OPERATING AT 50% POWER, THE DIGITAL DATA PROCESSOR MALFUNCTIONED WITH GROUP VII AGCS AT 112 INCHES RESULTING IN THE LOSS OF CEA PULS COUNTING POSITION INDICATION. ALL FRED SWIFL POSITION INDICATION CHANNELS WERE VERIFIED OPERABLE. THERE WAS A FAULTY CARD IN THE BUFFER INTERFACE CONTROLLER DUE TO FAILURE OF AN INTEGRATED CIRCUIT. THE FAULTY CARD WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT + COMPUTER, DIGITAL + REACTOR STARTUP EXPERIENCE + INSTRUMENT, POSITION + ST. LUCIE 1 (PWR) + REACTOR RODS + ELECTRONIC FUNCTION UNITS

113442

CONDENSEM TEMPERATURE GRADIENT NOT DETERMINED AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 2 PGS. LTR W/NO 335-8-70-02 TO NRC OFFICE OF I & E, JULY 7, 1976. DOCKET 50-335, TYPE--PWR, NRC--LJMU, AE--
 EBASCO

CAUSE - TEMPERATURE RECORDER FAILS. THE TEMPERATURE RECORDER IN THE CONTROL ROOM WHICH MEASURES
 THE INTAKE AND DISCHARGE TEMPERATURE ACROSS THE CONDENSER MALFUNCTIONED TWICE FOR A TOTAL OF 24
 HOURS. DURING PART OF THIS TIME THE INNET COMPUTER ALSO MALFUNCTIONED SO THAT THE REQUIRED
 HOURLY READINGS WERE NOT OBTAINED FOR 22 HOURS. A NEW MONITORING SYSTEM IS BEING REVIEWED WHICH
 SHOULD ELIMINATE THIS PROBLEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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TEMPERATURE GRADIENT + FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + TEST INTERVAL + CONDENSEM + ST.
 LUCIE 1 (PWR) + CONDENSER COOLING SYSTEM + SENSORS, TEMPERATURE

113444

SEISMIC INSTRUMENT SURVEILLANCE NOT PERFORMED ON TIME AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/NO 335-76-29 TO NRC OFFICE OF I & E, REGION II, JULY 8, 1976. DOCKET 50-335, TYPE--PWR, NRC--
 COMB., AE--EBASCO

CAUSE - PROCEDURAL DEFICIENCY. THE REQUIRED CHANNEL CHECK OF 2 TRIAXIAL ACCELEROMETERS WAS NOT
 PERFORMED WITHIN THE REQUIRED TIME FRAME. A CONTAINMENT ENTRY WAS PROCEDURALLY REQUIRED TO
 PERFORM THIS CHECK OUT. BECAUSE THE REACTOR WAS OPERATING AT 50% POWER, IT WAS DECIDED NOT TO
 MAKE THE ENTRY. THE SURVEILLANCE WAS PERFORMED 3 DAYS AFTER THE DUE DATE DURING A SHUTDOWN.
 PROCEDURES HAVE BEEN REVISED TO PERMIT THE CHECK WITHOUT CONTAINMENT ENTRY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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TESTING + CONTAINMENT STRUCTURE + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + INSTRUMENT,
 EARTHQUAKE + TEST INTERVAL + ST. LUCIE 1 (PWR)

115537

REACTOR COOLANT SYSTEM OVERPRESSURE TRANSIENT AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/NO 335-76-30 TO NRC OFFICE OF I & E, REGION II, JULY 16, 1976. DOCKET 50-335, TYPE--PWR, NRC--
 COMB., AE--EBASCO

CAUSE - RAPID HEATUP IN STEAM GENERATORS. DURING A PLANT STARTUP/HEATUP FROM COLD FROM SHUTDOWN
 CONDITIONS, THE PLANT EXPERIENCED AN OVERPRESSURE TRANSIENT WHEN THE FIRST REACTOR COOLANT PUMP
 WAS STARTED. PRESSURE WENT FROM 450 TO 830 PSIA AT 100 F (800 PSI OVER THE LIMIT). PRESSURE WAS
 RESTORED WITHIN 5 MINUTES. NO DAMAGE OCCURRED. THE PRESSURE EXCURSION WAS DUE TO A RAPID HEATUP
 (50 TO 130 F) OF RCS WATER WHEN IT WAS CIRCULATED THROUGH THE STEAM GENERATORS. STARTUP
 PROCEDURES HAVE BEEN MODIFIED TO HEAT THE RCS SYSTEM TO 200 F WHICH TO STARTING THE PUMP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

PROCEDURES AND MANUALS + REACTOR STARTUP EXPERIENCE + FAILURE, ADMINISTRATIVE CONTROL + DRAIN COOLING SYSTEM +
 OVERPRESSURE TRANSIENT + ST. LUCIE 1 (PWR) + REACTOR STARTUP

115932

VOLUME OF BORIC ACID MAKE-UP TANKS LESS THAN LIMIT AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/NO 335-76-32 TO NRC OFFICE OF I & E, REGION II, JULY 21, 1976. DOCKET 50-335, TYPE--PWR, NRC--
 COMB., AE--EBASCO

CAUSE - LEAKING RELIEF VALVE. WHILE OPERATING AT 70% POWER, A RELIEF VALVE IN THE BORIC ACID MAKE-
 UP SYSTEM DEVELOPED A LEAK THROUGH THE GASKET ON THE INLET SIDE OF THE VALVE. SINCE THIS VALVE
 IS IN A LINE WITH BOTH BAW TANKS, BOTH OBTAINED BELOW THE VOLUME SPECIFIED. THE LEAK WAS
 ISOLATED. TANK B WAS FILLED TO MEET TECH SPECS WITHIN 45 MINUTES. THE LEAK WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + PRESSURE RELIEF + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINERS + CHEMICAL SMIS + PLEAK
 + SYSTEM CAPACITY + ST. LUCIE 1 (PWR) + VALVES

116214

POWER DISTRIBUTION ANOMALY FOUND AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR W/NO 335-76-35 TO NRC OFFICE OF I & E, REGION II, JULY 23, 1976. DOCKET 50-335, TYPE--PWR, NRC--
 COMB., AE--EBASCO

110214 - CONTINUED

CAUSE - UNKNOWN. DURING TESTING, IT WAS DETERMINED THAT THE POWER DISTRIBUTION IN THE CORE WAS NOT AS PREDICTED FOR 808 POWER. POWER WAS REDUCED TO NOT ZERO POWER CONDITION AND PHYSICS TESTING WAS PERFORMED TO FURTHER DETERMINE THE CAUSE. THE PLANT WAS THEN SHUT DOWN UNTIL EVALUATION OF THIS DATA COULD BE COMPLETED. THE CAUSE OF THE POWER DISTRIBUTION ANOMALIES HAS NOT BEEN DETERMINED AS OF THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

POWER DISTRIBUTION • REACTOR STARTUP EXPERIENCE • TEST, PHYSICS • TEST, SYSTEM OPERABILITY • REACTOR PHYSICS • REACTOR SHUTDOWN • ST. LUCIE I (PWR)

110212

AIRBORNE RELEASE OCCURRED FROM VOLUME CONTROL TANK AT ST. LUCIE I

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR #/RD 335-78-03 TO NRC OFFICE OF I & C, REGION II, JULY 29, 1978. DCKET 50-335, TYPE--PWR, RFG-- COMM-- AE--EASCG

CAUSE - MAINTENANCE ON LEAKING FLANGE. DURING MAINTENANCE ON A LEAKING INLET FLANGE ON THE VOLUME CONTROL TANK, 15 LITERS OF PRIMARILY NOBLE GAS ACTIVITY WAS VENTED INTO THE REACTOR AUXILIARY BUILDING AND WAS SUBSEQUENTLY DISCHARGED THROUGH THE PLANT VENT OVER A 2 HOUR PERIOD. THE ACTIVITY DISCHARGED WAS GREATER THAN ANTICIPATED. HOWEVER, NO RELEASE LIMITS WERE EXCEEDED. THE HIGHEST RATE WAS 53% OF THE ALLOWABLE AVERAGE RELEASE RATE DURING ANY 12 CONSECUTIVE MONTHS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RAIRBORNE RELEASE • MAINTENANCE AND REPAIR • REACTOR STARTUP EXPERIENCE • STORAGE CONTAINERS • COOLANT PURIFICATION SYSTEM • ST. LUCIE I (PWR) • FAILURE, INCIDENT

110450

REFUELING WATER TANK OVERFLOWS AT ST. LUCIE I

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR #/RD 335-78-33 TO NRC OFFICE OF I & C, REGION II, AUG. 5, 1978. DCKET 50-335, TYPE--PWR, RFG-- COMM-- AE--EASCG

CAUSE - OPERATOR ERROR. WHILE PUMPING WATER FROM THE PRIMARY WATER TANK TO THE SPENT FUEL POOL, PERSONNEL FOUND THAT THE REFUELING WATER TANK WAS OVERFLOWING. A CROSSEVER VALVE BETWEEN THE HOT AND THE SPENT FUEL POOL SYSTEM WAS INADVERTENTLY LEFT OPEN CAUSING THE HOT MEDIUM CONCENTRATION TO BE DILUTED BELOW THE 1720 PPM LIMIT TO 1553 PPM. THE VALVE WAS CLOSED. CONCENTRATED BORIC ACID WAS ADDED TO THE HOT TO BRING THE CONCENTRATION ABOVE THE LIMIT WITHIN ONE HOUR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DILUTION • FAILURE, OPERATOR ERROR • REACTOR COOLANT • REACTOR STARTUP EXPERIENCE • STORAGE CONTAINER • SYSTEM CAPACITY • ST. LUCIE I (PWR)

110904

LOCAL POWER DENSITY ALARM SET POINT BELOW LIMIT AT ST. LUCIE I

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR #/RD 335-78-34 TO NRC OFFICE OF I & C, REGION II, AUG. 6, 1978. DCKET 50-335, TYPE--PWR, RFG-- COMM-- AE--EASCG

CAUSE - SET INTO COMPUTER INAPPROPRIATELY. TO COMPENSATE FOR ERRORS FOUND IN THE N555 VENDOR'S STRAIN II COMPUTER CODE, SEVERAL INSTRUMENTATION AND CONTROL SET POINTS WERE ADJUSTED. THE ADJUSTMENT FACTOR FOR THE CORE LOCAL POWER DENSITY ALARM WAS 1.20. HOWEVER, ON JULY 6, A VALUE OF 1.1 WAS SET INTO THE INSTRUMENT BECAUSE OF PERSONNEL ERROR. THE ERROR WAS FOUND 8 HOURS LATER DURING A REVIEW OF SET POINTS. THE ERROR WAS CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR • REACTOR STARTUP EXPERIENCE • INSTRUMENT, POWER RANGE • HOT CHANNEL • SET POINT • ST. LUCIE I (PWR) • ANNUNCIATORS

117085

STEAM DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT ST. LUCIE I

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR #/RD 335-78-38 TO NRC OFFICE OF I & C, REGION II, AUG. 9, 1978. DCKET 50-335, TYPE--PWR, RFG-- COMM-- AE--EASCG

CAUSE - MOISTURE IN CONTROL CIRCUIT. DURING TESTING, THE STEAM DRIVEN AUXILIARY FEEDWATER PUMP WOULD NOT START BECAUSE THE STEAM SUPPLY VALVE WOULD NOT OPEN FULLY. A MOISTURE BUILDUP WAS FOUND IN THE CONTROL CIRCUIT FOR THE TRIP AND THROTTLE VALVE. IT WAS CONCENTRATED MAINLY NEAR THE SOLENOID FOR THE VALVE. THE CIRCUITRY WAS DRIED. A SIMILAR FAILURE OCCURRED 8 DAYS LATER. THIS TIME THE AFFECTED CIRCUITRY WAS DRIED AND SEALED. THE PUMP WAS SATISFACTORILY TESTED.

117002 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * FAILURE, EQUIPMENT * WATER * TEST, SYSTEM * AVAILABILITY * FAILURE, INSTALLATION ERROR * ST. LUCIE 1 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * OPERATIONAL * PUMPS

117004
 CONTROL ELEMENT ASSEMBLY GROUPS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/PD 335-76-37 TO NRC OFFICE OF I & E, REGION II, AUG. 12, 1976, DCKET 50-335, TYPE--PWR, RPO--
 COMB., AE--EASCO

CAUSE - POWER SUPPLY FAILS, WITH THE REACTION AT 4018 POWER, CONTROL ELEMENT ASSEMBLY DO JUMPPED. A FAILED 15 VOLT POWER SUPPLY WAS FOUND IN THE CONTROL CIRCUITRY. IT WAS REPLACED. BENCH TESTING DID NOT DETERMINE THE CAUSE OF FAILURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * ELECTRIC POWER * ST. LUCIE 1 (PWR) * CONTROL AND UNITS

117003
 BACKUP CONTROL ELEMENT ASSEMBLY POSITION INDICATION LOGS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/PD 335-76-38 TO NRC OFFICE OF I & E, REGION II, AUG. 11, 1976, DCKET 50-335, TYPE--PWR, RPO--
 COMB., AE--EASCO

CAUSE - POWER SUPPLY DEENERGIZED, WITH THE REACTION AT 4018 POWER, THE POWER SUPPLY TO THE DIGITAL DATA PROCESSOR WAS INADVERTENTLY DEENERGIZED FOR ABOUT 1 MINUTE DURING MAINTENANCE ON THE POWER SUPPLY. THIS RESULTED IN THE LOSS OF CRA PULSE COUNTING POSITION INDICATION. THE POWER SUPPLY WAS REENERGIZED AND THE DDP RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR * ELECTRIC POWER * FAILURE, MAINTENANCE ERROR * INSTRUMENT, POSITION * ST. LUCIE 1 (PWR) * CONTROL RELAYS

117004
 SHIELD BUILDING ACCESS DOOR FOUND OPEN AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/PD 335-76-39 TO NRC OFFICE OF I & E, REGION II, AUG. 13, 1976, DCKET 50-335, TYPE--PWR, RPO--
 COMB., AE--EASCO

CAUSE - PERSONNEL ERROR, WITH THE REACTION AT 4018 POWER, THE SHIELD BUILDING ACCESS DOOR WAS FOUND OPEN WHICH IS CONTRARY TO TECH SPECS. NO PERSONNEL WERE FOUND IN THE UNCONTAINED ANNULUS AREA. THE DOOR WAS CLOSED. APPARENTLY, PERSONNEL WORKING IN THE AREA HAD ACCIDENTALLY LEFT IT OPEN FOR ABOUT 3 HOURS. A SIGN WILL BE POSTED ON OR NEAR THE DOOR TO INSTRUCT PERSONNEL THAT THE DOOR IS TO BE CLOSED EXCEPT FOR ENTRY OR EXIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATION ERROR * CONTAINMENT INTEGRITY * BUILDING * SHIELDING * ST. LUCIE 1 (PWR) * CONTAINMENT PENETRATION

117001
 SHUTDOWN COOLING FLOW NOT MAINTAINED AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/PD 335-76-40 TO NRC OFFICE OF I & E, REGION II, AUG. 14, 1976, DCKET 50-335, TYPE--PWR, RPO--
 COMB., AE--EASCO

CAUSE - SUCTION RELIEF VALVES NOT SEATING PROPERLY. DURING REACTOR SHUTDOWN AND COOL DOWN, IT WAS FOUND THAT PRESSURIZER LEVEL WOULD DROP WHENEVER EITHER SET OF SHUTDOWN COOLING SYSTEM SUCTION VALVES WAS OPENED. THE SYSTEM SUCTION LINE RELIEF VALVES WERE NOT SEATING PROPERLY. TO MAINTAIN PRESSURIZER LEVEL, IT WAS NECESSARY TO START AND THEN STOP SHUTDOWN COOLING FLOW ON A 15 MINUTE CYCLE. THIS VIOLATES TECH SPECS. RCS PRESSURE WAS MAINTAINED BELOW 210 PSIA AND BOTH RELIEF VALVES WERE GAGGED SHUT TO ALLOW CONTINUOUS OPERATION OF THE SHUTDOWN COOLING SYSTEM. THE RELIEF VALVE PROBLEM IS BEING EVALUATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * PRESSURE RELIEF * PRESSURIZER * REACTOR SHUTDOWN EXPERIENCE * SHUTDOWN COOLING SYSTEM * FLOW * ST. LUCIE 1 (PWR) * VALVES

117452
 SHUTDOWN COOLING FLOW ISOLATED AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PAGES, LHM B/W/NO 335-70-01 TO AEC OFFICE OF I & E, REGION II, AUG. 23, 1970, DOCKET 50-335, TYPE--PWR, NRC--
 CURR., AC--EASLQ

CAUSE - RCS PRESSURE INCREASE. DURING SHUTDOWN COOLING PUMP OPERATION, A SECOND CHARGING PUMP WAS
 STARTED TO INCREASE LETOORA FLOW RATE. THIS STARTING CAUSED THE REACTOR COOLANT SYSTEM PRESSURE
 TO INCREASE ABOVE THE 200 PSIA SET POINT FOR AUTOMATICALLY ISOLATING THE SHUTDOWN COOLING
 SYSTEM. THE SECOND CHARGING PUMP WAS SHUT DOWN AND PRESSURE LOWERED BELOW 200 PSIA. THE
 SHUTDOWN COOLING SYSTEM WAS PLACED BACK IN SERVICE AFTER BEING ISOLATED FOR 5 MINUTES

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, OPERATOR ERROR + REACTOR STARTUP EXPERIENCE + SHUTDOWN COOLING SYSTEM + PLOG + PRESSURE TRANSIENT +
 ST. LUCIE 1 (PWR)

117790
 STEAM GENERATOR FEED RING STAND PIPE FAILS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PAGES, LHM B/W/NO 335-70-01 TO AEC OFFICE OF I & E, REGION II, AUG. 26, 1970, DOCKET 50-335, TYPE--PWR, NRC--
 CURR., AC--EASLQ

CAUSE - CYCLIC FATIGUE. DURING A SPECIAL INSPECTION OF STEAM GENERATORS A AND B TO ACCOMPLISH
 TASK RELATING TO THE STAND PIPES FOR THE FEED RING, 3 STAND PIPES WERE FOUND MISSING IN S/G A.
 THE MISSING STAND PIPES WERE RETRIEVED AND 1 OTHER REMOVED FOR INSPECTION. PRELIMINARY
 EVALUATION INDICATE CYCLIC FATIGUE. COMPONENT MODIFICATIONS ARE PLANNED DURING THE CURRENT FULL
 INSPECTION SHUTDOWN.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, PIPE + REACTOR STARTUP EXPERIENCE + FAILURE, FATIGUE + FAILURE, DESIGN ERROR + FLOW DISTRIBUTION +
 STEAM GENERATOR + ST. LUCIE 1 (PWR) + PPIPES AND PIPE FITTINGS

117701
 CONTAINMENT VACUUM RELIEF VALVES OPENS AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PAGES, LHM B/W/NO 335-70-02 TO AEC OFFICE OF I & E, REGION II, SEPT. 3, 1970, DOCKET 50-335, TYPE--PWR, NRC--
 CURR., AC--EASLQ

CAUSE - LOW PRESSURE FROM PLUGE FAN OPERATION. WITH THE REACTOR SHUT DOWN FOR FUEL INSPECTION, A
 CONTAINMENT PURGE FAN WAS STARTED AND SUFFICIENT VACUUM WAS OBTAINED IN THE CONTAINMENT TO CAUSE
 A CONTAINMENT VACUUM RELIEF VALVE TO OPEN. CORE ALTERNATIONS WERE SUSPENDED, THE PURGE FAN
 STOPPED, AND THE VACUUM RELIEF VALVE CLOSED AUTOMATICALLY BEFORE PRESSURE IN THE CONTAINMENT
 RETURNED TO ATMOSPHERIC. A TECH SPEC AMENDMENT WAS REQUESTED TO PERMIT AUTOMATIC ACTUATION OF A
 VACUUM RELIEF VALVE DUE TO VACUUM IN THE CONTAINMENT.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

CONTAINMENT PURGE + CONTAINMENT VACUUM BROKEN + REACTOR STARTUP EXPERIENCE + SYSTEM CAPACITY + ST. LUCIE 1
 (PWR) + FAILURE, INHERENT + ELGGENS

120550
 DIESEL GENERATOR FAILS TO START AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PAGES, LHM B/W/NO 335-70-00 TO AEC OFFICE OF I & E, REGION II, DEC. 2, 1970, DOCKET 50-335, TYPE--PWR, NRC--
 CURR., AC--EASLQ

CAUSE - INCORRECT VALVE LINEUP SPECIFIED. WITH DIESEL GENERATOR ID OUT OF SERVICE FOR PREVENTIVE
 MAINTENANCE ON THE AIR LINE LUBRICATORS, DG 1A FAILED TO START DURING A TEST. THE REACTOR WAS IN
 A DEFERRED STATUS. WHEN DG 1A HAD BEEN RETURNED TO SERVICE AFTER SAMPLING THE DIESEL OIL, AN
 INCORRECT VALVE LINEUP WAS SPECIFIED ON THE EQUIPMENT CLEARANCE ORDER. THE AIR ISOLATION VALVES
 WERE LEFT SHUT BECAUSE OF THIS INCORRECT VALVE LINEUP. THE VALVES WERE OPENED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

ST. LUCIE 1 (PWR) + REACTOR STARTUP EXPERIENCE + GENERATOR, DIESEL + ENGINE, INTERNAL COMBUSTION + TEST,
 SYSTEM OPERABILITY + FAILURE, EQUIPMENT + FAILURE, ADMINISTRATIVE CONTROL + PROCEDURES AND MANUALS +
 MAINTENANCE AND REPAIR

121075
 UPDATE REPORT LN STEAM GENERATOR FEED RING AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PAGES, LHM B/W/NO 335-70-03 TO AEC OFFICE OF I & E, REGION II, DEC. 21, 1970, DOCKET 50-335, TYPE--PWR, NRC--

121072 *CONTINUED*
 COMB., AE--EBASCO

DATE OF EVENT - 081370. POWER LEVEL - 0%. CAUSE - CYCLIC FATIGUE DURING A SPECIAL INSPECTION OF STEAM GENERATORS A AND B. 3 STANDPIPES WERE FOUND MISSING IN SG A. THEY WERE RETRIEVED. THE CAUSE WAS CYCLIC FATIGUE AND FAILURE. THE FAILED STANDPIPES WERE ADJACENT TO THE FEED WING HEADER WHERE THE HIGH FLOW AND TURBULENCE RESULTED IN FAILURE FROM FLOW INDUCED VIBRATIONS. THE 74 STANDPIPES WERE REMOVED FROM EACH SG. THE 74 HOLES IN THE BOTTOM OF EACH FEED WING WERE WELDED CLOSED. HOLES WERE CUT IN THE TOP OF EACH WING AND 30 2-INCH 90 DEGREE ELBOWS WERE INSTALLED IN EACH SG.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ST. LUCIE 1 (PWR) * REACTOR STARTUP EXPERIENCE * FEEDWATER * PIPES AND PIPE FITTINGS * STEAM GENERATOR * FAILURE, PIPE * VIBRATION * FLOW * FAILURE, DESIGN ERROR * MODIFICATION

120744
 SHUTDOWN COOLING FLOW STOPPED TOO SOON AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/RG 335-70-45 TO NRC OFFICE OF I & E, REGION II, DEC. 20, 1970, DCKET 50-335, TYPE--PWR, RFG--
 COMB., AE--EBASCO

CAUSE - 6.9 KV BUSES DEENERGIZED. DURING PLANT HEATUP, LPST PUMPS WERE STOPPED WHEN SYSTEM PRESSURE HAD BEEN RAISED ABOVE 250 PSIG. TRANSITION TO THE REACTOR COOLANT PUMPS WAS DELAYED BEYOND THE 15 MINUTE TIME LIMIT BECAUSE THE 6.9 KV BUSES FROM WHICH THEY RECEIVE POWER WERE DEENERGIZED. OPERATORS WERE INSTRUCTED TO ENSURE PROPER INITIAL CONDITIONS AT THE BEGINNING OF PLANT EVOLUTIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ST. LUCIE 1 (PWR) * RESPONSE TIME * OPERATOR ACTION * FAILURE, OPERATION ERROR * REACTOR STARTUP * PUMPS * COOLING * MAIN COOLING SYSTEM * ELECTRIC POWER * INITIAL CONDITIONS * REACTOR STARTUP EXPERIENCE

120743
 PERSONNEL AIR LOCK OUTER DOOR FAILS TO OPEN AT ST. LUCIE 1
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS, LTR D/RG 335-70-40 TO NRC OFFICE OF I & E, REGION II, DEC. 30, 1970, DCKET 50-335, TYPE--PWR, RFG--
 COMB., AE--EBASCO

CAUSE - INOPERABLE DOOR OPERATING MECHANISM. WHILE THE REACTOR WAS IN HOT STANDBY, THE CONTAINMENT PERSONNEL AIR LOCK OUTER DOOR WOULD NOT OPEN BECAUSE OF AN INOPERABLE DOOR OPERATING MECHANISM. THE ROLLER SHAFT ON A CAM IN THE DOOR OPERATING MECHANISM WAS SPREAD AND THE MECHANICAL DOOR TRAVEL STOP WAS BENT. THE SHAFT WAS REPLACED AND THE TRAVEL STOP READJUSTED. DAMAGE WAS CAUSED BY THE LARGE AMOUNT OF TRAFFIC THROUGH THE AIRLOCK DURING THE EXTENDED PLANT OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ST. LUCIE 1 (PWR) * REACTOR STARTUP EXPERIENCE * CONTAINMENT AIR LOCK * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * DAMAGE * CONTAINMENT INTEGRITY

111071
 VOIDS FOUND IN FIRST CONCRETE LIFT OF REACTOR BUILDING WALL AT SUMMER 1
 SOUTH CAROLINA ELECTRIC & GAS CO., COLUMBIA, SC
 5 PGS, LTR D/RPT TO NRC OFFICE OF I & E, FEB. 13, 1970, DCKET 50-335, TYPE--PWR, RFG--B, ST., AE--PLUENT ASSOC.

CAUSE - PLACEMENT DEFICIENCIES. PLACEMENT REPORTS SUBMITTED BY THE DC INSPECTORS EXPRESSED SOME DISSATISFACTION WITH THE METHOD OF PLACING AND CONSOLIDATING CONCRETE IN THE FIRST LIFT OF THE REACTOR BUILDING WALL. CONCRETE CONDITION BEHIND THE LINER PLATE WAS INVESTIGATED UTILIZING A RESONANT FREQUENCY TECHNIQUE. BENDS WERE THEN CUT IN THE LINER PLATE AT SELECTED LOCATIONS. BASED ON SUSPECTED VOID AREAS, TO VISUALLY EXAMINE THE CONCRETE. CONDITIONS RANGED FROM SMALL CONCRETE TO VOIDS UP TO 8.5 INCHES DEEP. REPAIRS WILL BE MADE. PLACEMENT PROCEDURES WERE MODIFIED TO PREVENT RECURRENCES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONCRETE * CONTAINMENT * CONTAINMENT CONSTRUCTION * TEST, NONDESTRUCTIVE * FAILURE, INSTALLATION ERROR * QUALITY ASSURANCE * CONTAINMENT LINER * CONSTRUCTION * VOID SUMMER 1 (PWR)

111765
 FINAL REPORT ON VOIDS IN CONCRETE REACTOR BUILDING WALL AT SUMMER 1
 SOUTH CAROLINA ELECTRIC & GAS CO., COLUMBIA, SC
 30 PGS, LTR D/RPT TO NRC OFFICE OF I & E, APRIL 27, 1970, DCKET 50-335, TYPE--PWR, RFG--B, ST., AE--PLUENT ASSOC.

11779 #CONTINGUO

CAUSE - INADEQUATE VIBRATION. AN INVESTIGATION UTILIZING A RESONANT FREQUENCY TECHNIQUE IDENTIFIED VOIDS AND HONEYCOMBING OF THE CONCRETE BEHIND THE LINER IN REACTOR BUILDING BALL. INSPECTION HOLES AND WINDOWS WERE CUT IN THE STEEL LINER. THE DEFICIENCY IS ATTRIBUTED TO IMPROPER CONSOLIDATION OF THE CONCRETE DUE TO LACK OF ADEQUATE VIBRATION. HONEYCOMBED AND UNCONSOLIDATED CONCRETE WAS REMOVED. WINDOWS IN THE LINER PLATE WERE REPLACED. GROUT WAS PUMPED THROUGH A HOLE IN THE BOTTOM OF EACH CAVITY UNTIL IT FLOWED FROM A HOLE AT THE TOP. THE HOLES WERE THEN PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONCRETE * MAINTENANCE AND REPAIR * CONTAINMENT CONSTRUCTION * FLAW * CONTAINMENT STRUCTURE * VIBRATION * FAILURE. INSTALLATION ERROR * QUALITY ASSURANCE * CONTAINMENT LINER * CONSTRUCTION * VOID * SURVEY I (PWR)

11796

ERRORS FOUND IN ACCIDENT ANALYSIS AT SURRY I
SOUTH CAROLINA ELECTRIC & GAS CO., COLUMBIA, SC
2 PGS. LTR #WMT TO NRC OFFICE OF I & E, REGION II, SEPT. 7, 1976. DCKET 50-395. TYPE--PWR. NRC--WEST., AE--GILBERT ASSOC.

CAUSE - INCORRECT ASSUMPTIONS. TWO ERRORS WERE FOUND IN THE ACCIDENT ANALYSIS FOR LOCA. THE TEMPERATURE OF THE FLUID IN THE UPPER HEAD IS HIGHER THAN THAT PREVIOUSLY ASSUMED. THIS IS BASED ON RECENT MODEL TESTS, IMPROVED ANALYTICAL METHODS, AND ONE IN-PLANT MEASUREMENT. ALSO A RECENT TEST AT COLUMBIA INDICATED THAT THE ROD BUB OMB PENALTY IS HIGHER THAN PREVIOUSLY USED AS A LICENSING BASIS. THE COMBINATION OF THIS PENALTY WITH AVAILABLE MARGINS WILL RESULT IN AN ESTIMATED REDUCTION OF DB IN DMB.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BUBBLING * ACCIDENT, LOSS OF COOLANT * OMB * FAILURE, DESIGN ERROR * FUEL ROD * CONSTRUCTION * TEMPERATURE * SURVEY I (PWR)

11875

ERRORS FOUND IN ACCIDENT ANALYSIS AT SURRY I
SOUTH CAROLINA ELECTRIC & GAS CO., COLUMBIA, SC
2 PGS. LTR #WMT TO NRC OFFICE OF I & E, REGION II, SEPT. 7, 1976. DCKET 50-395. TYPE--PWR. NRC--WEST., AE--GILBERT ASSOC.

CAUSE - INCORRECT ASSUMPTIONS. TWO POSSIBLE DEFICIENCIES WERE IDENTIFIED IN THE ACCIDENT ANALYSIS. THE FIRST ISSUE INVOLVES THE TEMPERATURE OF THE FLUID IN THE UPPER HEAD. RECENT MODEL TESTS AND ONE IN-PLANT MEASUREMENT SUGGEST THAT FLUID TEMPERATURE IS GREATER THAN INITIALLY ASSUMED. THE SECOND ISSUE INVOLVES ROD BUB. THE ROD BUB OMB PENALTY IS HIGHER THAN PREVIOUSLY ASSUMED. THE COMBINATION OF THIS PENALTY WITH AVAILABLE MARGINS WILL RESULT IN AN ESTIMATED REDUCTION OF DB IN DMB.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BUBBLING * ACCIDENT, LOSS OF COOLANT * ANALYTICAL MODEL * OMB * FAILURE, DESIGN ERROR * FUEL ROD * CONSTRUCTION * TEMPERATURE * SURVEY I (PWR)

10928

STEAM GENERATOR PRESSURE CHANNEL FAILS AT SURRY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR #WAO-SI-75-28 TO NRC OFFICE OF I & E, REGION II, JAN. 13, 1976. DCKET 50-280. TYPE--PWR. NRC--WEST., AE--STONE & WEBSTER

CAUSE - FROZEN SENSOR LINES. WHILE OPERATING AT 100% POWER, STEAM GENERATOR C PRESSURE INDICATING CHANNEL 2 FAILED HIGH. AN IMMEDIATE SHUTDOWN OF 150 MWE PER HOUR WAS INITIATED. THE SENSING LINES OF THE FAILED TRANSMITTER HAD FROZEN. ABNORMALLY COLD OUTSIDE AIR WAS BEING DRAWN THROUGH A SET OF INTAKE LOUVERS LOCATED ADJACENT TO THE SENSING LINES. THE LOUVERS WERE CLOSED AND SEALED. THE LINE TRAVEL AND THE TRANSMITTER WAS RETURNED TO NORMAL SERVICE. HEAT TRACING WILL BE PLACED ON SENSING LINES WHICH ARE LOCATED ADJACENT TO VENTILATION LOUVERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROTECTION SYSTEM * FAILURE, INSTRUMENT * FAILURE, DESIGN ERROR * FLUID LEAKAGE * INSTRUMENT, ABNORMAL INDICATION * STEAM GENERATOR * SURVEY I (PWR) * TUBING * WEATHER, SEVERE * SENSORS, PRESSURE

10929

UNANNUNCIATED RELEASE OF LOW LEVEL RADIOACTIVE WATER TO THE RIVER AT SURRY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR #WAO-SI-75-30 TO NRC OFFICE OF I & E, REGION II, JAN. 13, 1976. DCKET 50-280. TYPE--PWR. NRC--WEST., AE--STONE & WEBSTER

CAUSE - HEAT EXCHANGER TUBE LEAK. WHILE OPERATING AT 100% POWER, A COMPONENT COOLING

109249 *CONTINUED*

WATER/SEAWATER HEAT EXCHANGER WAS OPENED FOR CLEANING. TWO TUBES THAT HAD BEEN PREVIOUSLY PLUGGED WERE LEAKING AT A RATE OF .008 GPM. THIS RESULTED IN AN INADVERTENT RELEASE OF LOW LEVEL RADIOACTIVE WATER TO THE JAMES RIVER. TOTAL CALCULATED RELEASE FOR THE MAXIMUM RELEASE TIME OF 90 DAYS WAS .010 CI. TWO PLUGS WORKED PARTLY OUT DURING OPERATION. THEY WERE REPLACED. NO OTHER TUBE LEAKS WERE FOUND IN THE 4 HEAT EXCHANGERS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

RIVER * RADIOACTIVITY RELEASE * FAILURE, MAINTENANCE ERROR * AUXILIARY COOLING * FAILURE, TUBING * SURRY 1 (PWR) * TUBING * PLEAK * HEAT EXCHANGERS

110365

SET POINT DRIFT IN TEMPERATURE MONITOR AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/AD-S1-75-18 TO NRC OFFICE OF I & E, REGION II, FEB. 11, 1976. DOCKET 50-280. TYPE--PWR. RFO--
WEST., AE--STONE & WEBSTER

CAUSE - MOISTURE IN WIRE INSULATION. WHILE THE REACTOR WAS AT 90% POWER, CHANNEL 2 DELTA T/T AVG PROTECTION DRIFTED IN THE NONCONSERVATIVE DIRECTION THREE IN 2 DAYS. THE APPARENT MOU UP FAILURE WAS MOISTURE ACCUMULATION BETWEEN SENSOR INSULATION AND THE COPPER LEAD WIRE DUE TO INLEAKAGE FROM THE TERMINAL LUG OF THE RTD FROM STEAM/WATER IMPINGEMENT. ALL RTD'S HAVE BEEN REPLACED WITH AN IMPROVED VERSION DURING THE REFUELING OUTAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * WATER * INSTRUMENT, SWITCH * FAILURE, DESIGN ERROR * SURRY 1 (PWR) * SET POINT * INSULATION * CABLES AND CONNECTORS * SCHEM * SENSORS, TEMPERATURE

111041

PROCESS VENT AIR MONITOR FOUND ISOLATED AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/AD-S1-76-01 TO NRC OFFICE OF I & E, REGION II, MARCH 15, 1976. DOCKET 50-280. TYPE--PWR. RFO--
WEST., AE--STONE & WEBSTER

CAUSE - MAINTENANCE ERROR. WHILE OPERATING AT 60% POWER, IT WAS DISCOVERED THAT THE PROCESS VENT AIR PARTICULATE MONITOR WAS ISOLATED. AFTER A TECHNICIAN CONNECTED A LUB PAPER CONDITION ON THE MONITOR, HE LEFT THE MONITOR ISOLATED. THE MONITOR WAS RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAINTENANCE AND REPAIR * VENTILATION SYSTEM * FAILURE, MAINTENANCE ERROR * MONITORING SYSTEM, RADIATION * SURRY 1 (PWR) * RADIATION MONITORS

112200

POSSIBLE INACCURACY IN CORE THERMAL TRANSIENT ANALYSIS AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/AD-S1-76-2 TO NRC OFFICE OF I & E, REGION II, MARCH 26, 1976. DOCKET 50-280. TYPE--PWR. RFO--
WEST., AE--STONE & WEBSTER

CAUSE - STEAM GENERATOR TUBE PLUGGING. THE WUNST BREAK LOCA CORE THERMAL TRANSIENT ANALYSIS DID NOT INCLUDE THE EFFECTS OF STEAM GENERATOR TUBE PLUGGING. UNIT 1 HAS 5.1% OF ITS SW TUBES PLUGGED AND UNIT 2 HAS 3.37%. THE MAJOR EFFECT OF THE PLUGGED TUBES IS AN INCREASE IN FLOW RESISTANCE WHICH DECREASES PLUGGING RATES. A REANALYSIS INDICATED PEAK CLAD TEMPERATURE FOR PLUGGED TUBES TO BE 2102 F USING CURRENT TCM SPECIFICATION F SW W LIMIT OF 2.1. THEREFORE, THERE WILL BE NO CHANGE IN OPERATING CONDITIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * CLADDING * HEAT TRANSFER * ACCIDENT, LOSS OF COOLANT * FAILURE, ADMINISTRATIVE CONTROL * SURRY 1 (PWR) * THERMAL TRANSIENT * TEMPERATURE * FUEL ELEMENTS

112373

BOIC ACID SYSTEM VALVE LEAKS EXCESSIVELY AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/PRO USRE-S1-76-03 TO NRC OFFICE OF I & E, REGION II, APRIL 15, 1976. DOCKET 50-280. TYPE--PWR. RFO--
WEST., AE--STONE & WEBSTER

CAUSE - DIAPHRAGM FAILED FROM WEAR. WHILE OPERATING AT 100% POWER, A RUPTURED DIAPHRAGM IN THE BOIC ACID TANK A SUPPLY VALVE FROM THE FILTER CAUSED EXCESSIVE LEAKAGE OF DUTATED WATER. THE GRINNEL CO. 2 INCH DIAPHRAGM VALVE FAILED DUE TO NORMAL WEAR. TO REPAIR THE VALVE, RECIRCULATION BETWEEN THE BOIC ACID TANK AND BORON INJECTION TANK HAD TO BE SECURED FOR 12 MINUTES. DURING WHICH TIME A 150 MWE/HR SHUTDOWN WAS CONDUCTED. THE VALVE WAS REPAIRED AND THE UNIT RETURNED TO FULL POWER.

112372 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + OPERATIONAL SWIRL + SEAL + SHUTTY 1 (PWR) + LEAK + FAILURE, INHERENT + OBEAM + OVALVES

112374
 AUXILIARY FEEDPUMP VALVE FAILS TO OPEN AT SHUTTY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 J PCS, LTR B/WO USME-SI-76-02 TO NRC OFFICE OF I & E, REGION II, APRIL 15, 1976, DUCRET 50-200, TYPE--PWR, NRC--
 WEST., AE--STONE & WEBSTER

CAUSE - TIMING RELAY MALFUNCTION. WITH THE UNIT SHUT DOWN, THE AUXILIARY FEEDPUMP DISCHARGE VALVE
 FAILED TO OPEN WHEN THE MAIN FEEDPUMP BREAKERS WERE OPENED. THE TIMING RELAY PLUNGER FAILED TO
 ACTIVATE A MICRO SWITCH NECESSARY FOR THE VALVE OPENING OPERATION. THE PLASTIC PLUNGER WAS
 BINDING WITH THE PLUNGER GUIDE PLATE. AFTER POSITIONING THE GUIDE PLATE PROPERLY AND LUBRICATING
 IT, THE RELAY WAS OPERATED SATISFACTORILY 50 TIMES DURING 50 TESTS. THE SAME PROBLEM WAS
 INITIALLY FOUND ON A REPLACEMENT TIMING RELAY/RICHU SWITCH ASSEMBLY OBTAINED FROM INVENTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, INSTRUMENT + FAILURE, FABRICATION ERROR + MAIN COOLING SYSTEM + SHUTTY 1 (PWR) + AUXILIARY + FEEDWATER
 + OVALVES + RELAYS

113775
 DIESEL GENERATOR DAMAGED DURING TEST START AT SHUTTY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 J PCS, LTR B/WO USME-SI-76-04 TO NRC OFFICE OF I & E, REGION II, MAY 12 1976, DUCRET 50-200, TYPE--PWR, NRC--
 WEST., AE--STONE & WEBSTER

CAUSE - CYLINDER FLOODED WITH WATER. DURING A STARTING TEST OF THE EMERGENCY DIESEL GENERATORS
 FROM THE CONTROL ROOM, D/G 1 WAS DAMAGED. PISTON RING/VALVE 17 WAS FLOODED WITH WATER. THE END-ON
 TUMBLE VALVE 20 3810 BHP DIESEL ENGINE HAD A CRACK IN THE CYLINDER HEAD BETWEEN 2 EXHAUST VALVE
 SEATS AND INTO THE WATER JACKET, PROBABLY CAUSED BY HEAT STRESS. THE DAMAGE WAS A BENT
 CONNECTING ROD, RUPTURED CYLINDER WALL, AND BROKEN PISTON. ALL DAMAGED OR SUSPECT PARTS WERE
 REPLACED. PROCEDURES WILL BE MODIFIED TO INSURE THE DIESEL IS FOLLOE WITH CYLINDER TEST COCKS
 OPEN TO CHECK FOR FLOODED CYLINDERS PRIOR TO ANY MANUAL START.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + HYDRAULIC EFFECT + TEST, SYSTEM OPERABILITY + DAMAGE + SHUTTY 1 (PWR) + FAILURE, INHERENT
 + ENGINE, INTERNAL COMBUSTION + GENERATOR, DIESEL

114154
 SUPPLEMENTAL REPORT EFFECT OF SG TUBE PLUGGING DURING LOCA AT SHUTTY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 J PCS, LTR B/WO USME-SI-76-05 UPDATE TO NRC OFFICE OF I & E, REGION II, MAY 25, 1976, DUCRET 50-200, TYPE--BWR, NRC--
 G-E., AE--BECHTEL

CAUSE - INACCURATE ANALYSIS. AS REPORTED ON MARCH 26, THE WORST WEAER LOCA CORE THERMAL TRANSIENT
 ANALYSIS IS INACCURATE SINCE THE EFFECTS OF STEAM GENERATOR TUBE PLUGGING ON THE LOCA WERE NOT
 CONSIDERED. UNIT 1 HAD 0.318 PLUGGED. UNIT 2 IS EXPECTED TO HAVE 0.358 PLUGGED AT THE END OF
 REFUELING OUTAGE. ANALYSIS SHOWS THAT 0.8% CAN BE PLUGGED BEFORE EXCEEDING 2200 F PEAR CLAD
 TEMPERATURE. THE CURRENT BEST ESTIMATE OF THE EFFECT OF NON-UNIFORM TUBE PLUGGING INDICATES 7.5%
 CAN BE PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

ACCIDENT ANALYSIS + CLADDING + ACCIDENT, LOSS OF COOLANT + FAILURE, ADMINISTRATIVE CONTROL + FLOW BLOCKAGE +
 MATHEMATICAL TREATMENT + STEAM GENERATOR + SHUTTY 1 (PWR) + TUBING + EFFECT + SHUTTY 2 (PWR) + THERMAL
 TRANSIENT + FUEL ELEMENTS

114340
 SEAL WATER RETURN LINE VALVE FAILS TO CLOSE AT SHUTTY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 J PCS, LTR B/WO USME-SI-76-06 TO NRC OFFICE OF I & E, REGION II, MAY 27, 1976, DUCRET 50-200, TYPE--PWR, NRC--
 WEST., AE--STONE & WEBSTER

CAUSE - TORQUE SWITCH OUT OF ADJUSTMENT. WHILE AT COLD SHUTDOWN, A SEAL WATER RETURN LINE VALVE
 WOULD NOT CLOSE WHEN THE CONTROL SWITCH WAS UTILIZED. THE TORQUE SWITCH CLOSE CIRCUIT MOVABLE
 CONTACT WAS OUT OF ADJUSTMENT AND WAS FAILING TO MAKE PROPER CONTACT. THIS PREVENTED THE VALVE
 FROM CLOSING. THE SWITCH WAS READJUSTED AND TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

114300 *CONTINUED*

*CONTAINMENT ISOLATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * FAILURE, MAINTENANCE ERROR * SEAL * SUNNY I (PWR) * COOLING * PUMPS * VALVES

114422

*WATER FOUND DRIPPING OUT OF DC AIR BOX DRAIN AT SUNNY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS., LTR #VUSRE-SI-76-06 TO NRC OFFICE OF I & E, REGION II, MAY 27, 1976, DCKET 50-280, TYPE--PWR, RFG--
WEST., AE--STONE & WEBSTER

CAUSE - CRACKED CYLINDER HEAD. DURING PREPARATIONS TO TEST THE STARTING OF EMERGENCY DIESEL GENERATOR 1, WATER WAS OBSERVED DRIPPING OUT OF THE AIR BOX DRAIN. WATER HAD ENTERED THE AIR BOX FROM CYLINDER 1 VIA THE CYLINDER AIR INLET PORTS. THE PISTON WAS NEAR THE BOTTOM OF THE STROKE WHICH OPENED THE AIR INTAKE PORTS. A CRACK WAS FOUND IN CYLINDER HEAD 1 WHICH EXTENDED FROM AN EXHAUST VALVE SEAT 3/4 OF THE DISTANCE TO THE INJECTOR WELL AND THROUGH TO THE WATER JACKET. THIS IS THE SECOND CYLINDER HEAD TO CRACK AND LEAK WITHIN ONE MONTH. THE CYLINDER HEAD AND ASSOCIATED COMPONENTS WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * WATER * TEST, SYSTEM OPERABILITY * SUNNY I (PWR) * LEAK * CRACK * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110247

*WATER OBSERVED TO BE DRIPPING FROM DIESEL GENERATOR CYLINDER AT SUNNY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS., LTR #VUSRE-SI-76-07 TO NRC OFFICE OF I & E, REGION II, JULY 29, 1976, DCKET 50-280, TYPE--PWR, RFG--
WEST., AE--STONE & WEBSTER

CAUSE - CRACKED CYLINDER HEAD. WHILE PREPARING TO TEST EMERGENCY DIESEL GENERATOR 1, WATER WAS OBSERVED COMING OUT OF CYLINDER 19. THE END-GM TURBO VEE 20, 3810 BHP, DIESEL ENGINE WAS FOUND TO HAVE A CRACK IN CYLINDER HEAD 19 WHICH EXTENDED BETWEEN 2 EXHAUST VALVE SEATS AND INTO THE WATER JACKET. RUNNING THE ENGINE WITH THE CYLINDER TEST COCKS OPEN PRIOR TO STARTING THE ENGINE FORCED WATER OUT OF THE CYLINDER. THIS IS THE FIFTH CYLINDER HEAD ON THIS ENGINE TO BE FOUND WITH A CRACK WITHIN A 3 MONTH PERIOD. THIS CAN INDICATE CYLINDER HEAD HEAT STRESS CAUSED BY HEAT IMBALANCE OR ENGINE OVERHEAT. THE HEAD WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * THERMAL MECHANICAL EFFECT * TEST, SYSTEM OPERABILITY * SUNNY I (PWR) * CRACK * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110248

*CONCENTRATION OF SAFETY INJECTION ACCUMULATION BELOW LIMIT AT SUNNY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS., LTR #VUSRE-SI-76-08 TO NRC OFFICE OF I & E, REGION II, JULY 30, 1976, DCKET 50-280, TYPE--PWR, RFG--
WEST., AE--STONE & WEBSTER

CAUSE - LEAKING CHECK VALVES. DURING 100% POWER OPERATION, A HOUSTINE SAMPLE OF SAFETY INJECTION ACCUMULATOR 8 INDICATED 1928 PPM WHICH IS BELOW THE 1950 PPM LIMIT. TWO CHECK VALVES WERE FOUND TO BE LEAKING BY AND DILUTING THE CONCENTRATION FROM PRIMARY LOOP 3. THE ACCUMULATION WAS RECIRCULATED WITH THE ROST TO INCREASE THE CONCENTRATION ABOVE 1950 PPM. DURING THE UPCURING REFUELING OUTAGE, THE CHECK VALVES WILL BE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*FAILURE, EQUIPMENT * POSIGN, SOLUBLE * SAFETY INJECTION * TEST, SYSTEM OPERABILITY * SUNNY I (PWR) * LEAK * VALVE, CHECK * CONCENTRATION * FAILURE, INHERENT * ACCUMULATIONS

110249

*ANOTHER CYLINDER HEAD FOUND CRACKED ON DIESEL GENERATOR AT SUNNY I
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS., LTR #VUSRE-SI-76-10 TO NRC OFFICE OF I & E, REGION II, AUG. 4, 1976, DCKET 50-280, TYPE--PWR, RFG--
WEST., AE--STONE & WEBSTER

CAUSE - PREVIOUS ENGINE OVERHEAT. DURING PREPARATION TO TEST EMERGENCY DIESEL GENERATOR, WITH THE REACTOR AT 50% POWER, WATER WAS DETECTED IN CYLINDER 7. THE END-GM TURBO VEE 20, 3810 BHP, DIESEL ENGINE SUSTAINED A CRACK IN CYLINDER HEAD 7 WHICH EXTENDED BETWEEN 2 EXHAUST VALVE SEATS AND THROUGH THE WATER JACKET. THIS IS THE SIXTH CYLINDER HEAD TO CRACK IN A 3-MONTH PERIOD. FROM THE LOCATION OF THIS CRACK, IT APPEARS THAT A PREVIOUS ENGINE OVERHEAT CONDITION HAS HEAT STRESSED THE CYLINDER HEADS TO SUCH A POINT THAT PREMATURE METAL FATIGUE FROM VIBRATION IS CAUSING THE CRACKS. NEW CYLINDER HEADS ARE ON ORDER. TOTAL REPLACEMENT SHOULD PRECLUDE FURTHER FAILURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

116245 CONTINUED
EMERGENCY MACH. ELECTRIC FAILURE, EQUIPMENT FAILURE, THERMAL MECHANICAL EFFECT, TEST, SYSTEM OPERABILITY, FAILURE, FATIGUE, VIBRATION, DAMAGE, HEAT TREATMENT, SURRY 1 (PWR), CHECK, ENGINES, INTERNAL CORROSION, GENERATOR, DIESEL

116312
JUMPER ACT REMOVED FROM PRESSURE SWITCHES AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR 8740-51-76-03 TO NRC OFFICE OF I & E, REGION II, AUG. 9, 1976, DUCRET 50-200, TYPE--PWR, NRC--
BEST.. AR--STONE & WEBSTER

CAUSE - JUMPER LOG ACT REVIEWED. DURING A REVIEW OF THE JUMPER LOG WHILE THE UNIT WAS AT HOT SHUTDOWN, IT WAS NOTED THAT THE OUTPUTS OF 2 PRESSURE SWITCHES WERE STILL JUMPED TO PREVENT INITIATION OF CLS CONTAINMENT HI SIGNAL. THE JUMPER LOG HAD NOT BEEN REVIEWED AT THE PROPER TIME IN ACCORDANCE WITH OPERATING PROCEDURES. THE JUMPERS WERE IMMEDIATELY REMOVED. PROCEDURES WILL BE REVISED TO HAVE THE REVIEW OF JUMPER LOG AS A SIGN-OFF STEP RATHER THAN AN INITIAL CONDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR, CONTAINMENT ISOLATION, PROCEDURES AND MANUALS, INSTRUMENT, SWITCH, SURRY 1 (PWR), BYPASS

116315
INDICATED AXIAL FLUX DIFFERENCE OUTSIDE BAND AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR 8740-51-76-04 TO NRC OFFICE OF I & E, REGION II, AUG. 10, 1976, DUCRET 50-200, TYPE--PWR, NRC--
BEST.. AR--STONE & WEBSTER

CAUSE - INCORRECT DATA ON COMPUTER. DURING 100% POWER OPERATION, THE INDICATED AXIAL FLUX DIFFERENCE WAS OUTSIDE THE 0.8 TO -0.8 BAND ABOUT THE TARGET FLUX DIFFERENCE VALUE OF -0.5% FOR ABOUT 10 HOURS. CONTROL ROD BANK D WAS INSERTED INTO THE CORE TO BRING THE AXIAL FLUX DIFFERENCE BACK WITHIN THE BAND AND FEEDBACK WAS REDUCED TO 50%. INVESTIGATION INDICATED THAT THE COMPUTER WAS USING AN INCORRECT DELTA -I TARGET VALUE OF -2.0% INSTEAD OF -0.5%. THE CAUSE OF THE INCORRECT VALUE IS UNKNOWN. IT PROBABLY OCCURRED WHEN THE COMPUTER WAS BROUGHT BACK INTO SERVICE AFTER A FAILURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

COMPUTER PROGRAM, FLUX DISTRIBUTION, FUEL BURNUP, FAILURE, OPERATOR ERROR, REACTOR STABILITY, SURRY 1 (PWR)

117042
ROD BOW EFFECT GREATER THAN PREVIOUSLY ANTICIPATED AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR 8740-51-76-06 TO NRC OFFICE OF I & E, REGION II, AUG. 31, 1976, DUCRET 50-200, TYPE--PWR, NRC--
BEST.. AR--STONE & WEBSTER

CAUSE - NEW EXPERIMENTAL DATA. THE UTILITY WAS INFORMED BY ITS NUCLEAR STEAM SUPPLY SYSTEM VENDOR THAT THE ROD BOW EFFECT ON THERMAL MARGINS WAS DETERMINED TO BE GREATER THAN PREVIOUSLY ANTICIPATED. EXPERIMENTAL DATA SHOW THAT THE EFFECTS OF A BOWED FUEL ROD ARE WORSENER IF A CONTROL ROD THIMBLE IS LOCATED NEXT TO THE BOWED FUEL ROD. THE ENTHALPY RISE HOT CHANNEL FACTOR IS BEING LIMITED TO OFFSET THE EFFECT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS, CLADDING, FUEL ELEMENT BOWING, ACCIDENT, LOSS OF COOLANT, HOT CHANNEL ANALYSIS, FAILURE, DESIGN ERROR, HOT CHANNEL FACTOR, SURRY 1 (PWR), FUEL ROD, TEMPERATURE

117043
ROD BOW EFFECT ON THERMAL MARGINS GREATER THAN ANTICIPATED AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR 8740-51-76-06 TO NRC OFFICE OF I & E, REGION II, AUG. 31, 1976, DUCRET 50-200, TYPE--PWR, NRC--
BEST.. AR--STONE & WEBSTER

CAUSE - NEW EXPERIMENTAL DATA. THE UTILITY WAS INFORMED BY ITS MESS THAT THE ROD BOW EFFECT ON THERMAL MARGINS WAS DETERMINED TO BE GREATER THAN PREVIOUSLY ANTICIPATED. EXPERIMENTAL DATA SHOWS THAT THE EFFECTS OF A BOWED FUEL ROD ARE WORSENER IF A CONTROL ROD THIMBLE IS LOCATED NEXT TO THE BOWED FUEL ROD. THE REASONS FOR THIS ARE NOT WELL KNOWN. THE ENTHALPY RISE HOT CHANNEL FACTOR IS BEING LIMITED TO OFFSET THE EFFECT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS, FUEL ELEMENT BOWING, THERMAL CONSIDERATION, HOT CHANNEL ANALYSIS, FAILURE, DESIGN ERROR, HOT CHANNEL FACTOR, SURRY 1 (PWR), EFFECT

117922
 ERROR DISCOVERED IN ACCIDENT ANALYSIS AT SUNNY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/ASRE-51-76-05 TO NRC OFFICE OF I & E, REGION II, SEPT. 3, 1976. DCKET 50-200. TYPE--PWR. RFL--
 WEST.. AE--STONE & WEBSTER

CAUSE - INCORRECT ASSUMPTIONS. THE UTILITY WAS INFORMED BY ITS NSSS VENDOR THAT AN ERROR WAS DISCOVERED IN THE LOGS OF COOLANT ACCIDENT ECCS ANALYSIS. THE REACTOR VESSEL UPPER HEAVY WATER TEMPERATURE WAS ASSIGNED TOO LOW A VALUE. THE REACTOR UPPER INTERNALS WERE DESIGNED TO PERMIT A SMALL AMOUNT OF REACTOR COOLANT COLD LEG FLOW TO BYPASS THE CUME AND COOL THE WATER IN THE UPPER HEAD AREA. IT WAS ASSUMED THAT THE UPPER HEAVY WATER TEMPERATURE WOULD BE EQUAL TO THE COLD LEG TEMPERATURE. RECENT RESULTS SHOWED TEMPERATURE APPROACHES HOT LEG TEMPERATURE. A REDUCTION IN THE P SUB B LIMIT IS REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * ACCIDENT, LOSS OF COOLANT * FAILURE, DESIGN ERROR * SUNNY 1 (PWR) * FUEL ROD * TEMPERATURE

117921
 BORIC ACID TRANSFER PUMP VALVE FAILS AT SUNNY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/ASRE-51-76-11 TO NRC OFFICE OF I & E, REGION II, SEPT. 17, 1976. DCKET 50-200. TYPE--PWR. RFL--
 WEST.. AE--STONE & WEBSTER

CAUSE - DIAPHRAGM FAILURE. WHILE THE REACTOR WAS OPERATING AT 100% POWER THE DIAPHRAGM IN A BORIC ACID SYSTEM VALVE FAILED DURING TESTING CAUSING LEAKAGE OF BORIC ACID. TO REPAIR THIS VALVE, IT WAS NECESSARY TO ISOLATE ONE BORIC ACID TRANSFER PUMP WHICH TERMINATED RECIRCULATION BETWEEN THE BORIC ACID TANKS AND THE BORON INJECTION TANK. A 150 MBE/HR SHUTDOWN WAS STARTED WHEN RECIRCULATION WAS HALTED. REPAIRS REQUIRED 35 MINUTES. FAILURE OF THE 2 INCH VALVE DIAPHRAGM WAS DUE TO NORMAL OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * POISON, SOLUBLE * TEST, SYSTEM OPERABILITY * SEAL * SUNNY 1 (PWR) * ENGINEERED SAFETY FEATURE * LEAK * FAILURE, INTERNAL * BEAR * VALVES

118225
 GASEOUS AND AIRBORNE PARTICULATE RELEASES EXCEED LIMIT AT SUNNY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/ASRE-51-76-07 TO NRC OFFICE OF I & E, REGION II, SEPT. 24, 1976. DCKET 50-200. TYPE--PWR. RFL--
 WEST.. AE--STONE & WEBSTER

CAUSE - 56 PRIMARY-TO-SECONDARY LEAKS. DUE TO RECENT INTERPRETATION CHANGES IN THE INTENT OF TECH SPECS, THE GASEOUS AND AIRBORNE PARTICULATE RATES ORIGINATING FROM STATION OPERATION FOR THE PREVIOUS 12 MONTHS WERE RECALCULATED. RESULTS INDICATED A VIOLATION IN THAT THE MONTHLY AVERAGE FOR THE PREVIOUS 12 MONTHS WAS 10,100X OR 0.100X GREATER THAN THAT SPECIFIED. RELEASES WERE PRIMARILY RELATED TO STEAM GENERATOR PRIMARY TO SECONDARY TUBE LEAKAGES. RELEASES WERE ONLY 0.3% OF TECH SPEC LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

AIRBORNE RELEASE * RELEASE RATE * MATHEMATICAL TREATMENT * SUNNY 1 (PWR) * FAILURE, IMMINENT

118732
 SAFETY INJECTION ACCUMULATOR PRESSURE BELOW LIMIT AT SUNNY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/ASRE-51-76-12 TO NRC OFFICE OF I & E, REGION II, OCT. 3, 1976. DCKET 50-200. TYPE--PWR. RFL--
 WEST.. AE--STONE & WEBSTER

CAUSE - VALVE LEAKAGE. DURING 100% POWER OPERATION, A LOW PRESSURE ALARM OCCURRED ON SAFETY INJECTION ACCUMULATOR C. AN IMMEDIATE ATTEMPT TO REPRESSURIZE IT RESULTED IN AN UNEXPECTED PRESSURE DROP FROM 605 PSIG TO 500 PSIG IN 5 MINUTES. INSPECTION FOUND A PARTIALLY OPEN VALVE WHICH ALLOWED NITROGEN TO FLOW TO THE VENT LINE. ANOTHER VALVE IN THE VENT LINE HAD A HOOP TO BONNET LEAK. THE PARTIALLY OPEN VALVE WAS CLOSED. THE HOOP TO BONNET BOLTS ON THE 2 LEAKING VALVES WERE TIGHTENED. THE ACCUMULATOR WAS REPRESSURIZED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * SAFETY INJECTION * PRESSURE, INTERNAL * SUNNY 1 (PWR) * LEAK * VALVES * ACCUMULATORS

118977
 BORIC ACID MAKEUP LINE TO VOLUME CONTROL TANK PLUGS AT SUNNY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA

119977 CONTINUED
 3 PGS. LTR W/USMC-SI-76-13 TO NRC OFFICE OF I & E, REGION I, OCT. 20, 1976. DOCKET 50-280. TYPE--PWR, RFG--
 WEST., AE--STONE & WEBSTER

CASE - UNNACON. DURING 100% POWER OPERATION, IT WAS DISCOVERED THAT NORMAL BORIC ACID MAKEUP TO THE VOLUME CONTROL TANK CELLS NOT BE ACCOMPLISHED DUE TO AN APPARENT PLUGGING OF THE 1-INCH CUES LINE. TO CLEAR THE LINE, RECIRCULATION BETWEEN THE BORIC ACID TANKS AND THE BUNION INJECTION TANK WAS STOPPED FOR 5 MINUTES TO INSTALL A BLIND FLANGE. ROUTINE USAGE OF THIS LINE COUPLED WITH NO MAINTENANCE MAY BE THE CAUSE OF PLUGGING UNKNOWN. THE LINE WAS CLEANED AND THE BLIND FLANGE REMOVED. THE LINE WILL BE INSPECTED FOR INDICATION OF SOLIDIFICATION DURING THE NEXT REFUELING SHUTDOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CHEMICAL SHIM * FLOW BLOCKAGE * COAGULANT PURIFICATION SYSTEM * SURRY 1 (PWR) * PIPES AND PIPE FITTINGS

119507
 REFUELING WATER CHEMICAL ADDITION VALVE FAILS TO OPEN AT SURRY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/LET USMC-SI-76-14 TO NRC OFFICE OF I & E, REGION II, NOV. 2, 1976. DOCKET 50-280. TYPE--PWR, RFG--
 WEST., AE--STONE & WEBSTER

CASE - MOTOR SHORTED BY MOISTURE. DURING TESTING WITH THE REACTOR AT 100% POWER, REFUELING WATER CHEMICAL ADDITION VALVE MOV-CS-1029 SHOULD NOT OPERATE ELECTRICALLY AND TRIPPED ITS SUPPLY BREAKER DUE TO OVERLOAD. SUFFICIENT MOISTURE HAD ACCUMULATED IN THE VALVE OPERATOR TO CAUSE THE CORROSION OF SWITCH CONTACTS AND SHORT THE MOTOR. THE VALVE OPERATOR WAS REPLACED AND THE VALVE TESTED AND RETURNED TO SERVICE. THE PROBABLE CAUSE WAS A POOR SEAL BETWEEN THE OPERATOR COVER AND ITS FLANGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * WATER * REACTOR COOLANT * CORROSION * TEST, SYSTEM OPERABILITY * SURRY 1 (PWR) * ADDITIVE * VALVE OPERATORS * VALVES

119727
 COMPARATOR IN REACTOR TRIP CIRCUIT FAILS TO TRIP AT SURRY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/LET USMC-SI-76-16 TO NRC OFFICE OF I & E, REGION II, NOV. 17, 1976. DOCKET 50-280. TYPE--PWR, RFG--
 WEST., AE--STONE & WEBSTER

CASE - POWER CAPACITOR MALFUNCTION. DURING TESTING WITH THE REACTOR SHUT DOWN, COMPARATOR TC-1-432C, WHICH PROVIDES SIGNALS FOR THE OVERTEMPERATURE HOLD STOP AND THE OVERTEMPERATURE REACTOR TRIP CIRCUITS, FAILED TO TRIP. THIS WAS DUE TO A POWER CAPACITOR MALFUNCTION. THE COMPARATOR WAS REPLACED AND THE TEST SATISFACTORILY COMPLETED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SURRY 1 (PWR) * INSTRUMENTS, MISC. * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * REACTOR PROTECTION SYSTEM

119765
 CONDENSER OUTLET VALVE FAILS TO CLOSE AT SURRY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/LET USMC-SI-76-15 TO NRC OFFICE OF I & E, REGION II, NOV. 17, 1976. DOCKET 50-280. TYPE--PWR, RFG--
 WEST., AE--STONE & WEBSTER

CASE - LOOSE TERMINAL SCREW. WITH THE UNIT AT INTERMEDIATE SHUTDOWN PRIOR TO REFUELING, CONDENSER OUTLET VALVE MOV-CV-100A FAILED TO CLOSE WHEN A TRAIN 4 CLS MI ME SIGNAL WAS ACTUATED DURING A ROUTINE TEST. IT DID RESPOND TO A MANUAL CLOSE SIGNAL FROM THE CONTROL ROOM. A TERMINAL SCREW ON THE #1 CABLE AT BREAKER 121-123 WAS LOOSE. AFTER THE SCREW WAS TIGHTENED, THE VALVE RESPONDED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

SURRY 1 (PWR) * VALVES * CONDENSER COOLING SYSTEM * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * CABLES AND CONNECTORS * FAILURE, INSTRUMENT * REFUELING

119751
 SAFETY INJECTION RELAY FAILS IN THE ENERGIZED POSITION AT SURRY 1
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/LET USMC-SI-76-17 TO NRC OFFICE OF I & E, REGION II, NOV. 26, 1976. DOCKET 50-280. TYPE--PWR, RFG--
 WEST., AE--STONE & WEBSTER

CASE - MAGNETIC FIELD POLL SURFACE DIRTY. DURING SAFETY INJECTION TESTING DURING THE REFUELING OUTAGE, RELAY VS-103A FAILED IN THE ENERGIZED POSITION UPON TRAIN A SAFETY INJECTION INITIATION.

119752 *CONTINUED*

AS A RESULT, THE CONTROL MOTOR EXHAUST FAN DID NOT CLOSE ON SAFETY INITIATION. THE MAGNETIC FIELD POLE SURFACE WAS DIRTY. IT WAS CLEANED WITH INHIBISOL. THIS IS A BESTIMUMOUSE, TYPE MFC-0, ALTRILIARY DELAY, STYLE 209EJ69A22-

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SURRY 1 (PWR) * RELAYS * CONTROL SYSTEM * SAFETY INJECTION * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * CRUD * FAILURE, MAINTENANCE ERROR * REFUELING

120277

MANIPULATOR CRANE AREA MONITOR FOLMO INOPERABLE AT SURRY 1
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR W/USRE-SI-70-10 TO NRC OFFICE OF I & E, REGION II, DEC. 2, 1970, DOCKET 50-200, TYPE--PWR, MFC--WEST., AE--STONE & WEBSTER

CAUSE - COMBUSTION OF 12 V AND 22 V POWER CABLES. DURING REFUELING, IT WAS DISCOVERED THAT THE MANIPULATOR CRANE AREA MONITOR WAS INOPERABLE. IT WAS PROVEN OPERABLE PRIOR TO FUEL MOVEMENT. DAILY SOURCE CHECK REVEALED SUBSEQUENT FAILURE. THE 12 VOLT AND 22 VOLT POWER CABLES HAD COMBUSTED. THE MONITOR WAS REPAIRED AND PLACED BACK IN SERVICE PRIOR TO RECOMMENCEMENT OF FUEL MOVEMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SURRY 1 (PWR) * MONITOR, AREA * CRANE * RADIATION MONITORS * FAILURE, INSTRUMENT * COMBUSTION * CABLES AND CONNECTORS * ELECTRIC POWER * FAILURE, INHERENT * REFUELING * FUEL HANDLING * TEST, SYSTEM OPERABILITY

110302

CONTAINMENT GASEOUS AND PARTICULATE RADIATION MONITORS INOPERABLE AT SURRY 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
5 PGS, LTR W/USRE-SI-70-01 TO NRC OFFICE OF I & E, REGION II, FEB. 3, 1970, DOCKETS 50-200/201, TYPE--PWR, MFC--WEST., AE--STONE & WEBSTER

CAUSE - BEARING FAILURE, PLUGGED FILTER. WITH UNIT 1 IN A REFUELING SHUTDOWN AND UNIT 2 OPERATING AT 100% POWER, AN OPERATOR NOTED THAT THERE WAS NO AIR FLOW INDICATION ON UNIT 2 CONTAINMENT GASEOUS AND PARTICULATE RADIATION MONITOR. THE FLOW INDICATOR ON UNIT 1 WAS ALSO READING ZERO. A BEARING ON UNIT 1 VACUUM PUMP HAD FAILED. IT WAS REPLACED AND THE PUMP RETURNED TO SERVICE. THE INLINE CHARCOAL FILTER ON UNIT 2 WAS CLOGGED. IT WAS REPLACED AND THE FLOW RATE WAS RETURNED TO 10 CFM. THE FLOW FAULT INDICATION HAD FAILED TO ALARM BECAUSE THE VACUUM SWITCH WAS OUT OF ADJUSTMENT. IT WAS READJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

*CONTAINMENT * FAILURE, EQUIPMENT * FLOW BLOCKAGE * CONTAINMENT LEAK MONITOR * SURRY 1 (PWR) * LEAKING * SURRY 2 (PWR) * FAILURE, INHERENT * PUMPS * RADIATION MONITORS * FILTERS

112144

TEMPERATURE GRADIENT ACROSS STATIC EXCEEDS LIMIT AT SURRY 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
1 PG, LTR W/RPT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MARCH 12, 1970, DOCKETS 50-200/201, TYPE--PWR, MFC--WEST., AE--STONE & WEBSTER

CAUSE - BLOCKED TRAVELING WATER SCREEN. WHILE BOTH UNITS WERE OPERATING AT 100% POWER, THE TRAVELING WATER SCREEN FOR A CIRCULATING WATER PUMP WAS FOUND TO BE JAMMED. LOAD ON UNIT 2 WAS REDUCED TO 80% AND THE PUMP WAS SECURED TO REPAIR THE SCREEN. THE TEMPERATURE DIFFERENTIAL ACROSS THE STATION GRADUALLY INCREASED EXCEEDING THE 15 F LIMIT FOR 60 MINUTES. THE MAXIMUM GRADIENT WAS 15.9 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TEMPERATURE GRADIENT * FILTER, SCREEN * FLOW BLOCKAGE * SURRY 1 (PWR) * SURRY 2 (PWR) * CONDENSER COOLING SYSTEM * FAILURE, INHERENT

112377

POSSIBLE INACCURACIES IN PEAK CLAD TEMPERATURE PREDICTION AT SURRY 1 AND 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR W/AD-SI-70-02 TO NRC OFFICE OF I & E, REGION II, MARCH 26, 1970, DOCKET 50-250, TYPE--PWR, MFC--WEST., AE--STONE & WEBSTER

CAUSE - STEAM GENERATOR TUBE PLUGGING. A REEVALUATION OF THE LUCA ANALYSIS BY WESTINGHOUSE INDICATED POSSIBLE INACCURACIES IN THE PREDICTION OF PEAK CLAD TEMPERATURE. THE EFFECT OF STEAM GENERATOR TUBE PLUGGING HAD BEEN OVERLOOKED. UNIT 1 HAS 5-19% OF ITS TUBES CLOGGED AND UNIT 2 HAS 3-37% PLUGGED. THE ECCS CRITERIA, PEAK CLAD TEMPERATURE 2200 F, ARE MET WITH 6% PLUGGED. NO CHANGES ARE REQUIRED AT THIS TIME.

112377 CONTINUED
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * ACCIDENT, LOSS OF COOLANT * FAILURE, DESIGN ERROR * FLOW BLOCKAGE * STEAM
 GENERATOR * SURRY 1 (PWR) * SURRY 2 (PWR) * THERMAL TRANSIENT * TEMPERATURE * FUEL ELEMENTS

112655
 TEMPERATURE GRADIENT ACROSS THE STATION EXCEEDS LIMIT AT SURRY 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 2 PGS, LTR W/PT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, APRIL 1, 1976, DUCKETS 50-280/281, TYPE--PWR,
 NRC--WEST., AE--STONE & WEBSTER

CAUSE - RIVER TIDAL ACTION. WITH BOTH UNITS OPERATING AT 100% POWER, THE DIFFERENCE BETWEEN THE
 RIVER WATER AMBIENT TEMPERATURE AND COOLING WATER AT THE DISCHARGE EXCEEDED 15 F ON 2 DAYS.
 DURING BOTH OCCURRENCES, THE INCREASE WAS CAUSED BY A RAPID DROP IN RIVER WATER TEMPERATURE WHICH
 RESULTED FROM RIVER TIDAL ACTION AND NATURAL COOLING DURING THE AFTERNOON AND EVENING HOURS.
 RAPID DIFFERENTIALS WERE 15.7 F AND 16 F, RESPECTIVELY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

EFFLUENT * RIVER * TEMPERATURE GRADIENT * SURRY 1 (PWR) * SURRY 2 (PWR) * PERIODICITY, TIDAL * CONDENSER
 COOLING SYSTEM * FAILURE, INHERENT

113214
 TEMPERATURE DIFFERENCE ACROSS STATION EXCEEDS LIMIT AT SURRY 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG, LTR W/PT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, APRIL 21, 1976, DUCKETS 50-280/281, TYPE--PWR,
 NRC--WEST., AE--STONE & WEBSTER

CAUSE - RAPID CHANGE IN RIVER TEMPERATURE. WITH BOTH UNITS OPERATING AT FULL POWER, THE
 TEMPERATURE DIFFERENCE ACROSS THE STATION EXCEEDED THE 15 F LIMIT FOR 55 MINUTES. THE RIVER
 WATER AMBIENT TEMPERATURE DROPPED 2.5 F IN LESS THAN 1 HOUR. THIS WAS CAUSED BY AN EXCESSIVELY
 HIGH TIDE AND THE PASSAGE OF A COLD FRONT THROUGH THE AREA. POWER ON UNIT 1 WAS REDUCED AND FLOW
 THROUGH THE CONDENSER INCREASED TO REDUCE THE DELTA T.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

RIVER * TEMPERATURE GRADIENT * SURRY 1 (PWR) * SURRY 2 (PWR) * THERMAL TRANSIENT * CONDENSER COOLING SYSTEM *
 FAILURE, INHERENT

115861
 TEMPERATURE GRADIENT ACROSS PLANT EXCEEDS LIMIT AT SURRY 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG, LTR W/PT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, JULY 13, 1976, DUCKETS 50-280/281, TYPE--PWR,
 NRC--WEST., AE--STONE & WEBSTER

CAUSE - THASH IN WATERBOX. THE TEMPERATURE DIFFERENTIAL ACROSS WATERBOX C EXCEEDED 23 F FOR 20
 MINUTES WITH WATERBOX D OUT OF SERVICE FOR MAINTENANCE. DURING THIS TIME, THE STATION
 TEMPERATURE DIFFERENTIAL EXCEEDED THE 15 F LIMIT BY 0.5 F. WATERBOX D WAS IMMEDIATELY PUT BACK
 INTO SERVICE. UPON INSPECTION OF WATERBOX C, AN EXCESSIVE AMOUNT OF THASH WAS FOUND IN THE TUBES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

MAINTENANCE AND REPAIR * TEMPERATURE GRADIENT * CRUD * SURRY 1 (PWR) * SURRY 2 (PWR) * CONDENSER COOLING
 SYSTEM * FAILURE, INHERENT

140732
 POSSIBLE OVEREXPOSURE OF WELDER AT SURRY 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 5 PGS, LTR W/PT TO NRC OFFICE OF I & E, REGION II, DEC. 16, 1976, DUCKETS 50-280/281, TYPE--PWR, NRC--WEST.,
 AE--STONE & WEBSTER

CAUSE - UNKNOWN. A CONTRACT WELDER WORKING IN A STEAM GENERATOR HAD A CUMULATIVE EXPOSURE
 INDICATED BY SELF-READING DOSIMETERS OF 2.055 REM. HIS THERMOLUMINESCENT DOSIMETER WAS ROUTINELY
 READ AND INDICATED 3.953 REM WHOLE BODY DOSE. INVESTIGATION STRONGLY INDICATES THAT THE SELF-
 READING DOSIMETER DOSE IS A GOOD APPROXIMATION OF THE ACTUAL DOSE. THE CAUSE OF THE TLD-
 THERMOLUMINESCENT DOSE DISAGREEMENT COULD NOT BE DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

SURRY 1 (PWR) * SURRY 2 (PWR) * PERSONNEL EXPOSURE, RADIATION * MAINTENANCE AND REPAIR * STEAM GENERATOR *
 DOSIMETRY * DOSE MEASUREMENT, EXTERNAL * COMPLIANCE * WELDING

120725

RATE OF CHANGE OF COOLING WATER TEMPERATURE EXCEEDS LIMIT AT SUHRY 1 AND 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 1 PG. LTR W/RYPT TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, DEC. 31, 1970, DCKET 50-200/201, TYPE--PWR,
 MFG--BEST., AE--STONE & WEBSTER

CAUSE - POWER ESCALATION. FOR 2 1-HOUR PERIODS THE RATE OF CHANGE OF WATER TEMPERATURE AT THE
 DISCHARGE CONTROL STRUCTURE EXCEEDS THE 3 F/HR LIMIT. SINCE IT WAS 6 F/HR AND THE GTRCH TIME 4
 F/HR. AT THE TIME UNIT 1 WAS SHUT DOWN FOR REFUELING AND UNIT 2 WAS MANEUVERING FOR POWER
 ESCALATION. UNIT 1 CONDENSER WATER BONES WERE OPEN FOR MAINTENANCE AND THUS NOT HAVING IDEAL
 COOLING WATER FLOW CONDITIONS FOR THE ESCALATION RATE. THE IMMEDIATE CORRECTIVE ACTION WAS TO
 STOP THE LOAD INCREASE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

SUHR 1 (PWR) + SUHR 2 (PWR) + STATE + TEMPERATURE + TEMPERATURE GRADIENT + CONDENSER COOLING SYSTEM +
 FAILURE, OPERATOR ERROR

109290

SET POINT DRIFT IN TEMPERATURE DIFFERENTIAL SWITCH AT SUHRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/AO-S2-75-21 TO NRC OFFICE OF I & E, REGION 11, JAN. 7, 1970, DCKET 50-201, TYPE--PWR, MFG--
 WEST., AE--STONE & WEBSTER

CAUSE - STEAM BLOWING ON RTG. WHILE OPERATING AT 60% POWER, TEMPERATURE DIFFERENTIAL CHANNEL 1
 WAS FOUND TO BE READING 6% LOW. A CRACK IN A STEAM GENERATOR BLOWDOWN PIPE ALLOWED STEAM TO
 IMPINGE ON THE RTD CAUSING IT TO READ ERRONEOUSLY LOW. THE OHMIC CHARACTERISTICS OF THE INSTALLED
 SPARE RTD WERE ALSO INCORRECT BECAUSE OF THE STEAM LEAK. AFTER THE LEAK WAS STOPPED, THE RTD'S
 RETURNED TO NORMAL AS THEY DRIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

STEAM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + LEAK + SET POINT + SUHRY 2 (PWR)
 + DRIFT + SENSORS, TEMPERATURE

110927

STEAM GENERATOR PRESSURE INDICATOR FAILS HIGH AT SUHRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/AO-S2-75-20 TO NRC OFFICE OF I & E, REGION 11, JAN. 15, 1970, DCKET 50-201, TYPE--PWR, MFG--
 WEST., AE--STONE & WEBSTER

CAUSE - FROZEN SENSING LINE. WHILE THE REACTOR WAS OPERATING AT 100% POWER, STEAM GENERATOR C
 PRESSURE INDICATOR FAILED HIGH. THE CHANNEL WAS PLACED IN THE TRIP MODE AND THE REACTOR SHUT
 DOWN 150 HRS PER HOUR. THE SENSING LINES FROZE DUE TO ABNORMALLY COLD OUTSIDE AIR BEING DRAWN
 THROUGH A SET OF INTAKE LOUVERS LOCATED ADJACENT TO THE LINES. THE LOUVERS WERE CLOSED AND
 SEALED ALLOWING THE LINES TO THAW. THE TRANSMITTER WAS RETURNED TO NORMAL SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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REACTOR PROTECTION SYSTEM + INSTRUMENT, SWITCH + FAILURE, INSTALLATION ERROR + STEAM GENERATOR + TUBING +
 WEATHER, SEVERE + SUHRY 2 (PWR) + SENSORS, PRESSURE

109443

SUPPLEMENTARY REPORT ON MAIN STEAM VALVE DEFICIENCY AT SUHRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/SUPPLEMENTARY AO-S2-75-12 TO NRC OFFICE OF I & E, REGION 11, JAN. 22, 1970, DCKET 50-201, TYPE--
 PWR, MFG--BEST., AE--STONE & WEBSTER

CAUSE - INTERNAL BINDING. PROBLEMS WITH THE MAIN STEAM ISOLATION TRIP VALVES WERE REPORTED
 EARLIER. THE FOLLOWING CORRECTIVE ACTION HAS BEEN COMPLETED ON BOTH UNITS: (1) DISC SETING
 ANGLES WERE VERIFIED TO BE CORRECT. (2) BOTTOM MACK EDGE OF DISC GRIND TO PREVENT STICKING
 OPEN. (3) TAIL LINE AND BUSHING TOTAL END TO END CLEARANCES WERE MODIFIED AS REQUIRED. (4) BUSH
 GASKETS AND O-RINGS WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

MAINTENANCE AND REPAIR + CONTAINMENT ISOLATION + STEAM + MODIFICATION + FAILURE, DESIGN ERROR + VALVE, CHECK +
 SUHRY 2 (PWR) + COOLING SYSTEM, SECONDARY

109403

DRIFT IN TEMPERATURE DIFFERENTIAL CHANNEL AT SUHRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/AO-S2-75-22 TO NRC OFFICE OF I & E, REGION 11, JAN. 22, 1970, DCKET 50-201, TYPE--PWR, MFG--
 WEST., AE--STONE & WEBSTER

1094EJ #CONTINUED#

CAUSE - UNKNOWN. WHILE OPERATING AT 100% POWER, 1 OF THE 3 TEMPERATURE DIFFERENTIAL CHANNELS FOR UVENTEMPERATURE INDICATED 132% WHILE THE OTHER 2 INDICATED 118%. WHEN THE CHANNEL WAS PLACED IN TEST, THE OUT OF SPECIFICATION CONDITION CLEARED. TESTS SHOWED 2 TEST POINT VOLTAGES SLIGHTLY HIGH BUT THIS WAS NOT THE CAUSE. THE INSTRUMENT WAS CALIBRATED AND RETURNED TO SERVICE. THE CAUSE MAY HAVE BEEN A FAULTY RESET INDICATION DUE TO ELECTRICAL CONTACTS, OR SIMILAR CAUSE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * INSTRUMENT, ABNORMAL INDICATION * SURRY 2 (PWR) * DRIFT * SENSORS, TEMPERATURE

11037E

MAIN STEAM TRIP VALVE FAILS TO CLOSE AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/RO USRE-52-70-02 TO NRC OFFICE OF I & E, REGION II, FEB. 10, 1976, DOCKET 50-281, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - DISC BINDING AGAINST BODY. WHILE AT COLD SHUTDOWN, A MAIN STEAM TRIP VALVE FAILED TO CLOSE WHEN OPERATED FROM THE CONTROL ROOM. THE VALVE DISC WAS BINDING AGAINST THE VALVE BODY WHEN IN THE FULL OPEN POSITION. THE DISC WAS OPENING 80 DEGREES INSTEAD OF THE DESIGN OPENING OF 90 DEGREES. IT WAS NOT SET PROPERLY WHEN THE WGEASHAFT WAS REPLACED 2 WEEKS EARLIER. THE DISC WAS ADJUSTED. A STUFFING BOX WAS MISALIGNED ALSO. IT WAS ALIGNED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * STEAM * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * SURRY 2 (PWR) * COOLING SYSTEM, SECONDARY * VALVES

11100E

SET POINT DRIFT IN TEMPERATURE DIFFERENTIAL SWITCH AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/RO USRE-52-70-01 TO NRC OFFICE OF I & E, REGION II, MARCH 12, 1976, DOCKET 50-281, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - PROBABLY A LOOSE CONNECTION. WHILE THE REACTOR WAS OPERATING AT 100% POWER, IT WAS NOTED THAT CHANNEL III UVENTEMPERATURE DELTA T SET POINT HAD DRIFTED 9% IN THE NONCONSERVATIVE DIRECTION. CHECKS SHOWED THE OUTPUT WAS HI EVEN THOUGH ALL INPUTS WERE CORRECT. FURTHER CHECKS FOUND NO PROBLEMS. IT IS BELIEVED THAT THERE WAS A LOOSE CONNECTION IN THE MODULE CONNECTOR. THE UNIT WAS RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * SET POINT * SURRY 2 (PWR) * CABLES AND CONNECTORS * DRIFT * FAILURE, INHERENT * SENSORS, TEMPERATURE

11375E

PRESSURIZED SAMPLE LINE VALVE FAILS TO CLOSE AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/RO USRE-52-70-02 TO NRC OFFICE OF I & E, REGION II, MAY 12, 1976, DOCKET 50-281, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - UNKNOWN. WHILE OPERATING AT 100% POWER, A TRIP VALVE IN THE PRESSURIZED VAPOR SPACE SAMPLE LINE FAILED TO CLOSE ON A MANUAL SIGNAL FROM THE CONTROL PANEL. THE VALVE WAS SATISFACTORILY TESTED 13 DAYS LATER WHILE THE PLANT WAS AT COLD SHUTDOWN. THE VENOM WILL BE CONTACTED TO DETERMINE IF THE FAILURE IS TEMPERATURE RELATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * PRESSURIZER * SURRY 2 (PWR) * FAILURE, INHERENT * VALVES

11375c

CONDENSER OUTLET VALVE FAILS TO OPERATE AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS. LTR W/RO USRE-52-70-03 TO NRC OFFICE OF I & E, REGION II, MAY 12, 1976, DOCKET 50-281, TYPE--PWR, NRC--BEST., AE--STONE & WEBSTER

CAUSE - WATER IN CONTROL AND MOTOR. WHILE OPERATING AT 98% POWER, IT WAS FOUND THAT A CONDENSER OUTLET VALVE WOULD NEITHER OPEN OR CLOSE FROM ITS THROTTLED POSITION. A REDUNDANT VALVE PROVIDES ASSURANCE THAT PROPER INTAKE CANAL LEVEL WILL BE MAINTAINED. THE LIMIT SWITCH AND MOTOR CONTAINING WATER. CHECKS OF THE WATER COULD NOT BE FOUND. THE MOTOR AND SWITCH WERE REPAIRED. THE LIMIT SWITCH COMPARTMENT WAS WATER-PROOFED. THE VALVE WAS THEN TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM

11378 CONTINUED
CHARGE \$2.00

FAILURE, EQUIPMENT, WATER, INSTRUMENT, SWITCH, MODIFICATION, FAILURE, DESIGN ERROR, SURRY 2 (PWR) +
CONDENSER COOLING SYSTEM, VALVE OPERATORS, RVALVES

11433
SERVICE WATER SYSTEM VALVE FAILS TO CLOSE AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR D/RD USRE-52-78-04 TO NRC OFFICE OF I & E, REGION II, MAY 20, 1978, JACKET 50-201, TYPE--PWR, RF--
WEST., AE--STONE & WEBSTER

CAUSE - CORRODED TUBULAR SWITCH CONTACTS. WITH THE UNIT AT INTERMEDIATE SHUTDOWN PRIOR TO
REFUELING, A VALVE IN THE SUCTION LINE TO THE SERVICE WATER PUMPS FROM THE CIRCULATING WATER
CANAL FAILED TO CLOSE DURING TESTING. THE CONTACTS OF THE TUBULAR SWITCH WERE CORRODED. A NEW
SWITCH WAS INSTALLED. THE VALVE OPERATED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CORROSION, FAILURE, INSTRUMENT, INSTRUMENT, SWITCH, TEST, SYSTEM OPERABILITY, SURRY 2 (PWR) + FAILURE,
INHERENT, SERVICE WATER SYSTEM, RVALVES

11402
SMALL CRACKS FOUND IN STEAM GENERATOR TUBE SUPPORT PLATE AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR D/RD USRE-52-78-02 TO NRC OFFICE OF I & E, REGION II, MAY 21, 1978, JACKET 50-201, TYPE--PWR, RF--
WEST., AE--STONE & WEBSTER

CAUSE - CHANGE OF WATER TREATMENT, WHILE REMOVING A PIE SHAPED SECTION OF THE 7TH TUBE SUPPORT
PLATE IN STEAM GENERATOR 2A DURING THE REFUELING OUTAGE. SMALL CRACKS AND RADIAL HOLES WERE
OBSERVED ON THE PERIPHERY OF THE PLATE. TUBE DENTING AND APPARENT SUPPORT PLATE DISTORTION ARE
BELIEVED TO BE RELATED TO THE CHANGE FROM PHOSPHATE TO AVT CHEMISTRY. INVESTIGATION IS IN
PROGRESS TO INSURE THAT THE STRUCTURAL INTEGRITY OF THE SUPPORT PLATE IS STILL SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

COOLANT CHEMISTRY, REFUELING, SUPPORT STRUCTURE, STEAM GENERATION, TUBING, SURRY 2 (PWR) + CHECK, +
FAILURE, COMMON MODE, INSERVICE INSPECTION

114291
OVERALL INTEGRATED CONTAINMENT LEAKAGE EXCEEDS LIMIT AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR D/RD USRE-52-78-05 TO NRC OFFICE OF I & E, REGION II, MAY 27, 1978, JACKET 50-201, TYPE--PWR, RF--
WEST., AE--STONE & WEBSTER

CAUSE - NOT YET DETERMINED. PERFORMANCE OF THE TYPE A CONTAINMENT LEAK RATE TEST DURING THE
REFUELING OUTAGE REVEALED THAT THE INTEGRATED CONTAINMENT LEAKAGE RATE EXCEEDED THE 0.075%/24
HOURS LIMIT. THE RATE WAS MEASURED TO BE 0.2909%/24 HOURS FROM A LEAST SQUARES FIT OF THE HOURLY
CALCULATIONS OF THE MASS OF AIR IN THE CONTAINMENT. TYPES B AND C TESTS OF CONTAINMENT
PENETRATIONS AND ISOLATION VALVES IS IN PROGRESS. REPAIRS WILL BE MADE TO LEAKING COMPONENTS AS
REVEALED BY THESE TESTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

CONTAINMENT, TEST, LEAK RATE, CONTAINMENT INTEGRITY, REFUELING, TEST, SYSTEM OPERABILITY, PLEAK RATE,
SURRY 2 (PWR)

11421
SET POINT DRIFT IN PRESSURIZER LEVEL TRANSMITTERS AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS, LTR D/RD USRE-52-78-06 TO NRC OFFICE OF I & E, REGION II, MAY 27, 1978, JACKET 50-201, TYPE--PWR, RF--
WEST., AE--STONE & WEBSTER

CAUSE - INSTRUMENT DRIFT. WHILE AT REFUELING SHUTDOWN, 2 OF THE 3 PRESSURIZER LEVEL TRANSMITTERS
WERE FOUND TO HAVE OUT OF SPECIFICATION HIGH LEVEL TRIP SET POINTS. THE SET POINTS WERE 92.0RB
AND 93B COMPARED WITH THE 92B LIMIT. THE CAUSE WAS NORMAL ELECTRONIC DRIFT. THE TRANSMITTERS
WERE RECALIBRATED. THE TRIP SET POINTS WILL BE SET AN ADDITIONAL 2B CONSERVATIVE TO PROVIDE
FURTHER ALLOWANCE FOR DRIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

REACTOR PROTECTION SYSTEM, INSTRUMENT CALIBRATION, FAILURE, INSTRUMENT, INSTRUMENT, SWITCH, PLEAK RATE,
REFUELING, TEST, SYSTEM OPERABILITY, SET POINT, SURRY 2 (PWR) + DRIFT, SENSORS, LEVEL

114624

UNPLANNED DILUTION OF THE PRIMARY COOLANT OCCURS AT SUNNY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR #740-52-76-03 TO NRC OFFICE OF I & E, REGION II, JUNE 4, 1976. DOCKET 50-281, TYPE--PWR, NRG--
 WEST., AE--STONE & WEBSTER

CAUSE - CUTS IN 3 STEAM GENERATOR TUBES, WITH THE UNIT AT COLD SHUTDOWN FOLLOWING REFUELING.
 MULTIPLE CHEMISTRY ANALYSIS OF THE PRIMARY COOLANT BORON CONCENTRATION INDICATED THAT AN UNPLANNED
 DILUTION HAD OCCURRED. THE SOURCE OF DILUTION WAS TERMINATED IMMEDIATELY. STEAM GENERATOR 2A
 HAD 3 TUBES WHICH HAD APPARENTLY BEEN CUT DURING REMOVAL OF A SECTION OF THE SEVENTH TUBE SUPPORT
 PLATE. WHEN THE SS LEVEL WAS RAISED ABOVE THE LEVEL OF THE CUTS, WATER PASSED INTO THE PRIMARY
 SIDE OF LOOP A WHICH WAS CONNECTED TO THE REACTOR VESSEL THROUGH A 2 INCH BYPASS LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00)

DIAGNOSTIC + REACTIVITY EFFECT + SHUTDOWN MARGIN + SAMPLING + FAILURE, MAINTENANCE ERROR + PRIMARY COOLING SYSTEM
 + STEAM GENERATOR + TUBING + LEAK + SURRY 2 (PWR)

115045

30 IN HEAT TRACE SYSTEMS ON BORIC ACID TANK LINE INOPERABLE AT SUNNY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR #740-52-76-04 TO NRC OFFICE OF I & E, REGION II, JUNE 16, 1976. DOCKET 50-281, TYPE--PWR, NRG--
 WEST., AE--STONE & WEBSTER

CAUSE - PROCEDURAL DEFICIENCY. PRIOR TO STARTUP FROM REFUELING BUT AFTER THE PRE-STARTUP CHECK
 OFF LIST VERIFICATION, BOTH HEAT TRACING SYSTEMS ON THE RECIRCULATION LINE TO BORIC ACID TANK C
 WERE TAGGED OUT FOR MAINTENANCE BY A VALVE. THE REACTOR WAS THEN MADE CRITICAL FOR LOW POWER
 PHYSICS TESTING WITHOUT THE HEAT TRACING CIRCUITS BEING PLACED BACK IN OPERATION. THE UNIT WAS
 RETURNED TO HOT SHUTDOWN FOR MAINTENANCE AT WHICH TIME A LOW TEMPERATURE ALARM IN THE LINE
 OCCURRED. THE CIRCUITS WERE ENERGIZED. THE STARTUP FORM DID NOT INCLUDE A REVIEW OF THE TAG-OUT
 RECORDS. THE FORM HAS BEEN REVISITED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00)

FAILURE + OPERATOR ERROR + POISON, SOLUBLE + STORAGE CONTAINER + CHEMICAL SHIM + SURRY 2 (PWR) + PIPES AND
 PIPE FITTINGS + WELDERS

115715

REFUELING WATER CHEMICAL ADDITION VALVE FAILS TO OPEN AT SUNNY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR #740-52-76-07 TO NRC OFFICE OF I & E, REGION II, JULY 7, 1976. DOCKET 50-281, TYPE--PWR, NRG--
 WEST., AE--STONE & WEBSTER

CAUSE - DEFECTIVE TORQUE SWITCH. DURING A REFUELING WATER STORAGE TANK ADDITION TANK TEST WITH
 THE REACTOR SHUT DOWN, A CHEMICAL ADDITION VALVE WOULD NOT OPEN BEYOND THE MID-POSITION
 ELECTRICALLY. MANUAL OPERABILITY WAS IMMEDIATELY VERIFIED. THE RETURN SPRING IN THE TORQUE
 SWITCH WAS OUT OF POSITION PREVENTING THE CAM OPERATED CONTACTS FROM RECLUSING ONCE THE SWITCH
 WAS OPENED. THE SWITCH WAS REPLACED AND THE VALVE RETESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00)

FAILURE + INSTRUMENT + INSTRUMENT SWITCH + STORAGE CONTAINER + TEST, SYSTEM OPERABILITY + ADDITIVE + SURRY 2
 (PWR) + FAILURE, INHERENT + VALVE OPERATORS + VALVES

115712

LOW HEAD SAFETY INJECTION PUMP VALVE FAILS TO OPERATE AT SUNNY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR #740-52-76-09 TO NRC OFFICE OF I & E, REGION II, JULY 13, 1976. DOCKET 50-281, TYPE--PWR, NRG--
 WEST., AE--STONE & WEBSTER

CAUSE - VALVE PLUG BINDING. WITH THE UNIT AT 100% POWER, A LOW HEAD SAFETY INJECTION PUMP SUCTION
 VALVE WOULD NOT OPERATE WHEN CYCLED BY THE CONSOLE CONTROL SWITCH. PREVIOUSLY, IT HAD PERFORMED
 SATISFACTORILY DURING TESTING. MECHANICAL BINDING OF THE VALVE PLUG CAUSED THE THERMAL OVERLOADS
 TO OPERATE THUS STOPPING THE VALVE. THE 3-POINT ADJUSTMENT SCREWS WERE LOOSENED RELIEVING
 TENSION ON THE VALVE PLUG. THE VALVE OPERATED ACCEPTABLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHANGE \$2.00)

FAILURE, EQUIPMENT + INSTRUMENT, PROTECTIVE + SAFETY INJECTION + TEST, SYSTEM OPERABILITY + FAILURE,
 MAINTENANCE ERROR + SURRY 2 (PWR) + VALVES

115714

CONDENSER OUTLET VALVE FAILS TO OPERATE ELECTRICALLY AT SUNNY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA

115714 *CONTINUED*

3 PGS. LTR W/USRE-52-76-08 TO NRC OFFICE OF I & E, REGION II, JULY 13, 1976, DUCRET 50-281, TYPE--PDR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - BORN SHAFT TRIPPER CAM BROKEN. WHILE OPERATING AT 80% POWER, IT WAS FOUND THAT A CONDENSER OUTLET VALVE WOULD NOT OPERATE ELECTRICALLY. MANUAL OPERABILITY WAS VERIFIED. THE VALVE OPERATOR BORN SHAFT TRIPPER CAM WAS BROKEN OFF. THUS, THE MOTOR SHAFT WAS NOT ENGAGED AND THE VALVE WOULD NOT OPERATE ELECTRICALLY. THE TRIPPER CAM WAS REPLACED AND THE VALVE TESTED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + SURRY 2 (PDR) + CONDENSED COOLING SYSTEM + FAILURE, INCIDENT + VALVE OPERATIONS + VALVES

115856

POWER RANGE CHANNEL DRIFTS LOW AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/USRE-52-76-11 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, JULY 21, 1976, DUCRET 50-281, TYPE--PDR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - AMPLIFIER DRIFT. WHILE OPERATING AT 100% POWER, 1 OF THE 4 NIS POWER RANGE CHANNELS WAS FOUND TO BE 3% LOWER THAN THE OTHERS. IT WAS IMMEDIATELY PLACED IN THE TRIP MODE. THE OUTPUT OF THE LEVEL AND SUMMING AMPLIFIER WAS FOUND TO HAVE DRIFTED LOW BY A PROPORTIONAL VOLTAGE. THE CHANNEL WAS RECALIBRATED AND PLACED BACK ON LINE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + INSTRUMENT, POWER RANGE + SET POINT + SURRY 2 (PDR) + DRIFT

115880

VOLTAGE TO POWER RANGE INSTRUMENT LOST AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/USRE-52-76-10 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, JULY 21, 1976, DUCRET 50-281, TYPE--PDR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - COMPONENT IN POWER SUPPLY FAILS. WHILE OPERATING AT 100% POWER, A LOSS OF DETECTION VOLTAGE ALARM WAS RECEIVED ON POWER RANGE NUCLEAR INSTRUMENT CHANNEL #2. A COMPONENT IN THE -25 VOLT POWER SUPPLY FAILED RESULTING IN THE LOSS OF VOLTAGE REGULATION. THE SUPPLY VOLTAGE INCREASED TO -30 VOLTS. THE POWER SUPPLY WAS REPLACED AND THE CHANNEL CALIBRATED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT + ELECTRIC POWER + INSTRUMENT, POWER RANGE + SURRY 2 (PDR) + FAILURE, INCIDENT

116244

UNPLANNED DILUTION OF PRIMARY COOLANT BORON CONCENTRATION AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/AD-52-76-03 TO NRC OFFICE OF I & E, REGION II, JULY 30, 1976, DUCRET 50-281, TYPE--PDR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - STEAM GENERATOR TUBE LEAK. WITH THE UNIT AT COLD SHUTDOWN, ROUTINE CHEMISTRY ANALYSIS OF THE PRIMARY COOLANT BORON CONCENTRATION INDICATED THAT AN UNPLANNED DILUTION HAD OCCURRED. STEAM GENERATOR 2A AND 3 TUBES WHICH HAD APPARENTLY BEEN CUT DURING REMOVAL OF A SECTION OF THE SEVENTH TUBE SUPPORT PLATE, WHEN SG LEVEL WAS RAISED ABOVE THE LEVEL OF THE CUTS, WATER PASSED INTO THE PRIMARY SIDE OF LOOP A. BORON CONCENTRATION CHANGED FROM 2396 PPM TO 1836 PPM. LEAKING TUBES WERE CREATED DUE TO CLOSE BARRING QUARTERS. LEAKING TUBES WERE PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20540 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DILUTION + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + CHEMICAL SHIM + BORN COOLING SYSTEM + STEAM GENERATOR + TUBING + LEAK + SURRY 2 (PDR) + CONCENTRATION

117042

BORON CONCENTRATION BELOW LIMIT IN SAFETY INJECTION ACCUMULATION AT SURRY 2
VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
3 PGS. LTR W/USRE-52-76-12 TO NRC OFFICE OF I & E, REGION II, SEPT. 10, 1976, DUCRET 50-281, TYPE--PDR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - LEAKING CHECK VALVES. DURING 100% POWER OPERATION, A ROUTINE SAMPLE OF SAFETY INJECTION ACCUMULATION C INDICATED 1893 PPM. TECH SPEC LIMIT IS 1950 PPM. THE ACCUMULATION WAS DECLARED INOPERABLE AND ISOLATED. AFTER RECIRCULATION WITH THE MIST, THE BORON CONCENTRATION INCREASED TO 2216 PPM. LEAKING CHECK VALVES CAUSED THE DILUTION. DURING THE UPCOMING REFUELING, THE CHECK VALVES WILL BE INSPECTED AND REPAIRED AS NECESSARY.

117042 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * POISON, SECURE * SAMPLING * TEST, SYSTEM OPERABILITY * LEAK * VALVE, CHECK * SURRY 2 (PWR) * ACCUMULATION * ACCUMULATORS

117960
 NORMALLY CLOSED ISOLATION VALVE FOUND OPEN AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR D/USRE-52-76-13 TO NRC OFFICE OF I & E, REGION II, SEPT. 17, 1976, DOCKET 50-281, TYPE--PWR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - INADEQUATE ADMINISTRATIVE CONTROL. WHILE OPERATING AT 100% POWER, PREPARATION FOR ROUTINE RECIRCULATION OF SAFETY INJECTION ACCUMULATOR B REVEALED THAT THE OUTSIDE ISOLATION VALVE IN THE ACCUMULATOR TEST LINE WAS OPEN. IT IS NORMALLY CLOSED AND ADMINISTRATIVELY LOCKED. INADEQUACY IN THE IMPLEMENTATION OF ADMINISTRATIVE CONTROLS CAUSED A REDUCTION OF DEGREE OF REDUNDANCY IN THE CONTAINMENT ISOLATION SYSTEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT ISOLATION * CONTAINMENT INTEGRITY * TEST, SYSTEM OPERABILITY * FAILURE, ADMINISTRATIVE CONTROL * SURRY 2 (PWR) * VALVES * ACCUMULATORS

118226
 STEAM GENERATOR TUBE FAILS AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR D/USRE-52-76-05 TO NRC OFFICE OF I & E, REGION II, SEPT. 29, 1976, DOCKET 50-281, TYPE--PWR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - UNKNOWN. DURING 100% POWER OPERATION, THE PRESSURIZER LEVEL FELL BELOW THE 45% LEVEL SET POINT. THIS RESULTED IN A DECREASE IN PRESSURIZER PRESSURE AND A DECREASE IN THE VOLUME CONTROL TANK LEVEL. THESE EVENTS INDICATED A LEAK RATE IN EXCESS OF 10 GPM FROM AN UNIDENTIFIED SOURCE. A REACTOR TRIP WAS MANUALLY INITIATED. A MANUAL SAFETY INJECTION FOLLOWED. STEAM GENERATOR A WAS ISOLATED AND A LEAK RATE IN EXCESS OF 10 GPM WAS CONFIRMED. THE TUBE LEAK WAS VISUALLY CONFIRMED IN ROW 1, COLUMN 7. EVALUATION OF THE CAUSE HAS STARTED. THE LEAKING TUBE WILL BE PLUGGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SCHEM, SEAL * MAIN COOLING SYSTEM * FAILURE, TUBING * STEAM GENERATOR * TUBING * LEAK * SURRY 2 (PWR) * REACTOR SHUTDOWN * COOLING SYSTEM, SECONDARY

119477
 STEAM GENERATOR DUAL COMPARATOR FAILS TO DEENERGIZE AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR D/LEN USRE-52-76-14 TO NRC OFFICE OF I & E, REGION II, NOV. 2, 1976, DOCKET 50-281, TYPE--PWR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - OPEN CAPACITOR. DURING TESTING WHILE THE REACTOR WAS SHUT DOWN, THE DUAL COMPARATOR (LC-2-425J) OF STEAM GENERATOR B NARROW RANGE PROTECTION CHANNEL II WOULD NOT DEENERGIZE FOR A LOW LEVEL TRIP OR LEVEL ALARM. FAILURE WAS DUE TO AN OPEN CAPACITOR. THE COMPARATOR WAS REPLACED AND TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * SURRY 2 (PWR) * FAILURE, INHERENT * SENSORS, LEVEL

119506
 LEAKS FOUND IN RECIRCULATION SPRAY HEAT EXCHANGER PIPING AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 3 PGS, LTR D/LEN USRE-52-76-15 TO NRC OFFICE OF I & E, REGION II, NOV. 5, 1976, DOCKET 50-281, TYPE--PWR, MFG--WEST., AE--STONE & WEBSTER

CAUSE - CHLORIDE STRESS CORROSION. WITH THE UNIT AT COLD SHUTDOWN, LEAKAGE OF WATER WAS OBSERVED FROM RECIRCULATION SPRAY HEAT EXCHANGER A PIPING. INSPECTION REVEALED INDICATIONS OF CRACKING IN THE HEAT AFFECTED ZONES OF SEVERAL BELLS. THE APPARENT CAUSE WAS CHLORINE STRESS CORROSION IN TYPE 304 STAINLESS STEEL PIPING. FURTHER INVESTIGATION IS BEING PERFORMED ON BOTH UNITS. REMAINS AS NECESSARY WILL BE ACCOMPLISHED PRIOR TO PLACING THE UNITS BACK INTO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, PIPE * BELLS * SPRAY * STRESS CORROSION * HEAT TREATMENT * FLOW, RECIRCULATION * ENGINEERED SAFETY FEATURE * LEAK * SURRY 2 (PWR) * CRACK * PIPES AND PIPE FITTINGS * HEAT EXCHANGERS

119703

UPDATE REPORT ON RECIRCULATION SPRAY PIPING CRACKING AT SURRY 2
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 9 PGS, LTR W/LEP USPE-52-70-15 TO NRC OFFICE OF I & E, REGION II, NOV. 22, 1976, DOCKET 50-281, TYPE--PDR, NRC--
 WEST., AE--STONE & WEBSTER

CAUSE - STRESS CORROSION CRACKING. DURING A COLD SHUTDOWN, WATER WAS OBSERVED LEAKING FROM THE
 RECIRCULATION SPRAY HEAT EXCHANGER PIPING. SAMPLES OF PIPING WERE SENT TO AN INDEPENDENT
 LABORATORY. RESULTS INDICATE THE CAUSE WAS CHLORIDE INDUCED STRESS CORROSION CRACKING.
 CHLORIDES WERE INTRODUCED BY EITHER A TUBE LEAK IN THE RECIRC. SPRAY HEAT EXCHANGERS, BY THE
 INSIDE RECIRC. SPRAY PUMPS BEING TESTED WITH WATER CONTAINING CHLORIDES IN THE PUMP CASSETTE, OR
 BY A LACKING ISOLATION VALVE BETWEEN THE CONTAINMENT SUMP AND THE SUCTION OF THE OUTSIDE SPRAY
 RECIRC. SPRAY PUMP. DAMAGED PIPE WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

SURRY 2 (PDR) * PIPES AND PIPE FITTINGS * CRACK * FAILURE, PIPE * LEAK * CONTAINMENT SPRAY * STRESS
 CORROSION * CHLORIDE * FLW, RECIRCULATION

113770

FINAL REPORT ON PRELIMINARY AMPLIFIED RESPONSE SPECTRA AT SURRY 3 AND 4
 VIRGINIA ELECTRIC & POWER CO., RICHMOND, VA
 6 PGS, LTR W/PRPT TO NRC OFFICE OF I & E, APRIL 30, 1976, DOCKETS 50-430/435, TYPE--PDR, NRC--BLW, AE--STONE &
 WEBSTER

CAUSE - DESIGN DEFICIENCY. FOR THE REACTOR CONTAINMENT BUILDING, THE PRELIMINARY AMPLIFIED
 RESPONSE SPECTRA DID NOT INCLUDE THE EFFECTS OF ORTHOGONAL STRUCTURAL COUPLING FOR THE HORIZONTAL
 SEISMIC EXCITATIONS. FOR ESP BUILDING AND THE FUEL AND AUXILIARY BUILDING, AAS CURVES WERE
 DERIVED USING INCORRECT GROUND RESPONSE SPECTRA FOR CRITICAL DAMPING VALUES. AAS CURVES HAVE
 BEEN RECALCULATED TO CORRECT THESE DEFICIENCIES. THE REVISED CURVES WILL BE GIVEN TO EQUIPMENT
 VENDORS TO ASSURE PROPER EQUIPMENT DESIGN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

CONTAINMENT DESIGN * FAILURE, DESIGN ERROR * EQUIPMENT DESIGN * EQUIPMENT * DAMPING * GROUND MOTION *
 MATHEMATICAL TREATMENT * RESPONSE SPECTRUM * SEISMIC DESIGN * CONSTRUCTION * SURRY 3 (PDR) * SURRY 4 (PDR)

10957E

TRITIUM ACTIVITY IN RIVER SAMPLE HIGHER THAN CONTROL STATION AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 2 PGS, ENV. RPT 75-04 TO NRC OFFICE OF I & E, REGION I, JAN. 2, 1976, DOCKET 50-289, TYPE--PDR, NRC--BLW, AE--
 GILBERT ASSC.

CAUSE - SAMPLING DURING WASTE DISCHARGE. A MONTHLY COMPOSITE OF DELTA LAB SAMPLES OF SURFACE
 RIVER WATER COLLECTED DOWNSTREAM OF THE DISCHARGE HAD A TOTAL TRITIUM ACTIVITY MORE THAN 4 TIMES
 THE CONTROL STATION VALUE. IT IS BELIEVED THAT GRAB SAMPLES WERE TAKEN DURING A PERIOD OF
 HIGHER-THAN-NORMAL EVAPORATOR TANK VOLUME DISCHARGE, THUS DURING PERIODS OF HIGHER-THAN-NORMAL
 RIVER WATER TRITIUM LEVEL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

EFFLUENT * FIVER * TRITIUM * WASTE DISPOSAL * SAMPLING * MONITORING PROGRAM, ENVIRONMENTAL * THREE MILE ISLAND
 1 (PDR) * CONCENTRATION

109250

UNPLANNED RELEASE OF RADIOACTIVE MATERIAL AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA.
 3 PAGES, LETTER WITH EVENT REPORT 76-1/1T TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, JAN. 12, 1976, DOCKET
 50-289, TYPE--PDR, NRC--BLW, AE--GILBERT ASSOC.

CAUSE - VALVE PARTIALLY OPEN. WHILE THE DISCHARGE MONITOR WAS BEING FLUSHED WITH RECLAIMED WATER
 FOLLOWING A CONTROLLED RELEASE, RECIRCULATION OF WASTE EVAPORATOR CONDENSATE STORAGE TANK B WAS
 STARTED. THE OPERATOR NOTED AN INCREASE IN THE MONITOR READING AND TERMINATED THE FLUSH AND
 RECIRCULATION. THE VALVE IN THE NORMAL DISCHARGE PATH FROM THE RECIRCULATION PATH PROBABLY WAS
 PARTIALLY OPEN DUE TO IMPROPER BLEEDING OF AIR FROM ITS OPERATION. ABOUT 117 GALLONS OF WATER,
 CONTAINING 0.0171 CI OF RADIOACTIVITY, PRIMARILY TRITIUM, WAS RELEASED AT A RATE OF 4 GPM.
 PROCEDURES WERE MODIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

FAILURE, OPERATOR ERROR * TRITIUM * WASTE HANDLING * RADIOACTIVITY RELEASE * THREE MILE ISLAND 1 (PDR)

110292

ANOMALOUS MEASURED LEVEL OF CESIUM 137 AT THREE MILE ISLAND 1

110291 OCCURRING
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR D/EN 76-00/OL TO NRC OFFICE OF I & E, REGION I, JAN. 16, 1976, DCKET 50-289, TYPE--PWR, RFG--B66, AE--GILBERT ASSOC.

CAUSE - ABNORMALLY LOW CONTROL VALUE. THE CONCENTRATION OF CS-137 IN THE SEMIANNUAL RIVER BOTTOM SEDIMENT SAMPLES COLLECTED OCT. 23 EXCEEDED 4 TIMES THE CONTROL STATION VALUE OF 190 PCI/KG. THE SAMPLE VALUE WAS 830 PCI/KG. THE SAMPLE VALUE IS NOT STATISTICALLY DIFFERENT FROM NORMAL CONCENTRATIONS AS DETERMINED BY PREOPERATIONAL SURVEYS. ITS LIMIT WAS EXCEEDED BECAUSE OF THE ABNORMALLY LOW CONTROL STATION VALUE WHICH NORMALLY IS ABOUT 300 PCI/KG.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DESIGN * RIVER * WASTE DISPOSAL * SAMPLING * SURFACE WATER, SEDIMENT * MONITORING PROGRAM, ENVIRONMENTAL * THREE MILE ISLAND I (PWI) * CONCENTRATION * FAILURE, INHERENT

110294
 NUCLEAR SERVICES RIVER WATER PUMP VALVE FAILS TO OPEN AT THREE MILE ISLAND I
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR D/EN 76-2-10 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, JAN. 16, 1976, DCKET 50-289, TYPE--PWR, RFG--B66, AE--GILBERT ASSOC.

CAUSE - VALVE BINDING. WHILE STARTING NUCLEAR SERVICES RIVER PUMP A TO TAKE VIBRATION READINGS, THE PUMP DISCHARGE VALVE FAILED TO OPEN WHEN THE PUMP WAS STARTED. OPENING THE VALVE MANUALLY REQUIRED A GREATER THAN NORMAL FORCE. FAILURE TO OPEN WAS DUE TO VALVE BINDING. THE SPLINE ADAPTOR THAT IS KEYS TO THE VALVE STEM WAS CHACKED. THE KEY AND RETRAY WERE ALSO DAMAGED. THIS DAMAGE MAY HAVE CONTRIBUTED TO THE VALVE BINDING. THE OPERATOR SPLINE ADAPTOR AND KEY WILL BE REPLACED AND THE VALVE CYCLED TO ASSURE PROPER OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TEST, SYSTEM OPERABILITY * AUXILIARY COOLING * THREE MILE ISLAND I (PWI) * FAILURE, INHERENT * VALVES

110293
 VALVE LINE-UP IMPROPER ON RADIATION MONITOR AT THREE MILE ISLAND I
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR D/EN 76-03/10 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, JAN. 20, 1976, DCKET 50-289, TYPE--PWR, RFG--B66, AE--GILBERT ASSOC.

CAUSE - INADEQUATE PROCEDURES. FOR ABOUT 40 HOURS WHILE OPERATING AT 100% POWER, A RADIATION MONITOR (COOLANT LEAK DETECTION SYSTEM SENSITIVE TO RADIOACTIVITY) WAS INOPERABLE DUE TO IMPROPER VALVE LINE-UP SUBSEQUENT TO TESTING. DURING THE FIRST PORTION OF THIS PERIOD, A REACTOR BUILDING PURGE WAS IN PROGRESS AND ANOTHER RADIATION MONITOR WAS FULFILLING THE FUNCTION. INADEQUATE PROCEDURAL GUIDANCE IS GIVEN TO DIRECT MAINTENANCE PERSONNEL TO RETURN SAMPLE VALVE TO THEIR CORRECT POSITION FOLLOWING SURVEILLANCE. PROCEDURES WILL BE REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * TESTING * FAILURE, ADMINISTRATIVE CONTROL * CONTAINMENT LEAK MONITOR * THREE MILE ISLAND I (PWI) * RADIATION MONITOR

110952
 AUTO-ACTUATION LOGIC RELAY FOUND INOPERABLE AT THREE MILE ISLAND I
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR D/EN 76-05/11 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, FEB. 13, 1976, DCKET 50-289, TYPE--PWR, RFG--B66, AE--GILBERT ASSOC.

CAUSE - MECHANICAL BINDING. DURING A TEST OF THE REACTOR BUILDING EMERGENCY COOLING AND ISOLATION SYSTEM ANALOG CHANNELS, AN AUTO-ACTUATION RELAY WAS FOUND INOPERABLE. SLIGHT MECHANICAL BINDING OF THE ARMATURE AND CONTACT LINNAGE APPEARED TO BE THE CAUSE. SOME METAL CHIPS MAY HAVE CAUSED OR CONTRIBUTED TO THE BINDING. THE RELAY WAS REPLACED WITH AN IDENTICAL SPARE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM * FAILURE, INSTRUMENT * TEST, SYSTEM OPERABILITY * EMERGENCY COOLING * THREE MILE ISLAND I (PWI) * FAILURE, INHERENT * RELAYS

110953
 REACTOR COOLANT LEAK DETECTION SYSTEM INOPERABLE AT THREE MILE ISLAND I
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR D/EN 76-06/11 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, FEB. 13, 1976, DCKET 50-289, TYPE--PWR, RFG--B66, AE--GILBERT ASSOC.

CAUSE - COVER PLATE NOT REPLACED PROPERLY. FOLLOWING AN INSPECTION OF THE MOVING FILTER PAPER IN

110952 *CONTINUED*

THE PARTICULATE MONITOR OF THE REACTOR BUILDING AT 100% POWER. THE MONITOR COVER PLATE WAS INADVERTENTLY LEFT Ajar. THIS ALLOWED OUTSIDE AIR RATHER THAN REACTOR BUILDING AIR TO BE DRAWN THROUGH THE MONITOR. THE CHAMBER WAS NOT DISCOVERED FOR 22 HOURS. DURING THIS TIME REMOVED SAMPLES WERE NOT TAKEN. THE COVER WAS REPLACED PROPERLY. PROCEDURES WERE REVISED TO PROVIDE GUIDANCE FOR REMOVAL AND REPLACEMENT OF THE COVER PLATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * FAILURE, MAINTENANCE ERROR * FAILURE, ADMINISTRATIVE CONTROL * *CONTAINMENT LEAK MONITOR * THREE MILE ISLAND 1 (PWR)

111776

HYDRAULIC SHOCK SUPPRESSOR FOUND INOPERABLE AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR W/ER 76-07/17 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, FEB. 21, 1976. DCKET 50-389, TYPE--
PWR, NRG--B6B, AE--GILBERT ASSOC.

CAUSE - PROBABLY SEAL LEAKAGE. DURING A ROUTINE SURVEILLANCE OF SHIMMERS IN THE AUXILIARY BUILDING WITH THE REACTOR AT 100% POWER, A SHIMMER ON DECAY HEAT PUMP A SUCTION LINE WAS FOUND WITH AN EMPTY FLUID RESERVOIR. THE UNIT WAS REPLACED WITH A REBUILT ONE. THE SEALS FROM THE DEFECTIVE UNIT DID NOT REVEAL ANY DAMAGE TO THE SEALING SURFACE. THEY WERE REPLACED AND THE UNIT WAS REINSTALLED IN ITS ORIGINAL LOCATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * SHOCK ABSORBER * SEAL * SUPPORT STRUCTURE * SURVEILLANCE PROGRAM * LEAK * THREE MILE ISLAND 1 (PWR) * PIPES AND PIPE FITTING

111007

FLOW RECORDER FOR WASTE GAS TANK FAILS TO OPERATE AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR W/ER 76-0/40 TO NRC OFFICE OF I & E, REGION I, FEB. 26, 1976. DCKET 50-286, TYPE--PWR, NRG--B6B,
AE--GILBERT ASSOC.

CAUSE - TEST SWITCH IN IMPROPER POSITION. IN PREPARATION FOR A WASTE GAS DECAY TANK RELEASE, THE SYSTEM WAS LINED UP FOR OPERATION PER PROCEDURE. WHILE OPERATING THE MANUAL LOGAN TO SUPPLY AIR FOR OPENING THE DISCHARGE VALVE, THE OPERATOR OBSERVED NO INDICATION OF FLOW ON THE FLOW RECORDER. THE RECORDER WOULD NOT CLOSE THE VALVE ON HIGH FLOW. THE TEST SWITCH FOR THE RECORDER WAS IN THE TEST POSITION. THE RELEASE WAS TERMINATED. THE RECORDER WAS RECALIBRATED. PROCEDURES FOR RELEASE WILL BE REVISED TO INCLUDE VERIFICATION OF SWITCH POSITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * INSTRUMENT, PROTECTIVE * PROCEDURES AND MANUALS * WASTE DISPOSAL * WASTE HANDLING * WASTE DISPOSAL, GAS * INSTRUMENT, SWITCH * THREE MILE ISLAND 1 (PWR) * SENSORS, FLOW

111002

SG PRESSURE AND LEVEL INDICATORS MAY NOT BE SEISMICALLY QUALIFIED AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
2 PGS. LTR W/ER RPT 76-11/31 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, FEB. 27, 1976. DCKET 50-289,
TYPE--PWR, NRG--B6B, AE--GILBERT ASSOC.

CAUSE - UNKNOWN. STEAM GENERATOR PRESSURE AND LEVEL INDICATORS MAY NOT HAVE BEEN SEISMICALLY QUALIFIED AS INDICATED IN THE PSA. AN INVESTIGATION IS IN PROGRESS. CORRECTIVE ACTION WILL DEPEND ON THE RESULTS OF IT. THE LEVEL INSTRUMENT IS A BAILEY MOTOR, TYPE 6241-A. THE PRESSURE INDICATOR IS A FOXBORO TYPE 631 GR-051 WITH 610 AM PWR UNIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

DESIGN CRITERIA * STEAM GENERATOR * THREE MILE ISLAND 1 (PWR) * SEISMIC DESIGN * SENSORS, PRESSURE * SENSORS, LEVEL

111778

MAKE-UP PUMP FAILS AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR W/ER 76-07/17 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MARCH 6, 1976. DCKET 50-289, TYPE--
PWR, NRG--B6B, AE--GILBERT ASSOC.

CAUSE - PROCEDURAL DEFICIENCY. DURING THE PRETEST SYSTEM LINEUP OF THE REFUELING INTERVAL, MAKEUP AND PURIFICATION PUMP A FAILED WHEN IT WAS STARTED. PROCEDURES ALLOWED FOR OPERATION OF EITHER PUMP A OR B. HOWEVER, SYSTEM LINEUP WAS WRITTEN FOR OPERATION OF PUMP B. PUMP A SUCTION WAS THIS ISOLATED FROM THE MAKEUP TANK CAUSING FAILURE OF THE PUMP WHEN IT WAS STARTED. PROCEDURES HAVE BEEN REVISED. SOME REACTOR COOLANT LEAKED OUT OF THE PUMP SEAL. DEGASING OF THE CIRCUIT RESULTED IN THE RELEASE OF 0.106 CI OF MOLE GAS TO THE AUXILIARY BUILDING EXHAUST SYSTEM.

111770 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AIRBORNE RELEASE + PROCEDURES AND MANUALS + REFUELING + TEST, SYSTEM OPERABILITY + RADIOACTIVITY RELEASE + FAILURE, ADMINISTRATIVE CONTROL + MAIN COOLING SYSTEM + THREE MILE ISLAND 1 (PWR) + PNEUMATIC + PUMPS

111777
 NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES AT THREE MILE ISLAND 1
 NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
 5 PGS, LTR W/ENCL TO METROPOLITAN EDISON CO., MARCH 15, 1978, DCKET 50-229, TYPE--PWR, NRC--B6B, AE--WILBERT ASSOC.

CAUSE - ADMINISTRATIVE CONTROL DEFICIENCY. DURING AN INSPECTION, CERTAIN ACTIVITIES APPEARED TO BE IN NONCOMPLIANCE WITH NRC REQUIREMENTS. IMPLEMENTATION OF THE EXISTING SECURITY PROGRAM DID NOT PREVENT AN UNAUTHORIZED INDIVIDUAL FROM GAINING ACCESS TO THE ISLAND AND TO THE PROTECTED AREA. PROMPT NOTIFICATION WAS NOT MADE OF THE OCCURRENCE. NRC IMPOSED TO IMPOSE CIVIL PENALTIES OF \$0.000. NRC IS CONCERNED ABOUT THE EFFECTIVENESS OF THE MANAGEMENT CONTROL SYSTEMS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ECONOMICS + FAILURE, ADMINISTRATIVE CONTROL + THREE MILE ISLAND 1 (PWR) + LEGALISTICS + AGENCY, NRC + SECURITY

112240
 SURVEILLANCE CAPSULE HOLDER TUBE FOUND TO BE DAMAGED AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 5 PGS, LTR W/ENCL 78-12717 TO NRC OFFICE OF I & E, REGION 1, MARCH 18, 1978, DCKET 50-289, TYPE--PWR, NRC--B6B, AE--GILBERT ASSOC.

CAUSE - FLOW INDUCED VIBRATION. DURING THE REFUELING OUTAGE, THE REACTOR VESSEL SURVEILLANCE HOLDER TUBES WERE FOUND TO BE DAMAGED. TWO OF THE J TUBES WERE SEVERED AT THE AXIAL LOCATION OF THE SLUNG PUMP AND SPACED FROM THE TOP. BEAR WAS ALSO OBSERVED ON THE INTERNAL SURFACES OF THE TUBES. THE MOST LIKELY CAUSE IS FLOW INDUCED RELATIVE MOTION BETWEEN THE CAPSULE TRAIN AND THE HOLDER TUBE. THE CAPSULES AND TUBES WILL BE REMOVED PRIOR TO CYCLE 2 OPERATION. DESIGN AND FABRICATION OF A MODIFIED HOLDER TUBE AND FIX. ROD ASSEMBLY WILL BE COMPLETED DURING CYCLE 2 AND INSTALLED PRIOR TO CYCLE 3.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REFUELING + FAILURE, DESIGN ERROR + VIBRATION + SURVEILLANCE PROGRAM + TUBING + FLOW + THREE MILE ISLAND 1 (PWR) + RADIATION EFFECT + BEAR

112312
 DIESEL GENERATOR BREAKER FAILS TO CLOSE AUTOMATICALLY AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/ENCL 78-10736 TO NRC OFFICE OF I & E, REGION 1, MARCH 18, 1978, DCKET 50-289, TYPE--PWR, NRC--B6B, AE--GILBERT ASSOC.

CAUSE - PROCEDURAL DEFICIENCY. WHILE PERFORMING THE EMERGENCY SEQUENCE AND POWER TRANSFER TEST, DIESEL GENERATOR BREAKER FAILED TO CLOSE UNPLANNED AND WAS DEENERGIZED. FAILURE WAS DUE TO THE DIESEL GENERATOR FREQUENCY BEING TOO LOW. THE DIESEL GENERATOR SETTING WAS INCORRECT. PROCEDURES DID NOT REQUIRE PERIODIC CHECKS OF FREQUENCY. THE GOVERNOR WAS ADJUSTED AND THE TEST WAS SUCCESSFULLY PERFORMED. PROCEDURES WERE REVISED TO CHECK THE GOVERNOR SETTING QUARTERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EMERGENCY POWER, ELECTRIC + PROCEDURES AND MANUALS + CONTROL + TEST, SYSTEM OPERABILITY + FAILURE, ADMINISTRATIVE CONTROL + THREE MILE ISLAND 1 (PWR) + DRIFT + OPERATOR + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL

112319
 IMPOSITION OF CIVIL PENALTIES OF \$8000 AT THREE MILE ISLAND 1
 U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
 12 PGS, LTR W/ATTACH. TO METROPOLITAN EDISON CO., APRIL 23, 1978, DCKET 50-289, TYPE--PWR, NRC--B6B, AE--WILBERT ASSOC.

CAUSE - SECURITY VIOLATION. APPARENT ITEMS OF NONCOMPLIANCE WERE FOUND DURING A NRC INVESTIGATION RELATING TO AN UNAUTHORIZED INDIVIDUAL GAINING ACCESS TO OWNER-CONTROLLED AREA AND SUBSEQUENTLY TO THE UNIT 1 PROTECTED AREA. BASED ON A REVIEW OF INFORMATION AND THE UTILITY RESPONSES, NRC CONCLUDES THAT THE ITEMS OF NONCOMPLIANCE DID OCCUR. CIVIL PENALTIES OF \$8000 ARE IMPOSED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ECONOMICS + COMPLIANCE + FAILURE, ADMINISTRATIVE CONTROL + THREE MILE ISLAND 1 (PWR) + LEGALISTICS + AGENCY, NRC + SECURITY

113772

FINAL REPORT ON SEISMIC QUALIFICATION OF SG INSTRUMENTS AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/R ER 78-11/30 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MAY 7, 1976, DCKET 50-209, TYPE--PWR, NRG--B60, AE--GILBERT ASSOC.

CAUSE - DESIGN DEFICIENCY. THE DESIGNATION AND TYPE FOR THE STEAM GENERATOR LEVEL AND PRESSURE TRANSMITTERS WERE INCORRECT IN THE 2/27/76 ETEN. ALL THE TRANSMITTERS EXCEPT THE SG FULL RANGE LEVEL TRANSMITTER HAVE BEEN SEISMICALLY QUALIFIED. ALL NECESSARY SUPPORT STRUCTURE, CABLES, CABLE TRAYS, CABINETS, POWER SUPPLIES, AND SOURCES OF POWER ARE SEISMICALLY ADEQUATE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, DESIGN ERROR + SUPPORT STRUCTURE + STEAM GENERATOR + THREE MILE ISLAND I (PWR) + SEISMIC DESIGN + CABLES AND CONNECTORS + SENSORS, PRESSURE + SENSORS, LEVEL

114154

REACTOR BUILDING PENETRATION PIPING DESIGN SUSPECTED AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
1 PG, LTR D/R ER 78-17/90 TO NRC OFFICE OF I & E, REGION I, MAY 26, 1976, DCKET 50-209, TYPE--PWR, NRG--B60, AE--GILBERT ASSOC.

CAUSE - POSSIBLE DESIGN DEFICIENCY. IT WAS SUSPECTED THAT THE CHEMICAL CLEANING SYSTEM PIPING ASSOCIATED WITH REACTOR BUILDING PENETRATION 105 WAS INADEQUATELY SUPPORTED AND COULD HAVE EXCESSIVE STRESS DURING A SEISMIC EVENT. ANALYSIS HAVE SHOWN THAT STRESS VALUES WOULD BE WELL WITHIN CODE ALLOWABLES WITH NO ADDITIONAL SUPPORTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

STRESS + EARTHQUAKE + SUPPORT STRUCTURE + CONTAINMENT PENETRATION, PIPE + THREE MILE ISLAND I (PWR) + SEISMIC DESIGN + PIPES AND PIPE FITTINGS

114420

RC PUMP MONITOR DELAY TIME EXCEEDS VALUE ASSUMED IN FSAR AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
1 PGS, LTR D/R ER 78-18/17 TO NRC DIRECTOR OF NUCLEAR REACTOR REGULATION, MAY 26, 1976, DCKET 50-209, TYPE--PWR, NRG--B60, AE--GILBERT ASSOC.

CAUSE - BREAKDOWN IN ADMINISTRATIVE CONTROL. DURING THE REFUELING OUTAGE, IT WAS DISCOVERED THAT THE DELAY TIME OF THE REACTOR COOLANT PUMP MONITOR UPON LOSS OF POWER ON RC PUMP BREAKER TRIP IS 225 MSEC. IN THE SAFETY ANALYSIS, IT IS ASSUMED THAT THIS DELAY TIME IS 240 MSEC. THE CAUSE WAS DETERMINED TO BE A BREAKDOWN IN ADMINISTRATIVE CONTROLS WHICH ALLOWED THE DISCREPANCY TO GO UNNOTICED. REANALYSIS SHOWED THAT THE INCREASED DELAY TIME HAS NO EFFECT ON INCREASING THE PROBABILITY OF AN ACCIDENT. THE FSAR WILL BE UPDATED TO INCLUDE THE ANALYSIS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS + ACCIDENT, LOSS OF POWER + RESPONSE TIME + MONITOR + REFUELING + FAILURE, ADMINISTRATIVE CONTROL + MAIN COOLING SYSTEM + THREE MILE ISLAND I (PWR) + PUMPS

114392

VALVE STEM PLACED IN OPERATION PRIOR TO RELEASE FOR USE AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/R ER 78-14/31 TO NRC OFFICE OF I & E, REGION I, MAY 27, 1976, DCKET 50-209, TYPE--PWR, NRG--B60, AE--GILBERT ASSOC.

CAUSE - IMPROPER ADMINISTRATIVE CONTROL. WHILE THE REACTOR WAS IN COLD SHUTDOWN, THE VALVE STEM IN A DECAF HEAT REMOVAL SYSTEM VALVE WAS REPLACED WITH A NEW STEM. THE NEW STEM WAS SATISFACTORY, HOWEVER SOME OF THE DOCUMENTATION REQUIRED BY THE PURCHASE ORDER WAS NOT RECEIVED. THEREFORE, THE STEM WAS RELEASED FOR INSTALLATION ONLY. ALTHOUGH THE RELEASE FROM INSTALLATION ONLY ORDER WAS KNOWN TO OPERATIONS PERSONNEL, THE VALVE WAS PLACED IN USE BEFORE THE DOCUMENTS WERE RECEIVED. WHEN THE DOCUMENTS WERE RECEIVED, THEY WERE SATISFACTORY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

MAINTENANCE AND REPAIR + REFUELING + FAILURE, ADMINISTRATIVE CONTROL + SHUTDOWN COOLING SYSTEM + THREE MILE ISLAND I (PWR) + RECORDS + VALVES

115402

FUEL DENSITY TATION PENALTY IMPROPERLY INCORPORATED INTO TECH SPECS AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/R ER 78-23/17 TO NRC, REGION I, JUNE 19, 1976, DCKET 50-209, TYPE--PWR, NRG--B60, AE--GILBERT ASSOC.

115466 (CONTINUED)

CAUSE - PERSONNEL ERROR. IT WAS DISCOVERED THAT THE FUEL DENSIFICATION PENALTY WAS NOT PROPERLY INCORPORATED INTO TECH SPECS FOR CYCLE 2. PROPER INCORPORATION WOULD MAKE PRESSURE-TEMPERATURE LIMIT CURVES MORE RESTRICTIVE. HOWEVER, ELIMINATION OF THE INTERNAL VENT VALVE BYPASS FLOW PENALTY MORE THAN COMPENSATED FOR THE ERROR. THIS EVENT WAS CAUSED BY PERSONNEL ERROR IN THAT AN INADEQUATE HEAT FLOW TEAM WAS USED IN THE INCORPORATION OF THE FUEL DENSIFICATION PENALTY INTO THE TECH SPECS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

NOT CHANNEL ANALYSIS * NOT CHANNEL ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * MATHEMATICAL TREATMENT * THREE MILE ISLAND 1 (PDR) * FUEL DENSIFICATION

115467

REACTOR BUILDING ISOLATION VALVE FAILS TO CLOSE AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR D/EM 76-22/3L TO NRC OFFICE OF I & E, REGION I, JUNE 18, 1976, DOCKET 50-289, TYPE--PDR, NRC--B&W, AE--GILBERT ASSOC.

CAUSE - MECHANICAL BINDING OF PACKING. DURING TESTING WITH THE REACTOR SHUT DOWN, A LETDOWN COGLED IN OUTLET LINE ISOLATION VALVE INSIDE THE REACTOR BUILDING FAILED TO CLOSE ON SIGNAL. THE CAUSE APPEARED TO BE MECHANICAL BINDING OF THE PACKING AND/OR STEM. AFTER BEING CYCLED SEVERAL TIMES, THE VALVE OPERATED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * THREE MILE ISLAND 1 (PDR) * VALVES * HEAT EXCHANGERS

115702

FUEL DENSIFICATION PENALTY IMPROPERLY INCORPORATED IN TECH SPECS AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR D/EM 76-22/3L TO NRC OFFICE OF I & E, REGION I, JUNE 18, 1976, DOCKET 50-289, TYPE--PDR, NRC--B&W, AE--GILBERT ASSOC.

CAUSE - DESIGN DEFICIENCY. THE NSS VENDOR NOTIFIED THE UTILITY THAT FUEL DENSIFICATION PENALTIES WERE NOT PROPERLY INCORPORATED INTO CYCLE 2 TECH SPECS BUT THAT ELIMINATION OF THE VENT VALVE BYPASS FLOW PENALTY WOULD MORE THAN COMPENSATE FOR THIS PROBLEM. NEW TECH SPECS WILL BE SUBMITTED FOR APPROVAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FUEL INTEGRITY * NOT CHANNEL ANALYSIS * FAILURE, DESIGN ERROR * MATHEMATICAL TREATMENT * FLOW * THREE MILE ISLAND 1 (PDR) * BYPASS * FUEL DENSIFICATION

115704

INTERLOCK CIRCUIT BETWEEN EFFLUENT MONITOR AND DISCHARGE VALVE FAILS AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR D/EM 76-22/3L TO NRC OFFICE OF I & E, REGION I, JUNE 29, 1976, DOCKET 50-289, TYPE--PDR, NRC--B&W, AE--GILBERT ASSOC.

CAUSE - RELAY FAILED. DURING A CONTROLLED RELEASE OF RADIOACTIVE LIQUID FROM WASTE EVAPORATOR CONDENSATE STORAGE TANK TO THE UNIT AT 100 POWER, A HIGH ALARM WAS RECEIVED ON THE LIQUID EFFLUENT RADIATION MONITOR. THE ALARM FAILED TO CLOSE THE LIQUID RELEASE VALVE. DISCHARGE WAS MANUALLY TERMINATED. THE RELAY IN THE INTERLOCK CIRCUIT FAILED TO OPERATE. IT WAS REPLACED AND THE DISCHARGE RESUMED. THE HIGH ALARM WAS DUE TO AN OPERATOR MISREADING THE MONITOR BACKGROUND AS 1800 CPN WHEN THE ACTUAL BACKGROUND OF 2500 CPN. THE ALARM POINT WAS SET AT 2512 CPN BASED ON THE 1870 CPN BACKGROUND.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * EFFLUENT * WASTE DISPOSAL * WASTE DISPOSAL, LIQUID * FAILURE, INSTRUMENT * MONITORING SYSTEM, RADIATION * THREE MILE ISLAND 1 (PDR) * FAILURE, IMEHEM * VALVES * RELAYS

115851

NO PURGE EXHAUST MONITOR FAILS TO ACTUATE VALVES AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS. LTR D/EM 76-26/3L TO NRC OFFICE OF I & E, REGION I, JULY 19, 1976, DOCKET 50-289, TYPE--PDR, NRC--B&W, AE--GILBERT ASSOC.

CAUSE - PERSONNEL ERROR. WHILE TESTING THE RADIATION MONITORING SYSTEM WITH THE REACTOR AT 25% MBT, A REACTOR BUILDING PURGE EXHAUST MONITOR FAILED TO CLOSE 2 PURGE EXHAUST VALVES UPON RECEIPT OF A HIGH RADIATION TEST SIGNAL. BOTH VALVES WERE IMMEDIATELY CLOSED. THE PLUG-IN INTERLOCK AND ALARM RELAYS FOR THE MONITOR HAD BEEN REMOVED DURING CALIBRATION TO PREVENT SPURIOUS ALARMS AND WERE NOT RETURNED TO THE SCHEDULE ON COMPLETION OF THE MAINTENANCE. THE RELAYS WERE RETURNED TO

11581 *CONTINUED*
THEIR CORRECT LOCATION AND TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT PURGE + CONTAINMENT ISOLATION + TEST, SYSTEM OPERABILITY + FAILURE, MAINTENANCE ERROR + THREE MILE ISLAND 1 (PWR) + VALVES + ANALYTICAL MONITORS

11714
PLANT DISCHARGE WATER TEMPERATURE LESS THAN LIMIT AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/ENV. RPT. ER 76-28/4T TO NRC OFFICE OF I & E, REGION I, AUG. 20, 1976. DCKET 50-289, TYPE--PWR, NRC--BEB, AE--GILBERT ASSOC.

CASE - SHARP DROP IN AMBIENT AIR TEMPERATURE, WHILE OPERATING AT 100% POWER WITH THE PLANT EFFLUENT TEMPERATURE 2.0 F BELOW RIVER TEMPERATURE, A SEVERE THUNDERSTORM ACCOMPANIED BY A COLD FRONT CAUSED THE LOCAL AMBIENT AIR TEMPERATURE TO DROP 11 F IN 20 MINUTES. THE OPERATOR WAS UNABLE TO ANTICIPATE OR TURN AROUND THE SHARP DROP IN EFFLUENT TEMPERATURE. THE DELTA T WAS BELOW THE -3 F LIMIT FOR 30 MINUTES. THE MAXIMUM DIFFERENTIAL WAS -9 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

EFFLUENT + RIVER + TEMPERATURE GRADIENT + THREE MILE ISLAND 1 (PWR) + WEATHER, SEVERE + CONDENSED COOLING SYSTEM + FAILURE, INHERENT

118014
TWO POWER RANGE INSTRUMENT CHANNELS OUT OF SERVICE AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/REG EP 76-29/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 29, 1976. DCKET 50-289, TYPE--PWR, NRC--BEB, AE--GILBERT ASSOC.

CASE - LOOSE CABLE MOUNTING NUT, WHILE OPERATING AT 92% POWER, REACTOR PROTECTION SYSTEM CHANNEL D TRIPPED ON A FLUX/IMBALANCE/FLOW SIGNAL. BECAUSE THE MOUNTING NUT FOR THE CABLE CONNECTION OF NS DETECTOR NI-8 LOWER CHANNEL WAS LOOSE AT THE CONNECTION JUNCTION BOX IN NPS CABINET D, THE CONNECTION ROTATED AND SHORTED THE INNER SHIELD AGAINST A SCREW IN THE JUNCTION BOX. THE SHORT CAUSED THE CHANNEL TO TRIP. EPS CHANNEL C WAS IN MANUAL BYPASS FOR FEAT BALANCE ADJUSTMENT. IT WAS RETURNED TO SERVICE. THE LOOSE CONNECTOR WAS REPOSITIONED AND THE NUT TIGHTENED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM + FAILURE, INSTRUMENT + FAILURE, MAINTENANCE ERROR + INSTRUMENT, POWER RANGE + THREE MILE ISLAND 1 (PWR) + CABLES AND CONNECTORS

118012
SET POINT DRIFT IN RCS PRESSURE TRANSMITTERS AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
2 PGS, LTR D/REG EP 76-31/3L TO NRC OFFICE OF I & E, REGION I, SEPT. 30, 1976. DCKET 50-289, TYPE--PWR, NRC--BEB, AE--GILBERT ASSOC.

CASE - INSTRUMENT DRIFT. WHILE CHECKING THE REACTOR COOLANT PRESSURE TRANSMITTERS AND TRIP SET POINTS DUE TO DIFFERENCES IN CHANNELS WITH THE REACTOR AT 100% POWER, THE LOW PRESSURE TRIP SET POINTS WERE FOUND TO BE LESS THAN THE 1800 PSIG LIMIT BY 5 PSI AND 13 PSI FOR 2 CHANNELS. THE CASE WAS INSTRUMENT DRIFT. THE TRANSMITTERS WERE IMMEDIATELY RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + MAIN COOLING SYSTEM + THREE MILE ISLAND 1 (PWR) + SET POINT + DRIFT + FAILURE, INHERENT + SENSORS, PRESSURE

118013
CONTROL ROD DRIVE BREAKER FAILS TO TRIP AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR D/REG EP 76-30/3L TO NRC OFFICE OF I & E, REGION I, OCT. 1, 1976. DCKET 50-289, TYPE--PWR, NRC--BEB, AE--GILBERT ASSOC.

CASE - OPERATING LINKAGE BINDING. DURING TESTING OF THE REACTOR PROTECTION SYSTEM WITH THE REACTOR AT 98% POWER, A CONTROL ROD DRIVE BREAKER FAILED TO TRIP. DIRT IN HARDENED GREASE APPEARED TO BIND THE OPERATING LINKAGE. THE UNDERVOLTAGE DEVICE WAS REPLACED TO PRECLUDE THE POSSIBILITY OF A WEAR SPRING IN THE DEVICE. SATISFACTORY OPERATION WAS ACHIEVED AFTER CLEANING AND LUBRICATING THE LINKAGE AND RECHECKING THE LATCH ADJUSTMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

118013 *CONTINUED*
FAILURE, EQUIPMENT * REACTOR PROTECTION SYSTEM * CRWD * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR
* THREE MILE ISLAND 1 (PWR) * *ORRANER * *CENTRAL HOD DRIVES

118005
SET POINT DRIFT IN RCS HIGH PRESSURE SWITCH AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR W/ER 78-33/3L TO NRC OFFICE OF I & E, REGION 1, OCT. 11, 1978, DOCKET 50-289, TYPE--PWR, NRC--B6B,
AE--GILBERT ASSOC.

CAUSE - TRANSMITTER DRIFT. DURING A TEST WITH THE REACTOR AT 100% POWER, THE HIGH REACTOR COOLANT
PRESSURE SET POINTS FOR RPS CHANNEL B WERE FOUND TO BE ABOVE THE LIMITS. SINCE THE TRANSMITTER
WAS CALIBRATED 16 DAYS EARLIER, IT WAS DECIDED TO REPLACE THE DEFECTIVE TRANSMITTER WITH A SPARE
BENCH-CALIBRATED UNIT. THIS IS A WESTINGHOUSE MODEL 59 PM NARROW RANGE PRESSURE TRANSMITTER. AN
INVESTIGATION INTO THE CAUSE OF DRIFT WILL BE STARTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM
OPERABILITY * THREE MILE ISLAND 1 (PWR) * *SET POINT * *DRIFT * *SENSORS, PRESSURE

118001
MAKEUP AND PURIFICATION SYSTEM LETDOWN COOLER LEAKS AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
2 PGS, LTR W/ER 78-32/3L TO NRC OFFICE OF I & E, REGION 1, OCT. 10, 1978, DOCKET 50-289, TYPE--PWR, NRC--
B6B, AE--GILBERT ASSOC.

CAUSE - UNKNOWN. WITH THE REACTOR AT 25% MW, SMELL SIVE SAMPLES OBTAINED FROM THE MAKEUP AND
PURIFICATION SYSTEM & LETDOWN COOLER CONFIRMED PREVIOUS INDICATIONS WHICH SUGGESTED A LEAK. IT
HAD BEEN APPARENT FOR 45 DAYS THAT A MINOR LEAK EXISTED FROM THE RCS INTO THE INTERMEDIATE CLOSED
CCLLING SYSTEM BUT, DUE TO THE SMALL SIZE, IT WAS DIFFICULT TO LOCATE. THE LETDOWN COOLER WAS
ISOLATED IMMEDIATELY. APPROPRIATE REPAIR WILL BE PERFORMED AT A FUTURE PLANT OUTAGE. THE CAUSE
WILL BE DETERMINED AT THAT TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT * REACTOR COOLANT * COOLANT PURIFICATION SYSTEM * LEAK * THREE MILE ISLAND 1 (PWR) *
COMPONENT COOLING SYSTEM * *HEAT EXCHANGERS

119002
REACTOR BUILDING ISOLATION VALVE FAILS TO FULLY OPEN AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR W/ER 78-30/3L TO NRC OFFICE OF I & E, REGION 1, OCT. 20, 1978, DOCKET 50-289, TYPE--PWR, NRC--
B6B, AE--GILBERT ASSOC.

CAUSE - LOOSE LOCK NUT. WHEN TERMINATING A SAMPLE FROM STEAM GENERATOR A WITH THE REACTOR AT
25% MW, CONTAINMENT ISOLATION VALVE CA-48A FAILED TO FULLY CLOSE. A LOOSE LOCK NUT ALLOWED
THE STEM NUT TO MOVE OUT OF ITS NORMAL POSITION ON THE VALVE STEM. WHEN THE VALVE WAS CLOSED,
THE STEM NUT CAME OUT OF POSITION TO THE POINT THAT THE VALVE WOULD NOT CLOSE COMPLETELY. ALSO,
THE CONTACT MECHANISM FOR THE OPENING TORQUE SWITCH WAS FOUND BROKEN. THE VALVE STEM NUT WAS
PLACED IN THE PROPER POSITION AND ITS LOCK NUT TIGHTENED. THE TORQUE SWITCH WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * STEAM GENERATOR * THREE MILE ISLAND 1 (PWR) * FAILURE,
IMPEPENT * VALVES

119501
PLANT RIVER WATER DISCHARGE DISSOLVED SOLIDS EXCEED LIMIT AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR W/ER 78-30/1T TO NRC OFFICE OF I & E, REGION 1, OCT. 27, 1978, DOCKET 50-289, TYPE--PWR, NRC--
B6B, AE--GILBERT ASSOC.

CAUSE - UNKNOWN. WHILE OPERATING AT 100% POWER, ANALYSIS OF THE RIVER WATER DISCHARGE FOUND THE
DISSOLVED SOLIDS CONCENTRATION TO BE 772 PPM. THIS EXCEEDS THE ETS LIMIT OF 700 PPM. THE
SAMPLE WAS TAKEN CONCURRENT WITH THE NORMAL DISCHARGE OF WATER FROM THE WASTE NEUTRALIZING TANK.
THE CAUSE IS NOT PRECISELY KNOWN. IT IS THOUGHT THAT THE TANK DISCHARGE VALVE MAY HAVE OPENED
MORE THAN THE REQUIRED POSITION OR THE SAMPLE COLLECTED WAS NOT TRULY REPRESENTATIVE. NEITHER
CAN BE CONFIRMED OR DISPROVED. A MECHANICAL STOP HAS BEEN INSTALLED ON THE VALVE SO THAT IT
CANNOT PHYSICALLY OPEN BEYOND THE REQUIRED POSITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00)

EFFLUENT * SAMPLING * WATER QUALITY * THREE MILE ISLAND 1 (PWR) * SOLID * CONCENTRATION

119014
 OVERLAP BETWEEN CONTROL ROD GROUP 6 AND 7 EXCEEDS LIMIT AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/RO 76-37/17 TC NRC OFFICE OF I & E, REGION I, NOV. 6, 1976, DOCKET 50-289, TYPE--PWR, MFG--B&B,
 AE--GILBERT ASSOC.

CAUSE - BLOWN FUSE/PROCEDURAL DEFICIENCY. AFTER REACTOR POWER HAD BEEN REDUCED TO ABOUT 50% FOR
 CONDENSER TUBE REPAIRS, THE FUSE FOR GROUP 6 PROGRAMMER MOTOR FAILED TRIPPING THE ROD CONTROL
 SYSTEM TO MANUAL. GROUP 7 CONTINUED TO RESPOND TO MANUAL SIGNALS (REQUIRED DUE TO BUILT-IN UP
 BEND). THE CONTROL ROOM OPERATOR MONITORED THE CHANGE BUT ALLOWED IT TO EXCEED THE LIMIT. THE
 OVERLAP CONDITION WAS CORRECTED IMMEDIATELY. THE BLOWN FUSE WAS CAUSED BY A FAILED DIODE BRIDGE
 IN THE DIRECTION DETECTOR CIRCUIT. IT WAS REPAIRED. PROCEDURES WERE MODIFIED TO INCLUDE
 SPECIFIC MONITORING REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * CONTROL ROD INTERACTION * REACTOR STABILITY * REACTOR CONTROL * FAILURE,
 INSTRUMENT * FAILURE, OPERATOR ERROR * SHUTDOWN MARGIN

119748
 SET POINT DRIFT IN THE HIGH RC TEMPERATURE BISTABLE AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/RO 76-38/3L TC NRC OFFICE OF I & E, REGION I, NOV. 12, 1976, DOCKET 50-289, TYPE--PWR, MFG--B&B,
 AE--GILBERT ASSOC.

CAUSE - DIRTY CONNECTORS. DURING TESTING WHILE OPERATING AT 2531 MWt, THE HIGH REACTOR COOLANT
 TEMPERATURE TRIP BISTABLE FOR MPS CHANNEL C TRIPLED AT 620.8 F, WHICH EXCEEDED THE 619 F LIMIT.
 INVESTIGATION SHOWED THAT THE BISTABLE ADJUSTMENT WAS PROPER AND CLEANING OF THE CONNECTORS ON
 THE BISTABLE MODULE ELIMINATED THE PROBLEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * SENSORS, TEMPERATURE * TEST, SYSTEM
 OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * CRUD * CABLES AND CONNECTORS * REACTOR PROTECTION
 SYSTEM * FAILURE, MAINTENANCE ERROR

119797
 IODINE-131 LEVEL IN MILK SAMPLE HIGH AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/ENV. RPT, 76-43/40 TC NRC OFFICE OF I & E, REGION I, NOV. 15, 1976, DOCKET 50-289, TYPE--PWR, MFG--
 B&B, AE--GILBERT ASSOC.

CAUSE - CHINESE WEAPON TEST. A MONTHLY MILK SAMPLE COLLECTED AT LOCATION TM-N-703 HAS A REPORTED
 LEVEL OF 46 + OR - 4.5 PICOCURIES/L I-131. THIS IS MORE THAN 10 TIMES THE CONTROL STATION VALUE.
 FALLOUT LEVELS FROM THE CHINESE ATMOSPHERIC WEAPONS TEST OF SEPTEMBER 1976 WERE ESPECIALLY HIGH
 IN THE EAST CENTRAL PENNSYLVANIA AREA. THE FARM AT THIS LOCATION USED FARMING PRACTICES NOT USED
 BY OTHER FARMS IN THE AREA WHICH WOULD TEND TO EXACERBATE THE SITUATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * CONCENTRATION * IODINE * MILK * FOOD CHAIN * TEST, WEAPONS * SAMPLING *
 MONITORING PROGRAM, ENVIRONMENTAL * FAILURE, INHERENT

120447
 DECAY HEAT REMOVAL SYSTEM VALVE LEAKS WHEN OPENED AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/RO 76-40/3L TC NRC OFFICE OF I & E, REGION I, DEC. 3, 1976, DOCKET 50-289, TYPE--PWR, MFG--B&B,
 AE--GILBERT ASSOC.

CAUSE - UNKNOWN. DURING A PLANT COOLDOWN, WHILE IN THE PROCESS OF ESTABLISHING DELAY HEAT REMOVAL
 FLOW, VALVE DM-VI WAS MANUALLY OPENED. WHILE THE VALVE WAS CLOSED, LEAKAGE PAST THE SEAL RING
 GASKET WAS 0.2 TO 0.5 GPM. AFTER THE VALVE WAS OPENED, LEAKAGE INCREASED TO 30 TO 60 GPM. THE
 CAUSE HAD NOT BEEN DETERMINED. IMMEDIATELY DM-VI WAS SHUT. AN APPROVED LEAK-SEALED COMPOUND
 (PURMANITE) WAS INJECTED AT A REDUCED REACTOR COOLANT SYSTEM PRESSURE OF 300 PSIG AND
 SUCCESSFULLY SEALED THE LEAK. VALVE REPAIR OR REPLACEMENT WILL BE MADE IN THE FUTURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * VALVES * SEAL * SHUTDOWN COOLING SYSTEM * LEAK * FAILURE, EQUIPMENT

120483
 FLUID RESERVOIR OF SHOCK ABSORBER FOUND EMPTY AT THREE MILE ISLAND 1
 METROPOLITAN EDISON CO., READING, PA
 3 PGS, LTR W/RO 76-41/3L TC NRC OFFICE OF I & E, REGION I, DEC. 7, 1976, DOCKET 50-289, TYPE--PWR, MFG--B&B,

120482 RE-ENTRANCE OF
AC--GILBERT ASSOC.

CAUSE - SEALS IMPROPERLY INSTALLED. DURING ROUTINE SURVEILLANCE OF SMOGERS INSIDE THE REACTOR BUILDING, SECONDARY SMOGGER BALL BEHIND THE REACTOR WAS SHUT DOWN. ONE JOINT WAS FOUND WITH AN EMPTY FLEET RESERVOIR. A CLOSE EXAMINATION REVEALED THAT THE MAIN PISTON AND SEAL WAS DAMAGED PROBABLY DUE TO IMPROPER INSTALLATION. ALSO, ONE WASHING WAS FOUND TO BE MISSING. THE SMOGGER WAS REBUILT USING ETHYLENE PROPYLENE SEALS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THREE MILE ISLAND I (PWR) * OSUMER RESEARCH * SUPPORT STRUCTURE * PIPES AND PIPE FITTINGS * SURVEILLANCE PROGRAM * FAILURE, MAINTENANCE ERROR * FAILURE, EQUIPMENT * OSEAL * LEAK

120484
CRACK FOUND IN DECAY HEAT RIVER WATER UNDERGROUND PIPE AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR #/NO 76-42/14 TO NRC OFFICE OF I & E, REGION I, DEC. 7, 1976, DCKET 50-289, TYPE--PWR, MFG--BBB,
AC--GILBERT ASSOC.

CAUSE - IMPROPER INSTALLATION. DECAY HEAT B RIVER WATER UNDERGROUND PIPING CHECKED IMMEDIATELY OUTSIDE THE INTAKE PUMP AND SCREEN HOUSE WALL JOINT. FAILURE WAS ATTRIBUTABLE TO SETTLEMENT OF THE ELBOW THROST BLOCK WHICH RESULTED IN MISALIGNMENT OF THE PIPE. STRESS RESULTING FROM MISALIGNMENT OF THE PIPE WAS CAUSED BY IMPROPER INSTALLATION. THE THROST BLOCK HAD SETTLED 4 INCHES. THE FAILED 24 INCH CONCRETE LINE WAS REPLACED FROM THE BALL JOINT TO THE ELBOW. THE REACTOR WAS IN COLD SHUTDOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THREE MILE ISLAND I (PWR) * PIPES AND PIPE FITTINGS * UNDERGROUND * DECAY HEAT * EMERGENCY COOLING * FAILURE, PIPE * FAILURE, INSTALLATION ERROR * CRACK * SUBSIDENCE * LEAK

120718
RADIOISOTOPE LEVELS IN SEDIMENT EXCEED 10 TIMES CONTROL LEVELS AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR #/NO 76-38/40 TO NRC OFFICE OF I & E, REGION I, DEC. 20, 1976, DCKET 50-289, TYPE--PWR, MFG--BBB,
AC--GILBERT ASSOC.

CAUSE - NOT DUE TO STATION OPERATION. ANALYSIS OF SEDIMENT SAMPLES OBTAINED FROM THE ENVIRONS ON 10/17/76 YIELDED RADIOISOTOPE LEVELS AT ONE LOCATION TEN TIMES GREATER THAN THE IMMEDIATE DOWNSTREAM INDICATOR STATION AND THE BACKGROUND STATION. AN IN-DEPTH REVIEW OF STATION EFFLUENT DATA INDICATED THAT THE RADIOISOTOPES DETECTED ARE PROBABLY NOT DUE TO STATION OPERATION. SAMPLES COINCIDED WITH THE CHINESE ATMOSPHERIC TESTS. THE PRESENCE OF FALLOUT IS OBVIOUS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THREE MILE ISLAND I (PWR) * CONCENTRATION * SURFACE WATER, SEDIMENT * EFFLUENT * MONITORING PROGRAM, ENVIRONMENTAL * TEST, WEAPONS * FAILURE, INHERENT * RADIOISOTOPE

120720
CONCENTRATION IN THE HBST LESS THAN LIMIT AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR #/NO 76-40/17 TO NRC OFFICE OF I & E, REGION I, DEC. 20, 1976, DCKET 50-289, TYPE--PWR, MFG--BBB,
AC--GILBERT ASSOC.

CAUSE - STRATIFICATION IN TANK. DURING 1008 PUNCH OPERATION, THE CONCENTRATION OF BOMIC ACID IN THE DEGATED WATER STORAGE TANK WAS FOUND TO BE LESS THAN THE REQUIRED 2270 PPM. STRATIFICATION OF THE BOST CAUSED A FALSE CONCENTRATION ON ONE READING WHICH DID NOT HAVE OF A CONCENTRATION BELOW THE MINIMUM. THERE WAS A LEAKAGE OF WATER FROM THE DECAY HEAT REMOVAL SYSTEM WHICH WAS CIRCULATING REACTOR DUE TO AT 1200 PPM BACK THROUGH SOME VALVES. ALSO, THE STANDARD USED IN THE ANALYSIS WAS IN ERROR GIVING RESULTS 5% BELOW ACTUAL VALUES. CONCENTRATED BOMIC ACID WAS ADDED TO THE HBST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THREE MILE ISLAND I (PWR) * CONCENTRATION * 0.0150% SOLUBLE * STORAGE CONTAINER * SAMPLING * STRATIFICATION * CHEMICAL ANALYSIS

120737
RADIOISOTOPE LEVEL IN SURFACE WATER EXCEEDS TEN TIMES CONTROL LEVEL AT THREE MILE ISLAND I
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR #/NO 76-50/40 TO NRC OFFICE OF I & E, REGION I, DEC. 29, 1976, DCKET 50-289, TYPE--PWR, MFG--BBB,
AC--GILBERT ASSOC.

CAUSE - NOT DUE TO STATION OPERATION. ANALYSIS OF THE MONTHLY COMPOSITE SURFACE WATER SAMPLE

120717 *CONTINUED*

COLLECTED 11/4 THROUGH 11/30/76 YIELDED RADIOISOTOPE LEVELS AT ONE INDICATOR LOCATION TEN TIMES GREATER THAN THE BACKGROUND STATION. A THOROUGH REVIEW OF STATION EFFLUENT DATA AND OTHER ENVIRONMENTAL MEDIA SAMPLE ANALYSIS RESULTS INDICATES THAT THIS RESULT SHOULD NOT BE ATTRIBUTED TO STATION OPERATION. 2H-40-95 WAS NOTED IN HIGHER THAN NORMAL CONCENTRATIONS IN AIR PARTICULATE, SEDIMENT AND FISH SAMPLES DUE TO FALLOUT FROM THE CHINESE ATMOSPHERIC WEAPON TEST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * CONCENTRATION * RADIOISOTOPE * SURFACE WATER * SAMPLING * MONITORING * LEAKS * ENVIRONMENTAL * FAILURE, IMPERMENT * TEST, REASONS

120719

QUANTITY OF SODIUM HYDROXIDE IN TANK LES THAN LIMIT AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR W/PO 70-47/17 TO NRC OFFICE OF I & E, REGION 1, DEC. 29, 1976, DCKET 50-289, TYPE--PWR, NRC--BWR, AE--GILBERT ASSOC.

CASE - PROCEDURAL CURVES MISREAD. ON DEC. 2, THE TOTAL POUNDS OF SODIUM HYDROXIDE IN THE SODIUM HYDROXIDE STORAGE TANK WAS DETERMINED TO BE 10320 LBS. ON DEC. 15 AFTER ADDING 400 LBS. ANALYSIS SHOWED ONLY 10139 LBS. COMPARING THE 2 RESULTS SHOWED THAT THE CONCENTRATION DID NOT CHANGE. INSPECTION OF THE DEC. 2 DATA SHOWED THAT 2 PROCEDURAL CURVES HAD BEEN MISINTERPRETED DUE TO PERSONNEL ERROR. THE CURVES WERE MISREAD BY BOTH THE TECHNICIAN WHO PERFORMED THE ANALYSIS AND THE FOREMAN WHO CHECKED HIS WORK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * CONCENTRATION * SODIUM * ADDITIVE * STORAGE CONTAINER * CONTAINMENT SPRAY * CHEMICAL ANALYSIS * FAILURE, ADMINISTRATIVE CONTROL * HYDROXIDE

120755

RADIATION MONITOR REMOVED FROM SERVICE FOR MAINTENANCE AT THREE MILE ISLAND 1
METROPOLITAN EDISON CO., READING, PA
3 PGS, LTR W/PO 78-45/31 TO NRC OFFICE OF I & E, REGION 1, DEC. 30, 1976, DCKET 50-289, TYPE--PWR, NRC--BWR, AE--GILBERT ASSOC.

CASE - DESIGN DEFICIENCY. DURING 100% POWER OPERATION, RADIATION MONITOR RM-A2 WAS TAKEN OUT OF SERVICE TO REMOVE MOISTURE FROM THE MONITOR. CONDENSATION OCCURRED BECAUSE OF THE TEMPERATURE DIFFERENCE BETWEEN THE REACTOR BUILDING WHERE THE AIR SAMPLE IS TAKEN AND THE INTERMEDIATE BUILDING WHERE THE MONITOR IS LOCATED. THE MONITOR WAS UNICED OUT AND HEAT TRACING AND HEAT LAMPS WERE APPLIED TO THE INLET PIPING. DURING THE HEAT REFUELING OUTAGE, THE INLET AND OUTLET PIPING WILL BE INTERCHANGED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 1 (PWR) * RADIATION MONITORS * CONTAINMENT LEAK MONITOR * CONDENSATION * PIPES AND PIPE FITTINGS * FAILURE, INSTRUMENT * FAILURE, DESIGN ERROR * MODIFICATION

111800

TWO SHIPPING SHIMS USED FOR REACTOR INTERNALS MISSING AT THREE MILE ISLAND 2
METROPOLITAN EDISON CO., READING, PA
2 PGS, LTR W/PO 78-45/31 TO NRC OFFICE OF I & E, MARCH 10, 1976, DCKET 50-320, TYPE--PWR, NRC--BWR, AE--JOHNS & MAN

CASE - NOT STATED. DURING UNLOADING OF THE REACTOR INTERNALS PLENUM ASSEMBLY AND CORE SUPPORT SHIELD FOR THE SHIPPING CONTAINER, SHIMS AND OTHER SHIPPING HARDWARE WERE COLLECTED AND STORED. WHEN THE AS SHIPPED INVENTORY LIST WAS RECEIVED 2 WEEKS LATER, A COMPARISON SHOWED 25 SHIMS HAD BEEN PACKED BUT ONLY 23 WERE STORED. A VISUAL REINSPECTION OF THE INTERNALS DID NOT RECOVER THE MISSING PARTS. THIS IS NOT A REPORTABLE INCIDENT BUT FOR INFORMATION ONLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TRANSPORTATION AND HANDLING * FLEW BLOCKAGE * CORE COMPONENTS * COMPONENTS * THREE MILE ISLAND 2 (PWR) * CONSTRUCTION

111932

NYLON MATERIAL FOUND UNDER CABLE TERMINAL LUGS AT THREE MILE ISLAND 2
METROPOLITAN EDISON CO., READING, PA
2 PGS, LTR W/PO 78-45/31 TO NRC OFFICE OF I & E, MARCH 11, 1976, DCKET 50-320, TYPE--PWR, NRC--BWR, AE--JOHNS & MAN

CASE - FACTORY INSTALLATION ERROR. DURING WENCHEN TESTING OF THE REACTOR BUILDING ELECTRICAL PENETRATION CABLES, A NYLON MATERIAL USED AS A SEPARATION BETWEEN THE CABLE INSULATION AND CONDUCTOR WAS FOUND UNDER TERMINAL LUGS ON 2 PENETRATIONS. TERMINAL LUGS ARE FACTORY INSTALLED BY GE. USE OF NYLON APPEARS LIMITED TO VULCANIZ TYPE SIZING AND CABLES. REPLACEMENT OF THE FAULTY TERMINATIONS PRIOR TO FUEL LOADING HAS BEEN INITIATED.

111935 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, FABRICATION ERROR * TEST, PREOPERATIONAL * TEST, SYSTEM OPENABILITY * THREE MILE ISLAND 2 (PWH) * INSULATION * CONSTRUCTION * CABLES AND CONNECTORS

112230
 VOID FOUND IN FUEL HANDLING BUILDING WALL AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 2 PGS. LTR R/PT TO NRC OFFICE OF I & E, MARCH 19, 1976. DOCKET 50-320. TYPE--PWH, MFG--BLB, AE--BURNS & ROE

CAUSE - INSTALLATION ERROR. AS HOLES WERE BEING DRILLED INTO THE SOUTH EXTENSION WALL OF THE FUEL HANDLING BUILDING FOR REINFORCING DOWELS, A VOID WAS FOUND 8 INCHES INTO THE CONCRETE THAT EXTENDED TO A DEPTH OF 3 FEET. IT WAS ABOUT 5.5 FEET LONG. THE AREA HAD BEEN A BLOCKOUT FOR THE FUEL TRANSFER TUBE. WHEN CONCRETE WAS PLACED AFTER TUBE INSTALLATION, THE INNER TOP SECTION FAILED TO FILL COMPLETELY. THE VOID WILL BE FILLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

*CONCRETE * BUILDING * FAILURE, INSTALLATION ERROR * THREE MILE ISLAND 2 (PWH) * CONSTRUCTION * VOID * STRUCTURE

114102
 FAULTY BELTS ON SAFETY RELATED UNIT SUBSTATION AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 2 PGS. LTR R/PT TO NRC OFFICE OF I & E, MAY 20, 1976. DOCKET 50-320. TYPE--PWR, MFG--BLB, AE--JOHNS & RUE

CAUSE - TOO LOW A TEMPERATURE USED. WHILE CONNECTING FLEXIBLE CABLES FROM THE LOAD BEAR SWITCH CABINETS TO THE BUS BARS FROM THE HIGH SIDE OF THE TRANSFORMER IN A GE SUPPLIED UNIT SUBSTATION, A TRANSITION PIECE WELDED TO THE ALUMINUM BUS BAR IN THE UNIT SUBSTATION BROKE OFF. THE WELD WAS EXTREMELY POROUS WITH INSUFFICIENT THROAT SIZE. IT APPEARED THAT THE WELD WAS MADE AT TOO LOW A TEMPERATURE. FOUR UNIT SUBSTATIONS EXHIBITED THIS CONDITION. WE HAS SUPPLIED A WELD REPAIR PROCEDURE AND INSTRUCTIONS FOR REATTACHING THE TRANSITION PLATES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BELTS * FAILURE, FABRICATION ERROR * THREE MILE ISLAND 2 (PWH) * CONSTRUCTION * TEMPERATURE * CABLES AND CONNECTORS * TRANSFORMERS

120082
 VOIDS FOUND IN CONCRETE WALL OVER FUEL TRANSFER TUBES AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 4 PGS. LTR R/PT TO NRC OFFICE OF I & E, JULY 30, 1976. DOCKET 50-320. TYPE--PWR, MFG--BLB, AE--BURNS & ROE

CAUSE - CONSTRUCTION DEFICIENCY. AS PART OF THE CONSTRUCTION OF THE SHIELD WALLS AND SLABS AROUND THE FUEL TRANSFER TUBES, HOLES WERE DRILLED INTO THE NORTH EXTERIOR WALL OF THE FUEL TRANSFER CANAL FOR DOWELS. DURING THIS, A VOID WAS OPENED WITHIN THE CONCRETE OVER BOTH FUEL TRANSFER TUBES. EACH WAS 3 TO 4 FEET INTO THE CONCRETE, 1.5 FEET HIGH, AND 6 TO 8 FEET WIDE. A SIMILAR CONDITION WAS DISCOVERED ON THE SOUTH WALL AND REPORTED EARLIER. APPARENTLY, WHEN THE BLOCKOUTS WERE POURED, THE INTERIOR PORTION OF THE POUR DID NOT FILL THE KEYWAYS ON TOP OF THE BLOCKOUTS. THE VOID WILL BE FILLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

THREE MILE ISLAND 2 (PWH) * CONSTRUCTION * VOID * CONCRETE * CONCRETE, REINFORCED * CANAL * CONTAINMENT * FAILURE, INSTALLATION ERROR * CONTAINMENT CONSTRUCTION * SHIELDING

117027
 BUTT SPLICES ON SWITCHGEAR FAIL AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 2 PGS. LTR R/PT TO NRC OFFICE OF I & E, REGION 1, AUG. 18, 1976. DOCKET 50-320. TYPE--PWR, MFG--BLB, AE--BURNS & ROE

CAUSE - NOT STATED. DURING INTERNAL WIRING CHANGES ON GE ARD-S SWITCHGEAR, SEVERAL BUTT SPLICES LOCATED ON TOP OF THE SWITCHGEAR FOR THE UNIT SUBSTATION, PULLED APART. THE ELECTRICIANS, PERFORMING THE WIRING CHANGES REPAIRED THESE SPLICES AS THEY BROKE. NO RECORD WAS MAINTAINED OF THE NUMBER OF SPLICES WHICH REQUIRED REPAIR. WHEN THE PROBLEM WAS IDENTIFIED, WE WAS REQUESTED TO SUPPLY A REMEDY. EACH SPlice WAS INSPECTED FOR ADEQUACY BY PULLING FIRMLY (10-15 LBS. FORCE). OUT OF 1000 SPLICES CHECKED, 7 FAILED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

*BELTS * ELECTRIC POWER * INSTRUMENT, SWITCH * FAILURE, FABRICATION ERROR * THREE MILE ISLAND 2 (PWH) * CONSTRUCTION * CABLES AND CONNECTORS * BREAKER

12000c
 EXPECTED CRP RESPONSE TIMES IN EXCESS OF REQUIRED TIMES AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 3 PGS. LTR #/HPT TO NRC OFFICE OF I & E, REGION I, SEPT. 26, 1976, DCKET 50-320, TYPE--PWR, NFO--B6B, AE--
 BURNS & ROE

CAUSE - FABRICATION DEFICIENCIES. GATHERING INFORMATION ON REQUIRED AND EXPECTED ENGINEERED SAFETY FEATURES RESPONSE TIMES REVEALED THAT SEVERAL OF THE EXPECTED RESPONSE TIMES (BASED ON VENDOR TEST DATA, ETC.) WERE IN EXCESS OF THE REQUIRED TIMES ESTABLISHED BY FSAN ANALYSIS. EACH ONE HAS BEEN CONSIDERED SEPARATELY AND NECESSARY CORRECTIVE ACTION TAKEN. THE SLOWER DIESEL LOADING SEQUENCE WOULD CAUSE AN INCREASE IN THE CALCULATED PEAK PRESSURE FROM 55.7 PSIG TO 50.0 PSIG, WHICH IS STILL BELOW THE DESIGN PRESSURE OF 60 PSIG.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 2 (PWR) * CONSTRUCTION * RESPONSE TIME * CONTROL SYSTEM * ENGINEERED SAFETY FEATURE * GENERATOR, DIESEL * EMERGENCY COOLING SYSTEM * FAILURE, FABRICATION ERROR

118001
 EMERGENCY DIESEL GENERATOR BUILDING VENTILATION INSUFFICIENT AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 3 PGS. LTR #/HPT TO NRC OFFICE OF I & E, REGION I, SEPT. 17, 1976, DCKET 50-320, TYPE--PWR, NFO--B6B, AE--
 BURNS & ROE

CAUSE - INCORRECT DESIGN DATA. THE DIESEL GENERATOR BUILDING VENTILATION SYSTEM IS UNDERSIZED FOR PROPER PERFORMANCE OF THE EMERGENCY DIESEL ELECTRIC GENERATING PLANT. VENDOR BUILDING DOCUMENTS INDICATED THE HEAT DISSIPATION IS 717000 BTU/HR. THIS WAS USED FOR DESIGNING THE VENTILATION SYSTEM. HOWEVER, THIS WAS FOR THE ENGINE ONLY AND DID NOT INCLUDE 302000 BTU/HR FROM THE GENERATOR. CORRECTIVE ACTION INCLUDES DUCTING COMBUSTION AIR FROM THE OUTSIDE THROUGH DUCT WORK, INSTALLING AN ADDITIONAL EXHAUST SYSTEM TO THE OUTSIDE ATMOSPHERE, AND INSTALLING ADDITIONAL SUPPLY FANS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

VENTILATION SYSTEM * BUILDING * PURIFICATION * FAILURE, DESIGN ERROR * THREE MILE ISLAND 2 (PWR) * SYSTEM CAPACITY * CONSTRUCTION * GENERATOR, DIESEL

120692
 MAKEUP PUMP PRESSURE SWITCH MODIFICATION AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 2 PGS. LTR #/HPT TO NRC OFFICE OF I & E, REGION I, DEC. 19, 1976, DCKET 50-320, TYPE--PWR, NFO--B6B, AE--
 BURNS & ROE

CAUSE - DESIGN DEFICIENCY. THE DISCHARGE PRESSURE SWITCH CONTACTS FOR THE MAKEUP PUMPS WILL TRIP THE PUMP IF THE PRESSURE IS BELOW 2200 PSIG AFTER A 5 SECOND STARTUP TIME. THE SWITCH WAS ORIGINALLY INTENDED TO BE A REDUNDANT INDICATION OF LOW SUCTION PRESSURE. THE RETENTION OF THIS REDUNDANT CONTROL FEATURE IS NOT NECESSARY. THE SWITCH WILL BE RETAINED TO ALARM AT 2200 PSIG. THE CONTROL FEATURE WILL BE DISCONNECTED. THE PUMP WILL STILL BE TRIPPED ON LOW SUCTION PRESSURE AT ANY TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 2 (PWR) * CONSTRUCTION * CONTROL SYSTEM * INSTRUMENT, SWITCH * SENSORS, PRESSURE * PUMPS * RECUPERATOR * MAIN COOLING SYSTEM * FAILURE, DESIGN ERROR * MODIFICATION * INSTRUMENT, REDUNDANT

120091
 FIRE DISCOVERED IN MOTOR CONTROL CENTER AT THREE MILE ISLAND 2
 METROPOLITAN EDISON CO., READING, PA
 2 PGS. LTR #/HPT TO NRC OFFICE OF I & E, REGION I, DEC. 22, 1976, DCKET 50-320, TYPE--PWR, NFO--B6B, AE--
 BURNS & ROE

CAUSE - MISALIGNED STAB. A FIRE WAS DISCOVERED IN A REG SAFETY RELATED MOTOR CONTROL CENTER MCC 2-318B WHILE INVESTIGATING THE CAUSE OF THE WILLOW SERVICE PUMP BREAKER TRIPPING. THE FIRE WAS EXTINGUISHED USING CO2 AND DRY CHEMICALS. THE FIRE WAS CAUSED BY A MISALIGNED STAB OF ONE OF THE STAB ASSEMBLIES CONNECTED TO MOTOR CONTROL CENTER BRANCH BREAKER ASSOCIATED WITH THE PUMP STARTERS. AN ELECTRICAL ARC DEVELOPED WHICH IGNITED THE VERTICAL INSULATING BARRIER. THE DAMAGED MCC IS BEING REPLACED WITH A UNIT OF IMPROVED DESIGN AND NEW CABLES WILL BE INSTALLED. INSULATING BARRIER WILL BE REPLACED WITH A FIRE RETARDANT MATERIAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (108 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

THREE MILE ISLAND 2 (PWR) * CONSTRUCTION * FIRE * CONTROL SYSTEM * MOTORS * SERVICE WATER SYSTEM * ELECTRICAL ARC * INSULATION * ELECTRICAL PUMPS * FAILURE, INSTALLATION ERROR

110241
 FEEDWATER ISOLATION VALVE FAILS TO CLOSE AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR B/WO 70-03 TO U.S. NRC, REGION V, JAN. 23, 1970. DOCKET 50-344. TYPE--PWR. MFG--WEST., AE--BECHTEL

CAUSE - UNKNOWN. FOLLOWING A PLANNED TRIP FROM 10% POWER, MAIN FEEDLINE J ISOLATION VALVE DID NOT CLOSE. ATTEMPTS TO CLOSE IT FROM THE LOCAL CONTROL PANEL BROUGHT THE VALVE TO MID-POSITION. NO ABNORMAL CONDITIONS WERE NOTED. THE VALVE WAS THEN STROKED SUCCESSFULLY. THE ACTUAL CAUSE IS UNKNOWN. POSSIBLE CAUSES ARE BINDING OF VALVE OR OPERATOR COMPONENTS, FOREIGN MATERIAL IN THE VALVE, OR MISOPERATION OF THE HYDRAULIC CONTROL VALVES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + REACTOR STARTUP EXPERIENCE + TROJAN (PWR) + COOLING SYSTEM, SECONDARY + FEEDWATER + VALVES

110242
 AUXILIARY FEEDWATER PUMP FAILS TO START AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR B/WO 70-04 TO U.S. NRC, REGION V, JAN. 23, 1970. DOCKET 50-344. TYPE--PWR. MFG--WEST., AE--BECHTEL

CAUSE - PERSONNEL ERROR. FOLLOWING A PLANNED TRIP WHEN THE MAIN FEEDWATER PUMPS WERE TRIPPED, THE DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP CHOKED BUT DID NOT START. THE DIESEL WAS RESET AND STARTED MANUALLY BUT IT TRIPPED ON OVERSPEED. FAILURE WAS DUE TO PERSONNEL ERROR. A DETAILED SEQUENCE OF SWITCH OPERATIONS HAD NOT BEEN ACCOMPLISHED TO RESET THE FUEL RACKS WHEN THE PUMP HAD LAST SHUT DOWN. THIS PREVENTED AUTO-START. THE AUTOMATIC SPEED CONTROLLER SATURATED WHEN THE PUMP IS SHUT DOWN. THE CONTROLLER OUTPUT LIMITER HAD NOT BEEN SET TO LIMIT THE SPEED SIGNAL TO THE ENGINE CAUSING THE OVERSPEED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

FAILURE, OPERATOR ERROR + REACTOR STARTUP EXPERIENCE + TROJAN (PWR) + AUXILIARY + COOLING SYSTEM, SECONDARY + FEEDWATER + PUMPS + ENGINES, INTERNAL COMBUSTION

111026
 DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP TRIPS ON OVERSPEED AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR B/WO 70-05 TO U.S. NRC, REGION V, JAN. 27, 1970. DOCKET 50-344. TYPE--PWR. MFG--WEST., AE--BECHTEL

CAUSE - LOOSE SIGNAL LEAD TO GOVERNOR. WHILE FEEDING THE STEAM GENERATORS PRIOR TO REACTOR STARTUP, THE DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP TRIPPED ON OVERSPEED. THE SPEED SIGNAL LEAD TO THE GOVERNOR HAD VIBRATED LOOSE FROM THE SPEED PICKUP RESULTING IN LOSS OF FEEDBACK SIGNAL. THE LEAD WAS RECONNECTED AND LOCKED IN PLACE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

REACTOR STARTUP EXPERIENCE + VIBRATION + FAILURE, INSTALLATION ERROR + STEAM GENERATOR + TROJAN (PWR) + CABLES AND CONNECTORS + AUXILIARY + COOLING SYSTEM, SECONDARY + FEEDWATER + PUMPS

111027
 AUXILIARY FEEDWATER PUMPS FAIL TO AUTO-START AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR B/WO 70-06 TO U.S. NRC, REGION V, JAN. 27, 1970. DOCKET 50-344. TYPE--PWR. MFG--WEST., AE--BECHTEL

CAUSE - LIFTED LEAD MISLOADED. WHILE OPERATING AT 20% POWER, A TURBINE TRIP ON HIGH STEAM GENERATOR LEVEL RESULTED IN TRIPPING OF THE REACTOR AND THE MAIN FEEDPUMP. AUXILIARY FEEDPUMPS DID NOT AUTO-START. THE OPERATOR STARTED THEM MANUALLY. A LEAD HAD BEEN LIFTED TO ALLOW STEAM GENERATOR SHUTDOWN. LIFTING THIS LEAD PREVENTED THE AUTO-START SIGNAL. THE LEAD WAS TAGGED BUT NOT LOADED PROPERLY. IT WAS REPLACED AND AUTO-STARTING VERIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHANGE \$2.00)

FAILURE, OPERATOR ERROR + REACTOR STARTUP EXPERIENCE + STEAM GENERATOR + TROJAN (PWR) + CABLES AND CONNECTORS + RECORDS + AUXILIARY + COOLING SYSTEM, SECONDARY + FEEDWATER + PUMPS

111018
 OPA AND NORMAL SHUTDOWN SEQUENCES FAIL AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR B/WO 70-07 TO U.S. NRC, REGION V, FEB. 6, 1970. DOCKET 50-344. TYPE--PWR. MFG--WEST., AE--BECHTEL

CAUSE - DESIGN ERROR IN CONTACTS. DURING A LOSS-OF-OFFSITE-POWER TEST, COMPONENT COOLING WATER PUMPS DID NOT START AUTOMATICALLY AND THIRN J CHANGING AND SERVICE WATER PUMPS STARTED LATE. THE PUMPS WERE STARTED MANUALLY. SEQUENCER TESTING INDICATED THAT THE NORMAL SHUTDOWN AND DESIGN BASIS ACCIDENT SEQUENCES MALFUNCTIONED. SEQUENCER CONTACTS WERE RATED AT 10 AMPS TO OPERATE

111019 *CONTINUED*

BREAKERS. MOST ESF BREAKERS HAVE AUXILIARY RELAYS DRAWING ONLY 100 MILLIAMPS. CONTACTS WERE REPLACED WITH LOW-CAPACITY TYPE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT, LOSS OF POWER * INSTRUMENT, CONTROL * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * ENGINEERED SAFETY FEATURE * OFF SITE * TROJAN (PWR)

111019

ACCUMULATOR ISOLATION VALVES FAIL TO REMAIN CLOSED AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

4 PGS, LTR B/RQ 76-08 TO U.S. NRC, REGION V, FEB. 18, 1980, DCKET 50-346, TYPE--PWR, WFO--BEST, AE--BECHTEL

CAUSE - DESIGN ERROR IN WIRING. AS SYSTEM PRESSURE WAS BEING REDUCED WITH THE PLANT SHUT DOWN, THE OPERATOR CLOSED THE ACCUMULATOR JETLET ISOLATION VALVES. WHEN THE SWITCHES WERE RELEASED, THE VALVES WERE REOPENED. THERE WAS A DESIGN ERROR IN THE WIRING OF A P-LAY CONTACT IN THE CONTROL CIRCUIT WHICH CAUSED THE VALVES TO REOPEN. THE SCHEMATIC DRAWING SHOWED THAT THE NORMALLY OPEN CONTACTS SHOULD BE USED WHEN ACTUALLY THE NORMALLY CLOSED CONTACTS WERE MEANT. WIRING WAS CHANGED AND THE DRAWINGS REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * CONTAINMENT ISOLATION * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * TROJAN (PWR) * VALVES * ACCUMULATORS

111020

HPS FAILS TO INITIATE A TRIP SIGNAL IN ONE TRAIN AT TROJAN

PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

3 PGS, LTR B/RQ 76-09 TO U.S. NRC, REGION V, FEB. 18, 1978, DCKET 50-346, TYPE--PWR, WFO--BEST, AE--BECHTEL

CAUSE - ZENER DIODE FAILURE. DURING TESTING WITH THE REACTOR IN HJT SHUTDOWN, THE OPERATOR PLACED TRAIN A OF THE SOLID STATE PROTECTION SYSTEM IN THE TEST POSITION WITHOUT BEING AWARE THAT TRAIN B HAD A GENERAL WARNING ALARM. A REACTOR TRIP OCCURRED BUT ONLY TRIP BREAKER A OPENED. A ZENER DIODE FAILURE IN THE UNDERVOLTAGE OUTPUT PRINTED CIRCUIT CANNOT PREVENTED TRAIN B BREAKER FROM TRIPPING. THE DEFECTIVE UNDERVOLTAGE CARD WAS REPLACED AND TESTED. THE GENERAL WARNING ALARM RESULTED FROM A SWITCH BEING LEFT IN THE TEST POSITION. OPERATORS WERE INSTRUCTED NOT TO LEAVE A TRAIN IN THE TEST POSITION. TRIP BREAKER TESTING WILL BE ADDED TO PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * FAILURE, OPERATOR ERROR * SCRAM, REAL * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * TROJAN (PWR) * BREAKER * ELECTRONIC FUNCTION UNITS

111021

REACTOR OPERATED WITH STEAM FLOW SIGNALS ISOLATED ON ONE LINE AT TROJAN

PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

4 PGS, LTR B/RQ 76-10 TO U.S. NRC, REGION V, FEB. 19, 1976, DCKET 50-346, TYPE--PWR, WFO--BEST, AE--BECHTEL

CAUSE - TRANSMITTERS LEFT ISOLATED. WHILE OPERATING AT JOB POWER, STEAM FLOW INDICATIONS FOR STEAM LINE C WERE CONSTANT WHILE INDICATIONS FOR OTHER LINES WERE FLUCTUATING. BOTH FLOW TRANSMITTERS WERE FOUND TO BE ISOLATED. THEY APPARENTLY WERE NOT RETURNED TO SERVICE FOLLOWING MAINTENANCE 3 DAYS EARLIER. THEY WERE RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * STEAM * REACTOR STARTUP EXPERIENCE * FAILURE, MAINTENANCE ERROR * TROJAN (PWR) * COOLING SYSTEM, SECONDARY * SENSORS, FLOW

111239

SPECIAL REPORT ON ECCS SAFETY INJECTION ACTUATION AT TROJAN

PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

4 PGS, LTR B/RPT TO U.S. NRC, REGION V, FEB. 20, 1976, DCKET 50-346, TYPE--PWR, WFO--BEST, AE--BECHTEL

CAUSE - TESTING DEFICIENCY. WITH THE REACTOR IN HJT SHUTDOWN, PERSONNEL WERE ATTEMPTING REQUIRED SUPPORT SYSTEMS IN PREPARATION FOR STARTUP. DURING INSTRUMENT TESTING WHILE HEATING UP THE MAIN STEAM LINES, IF STEAM LINE FLOW SIGNAL EXISTED AND LO-LO FLOW SET POINT OCCURRED AS THE REACTOR COOLANT LINES COOLED SLIGHTLY, A SAFETY INJECTION ACTUATION THEN OCCURRED. NO HARM OCCURRED. A SPECIAL PRECAUTION WAS ADDED EMPHASIZING THE IMPORTANCE OF KEEPING TANK TEMPERATURE STABLE WHILE DOING THIS TEST AT LOW RCS TEMPERATURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * SAFETY INJECTION * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * TROJAN

113239 *CONTINUED*
(PWR)

111873
DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
6 PGS. LTR D/RD 78-12 TO U.S. NRC, REGION V, FEB. 26, 1978, DOCKET 50-346, TYPE--PWR, NRC--BEST., AC--BECHTEL

CAUSE - DESIGN ERROR. WHILE ATTEMPTING A DAILY START OF THE DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP WITH THE REACTOR AT SIX POWER, THE DIESEL DRIVER CHOKED AND THEN SHUT DOWN. A SECOND ATTEMPT WAS SUCCESSFUL. IT HAS BEEN DETERMINED THAT WHEN THE DIESEL IS SHUT DOWN FOR AT LEAST 4 HOURS, THE ENGINE OIL DRAINS TO THE CHAMBER RESULTING IN LOW BUILDUP OF OIL PRESSURE ON A COLD START. A TIME DELAY RELAY WAS ADDED TO THE DIESEL CONTROL CIRCUITRY TO DEL. THE LOW OIL OIL PRESSURE SHUTDOWN FOR 20 SECONDS AFTER AN ENGINE START.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

INSTRUMENT, PROTECTIVE * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * LUBRICATION * TROJAN (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS * ENGINES, INTERNAL COMBUSTION * SENSORS, PRESSURE

113240
REACTOR COOLANT FLOW FROM THE RHR SYSTEM LOST AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
3 PGS. LTR D/RD 78-21 TO U.S. NRC, REGION V, MARCH 19, 1978, DOCKET 50-346, TYPE--PWR, NRC--BEST., AC--BECHTEL

CAUSE - MOMENTARY VOLTAGE DIP. WHILE THE REACTOR WAS IN COLD SHUTDOWN, A MOMENTARY VOLTAGE DIP ON 120V AC INSTRUMENT BUS Y-11 CAUSED THE RHR NORMAL PUMP SUCTION VALVE FROM THE RCS TO GO CLOSED. THE ONE OPERATING RHR PUMP WAS MANUALLY STOPPED TO PREVENT PUMP DAMAGE. RHR FLOW TO THE RCS WAS STOPPED FOR 12 MINUTES. THE VOLTAGE DIP IS BELIEVED TO HAVE BEEN DUE TO A FLUCTUATION IN THE OUTPUT OF THE INVERTER CAUSED BY EITHER A DISTURBANCE ON THE INSTRUMENT BUS OR AN INTERNAL MALFUNCTION IN THE INVERTER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * ELECTRIC POWER * REACTOR STARTUP EXPERIENCE * MAIN COOLING SYSTEM * SHUTDOWN COOLING SYSTEM * FLOW * TROJAN (PWR) * GENERATORS

113242
DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
3 PGS. LTR D/RD 78-19 TO U.S. NRC, REGION V, MARCH 19, 1978, DOCKET 50-346, TYPE--PWR, NRC--BEST., AC--BECHTEL

CAUSE - CHANGE IN ENGINE CONDITIONS. WHEN STARTED MANUALLY IN AUTOMATIC SPEED CONTROL WHILE THE REACTOR WAS IN HOT STANDBY, THE DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP THIPPED ON OVSPEED. THE CAUSE WAS CHANGES IN ENGINE CONDITIONS (OIL AND WATER TEMPERATURE, ETC.) FROM THOSE UNDER WHICH THE GOVERNOR HAD LAST BEEN ADJUSTED. THE PUMP WAS INOPERABLE FOR 5 HOURS. GOVERNOR GAIN WAS ADJUSTED TO IMPROVE RESPONSE. ENGINE JACKET WATER HEATERS HAVE BEEN ADDED TO MAINTAIN THE ENGINE IN A WARM STANDBY CONDITION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTROL SYSTEM * FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * FAILURE, DESIGN ERROR * TROJAN (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMPS * ENGINES, INTERNAL COMBUSTION

113218
INADEQUATE CONTACT BETWEEN BREAKER STABS AND BUS BARS AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
6 PGS. LTR D/RD 78-23 TO U.S. NRC, REGION V, MARCH 22, 1978, DOCKET 50-346, TYPE--PWR, NRC--BEST., AC--BECHTEL

CAUSE - IMPROPER ASSEMBLY. AN ELECTRICAL FIRE OCCURRED IN A FIRE-SAFETY-RELATED 480 V MOTOR CONTROL CENTER. IT WAS CAUSED FROM A BENT STAB WHICH CONTACTS THE BREAKER TO THE BUS BAR. THE SPRING CLIP CAME OFF SHORTING ONE PHASE TO GROUND. INSPECTION OF ALL ESF MCC'S SUPPLIED BY THE INTERNAL POUND 6 BREAKERS WITH STAB DEFECTS. THESE RESULTED FROM IMPROPER ASSEMBLY AND INADEQUATE INSPECTION AT THE FACTORY. ALL THE DEFECTS WERE CORRECTED. INSPECTION OF ALL THE SUPPLIED MCC'S IN THE PLANT LOCATED SEVERAL ADDITIONAL PROBLEMS. THESE WERE CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * FIRE * REACTOR STARTUP EXPERIENCE * FAILURE, FABRICATION ERROR * TROJAN (PWR) * BREAKER

113241
FEEDWATER BYPASS ISOLATION VALVE FAILS TO CLOSE AT TROJAN

112201 (CONTINUED)

MONTLAK GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR. B/NR. 76-18 TO U.S. NRC, REGION V, MARCH 20, 1976. DUKLET 50-300. TYPE--PWR. RPU--BEST.. AE--BECHTEL

CAUSE - AIR IN HYDRAULIC LINE. DURING POWER ESCALATION TO 50% POWER, A TURBINE GENERATOR AND REACTOR TRIP OCCURRED. LINE FEEDBACK BYPASS ISOLATION VALVE DID NOT CLOSE UPON ISOLATION SIGNAL INITIATED BY THE REACTOR TRIP WITH L30 T AV. THE CAUSE WAS AIR BINDING IN THE HYDRAULIC LINE TO THE VALVE OPERATION. THE LINE WAS VENTED AND THE VALVE OPERATED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • CONTAINMENT ISOLATION • REACTOR STARTUP EXPERIENCE • FAILURE, MAINTENANCE ERROR • BYPASS • PNEUMATIC SYSTEM • TRUJAN (PWR) • COOLING SYSTEM, SECONDARY • FEEDWATER • VALVE OPERATIONS • VALVES

112207

DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP TRIPS OVERSPEED AT TRUJAN
 MONTLAK GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR. B/NR. 76-20 TO U.S. NRC, REGION V, APRIL 9, 1976. DUKLET 50-300. TYPE--PWR. RPU--BEST.. AE--BECHTEL

CAUSE - IMPROPER DESIGN. DURING A PLANT SHUTDOWN, THE DIESEL-DRIVEN AUXILIARY FEEDWATER PUMP STARTED MANUALLY BUT TRIPPED ON OVERSPEED WHEN SPEED SIGNAL WAS INCREASED TO FULL SPEED DEMAND. THE TURBINE-DRIVEN AVA. FEEDWATER PUMP STARTED IMMEDIATELY. THE OVERSPEED GOVERNOR SET POINT WAS FOUND TO BE VARIABLE RESULTING IN INSUFFICIENT MARGIN BETWEEN ENGINE PEAK SPEED DURING START AND THE OVERSPEED TRIP SET POINT. THE OVERSPEED GOVERNOR WAS REPLACED WITH AN IMPROVED MODEL WHICH HAD A MORE ACCURATE, REPEATABLE SET POINT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTROL SYSTEM • MODIFICATION • REACTOR STARTUP EXPERIENCE • FAILURE, DESIGN ERROR • TRUJAN (PWR) • AUXILIARY • COOLING SYSTEM, SECONDARY • FEEDWATER • PUMPS • ENGINES, INTERNAL COMBUSTION

112208

FISH IMPINGED ON TRAVELING SCREEN AT TRUJAN
 MONTLAK GENERAL ELECTRIC CO., PORTLAND, OR
 5 PGS. LTR. B/NR. 76-23 TO U.S. NRC, REGION V, APRIL 9, 1976. DUKLET 50-300. TYPE--PWR. RPU--BEST.. AE--BECHTEL

CAUSE - FISH OIL AFTER SPARKING. WHILE THE PLANT WAS SHUT DOWN AND THE SERVICE WATER SYSTEM WAS IN NORMAL OPERATION, THE DAILY COLLECTION OF FISH IN THE TRAVELING SCREEN TRASH TRUJANS EXCEEDED THE DAILY 20 FISH LIMIT ON 3 SEPARATE DAYS. THE NUMBERS WERE 20, 30, AND 33 SWEET. MUST SWEET OIL AFTER SPARKING. IT IS ASSURED THAT MUST WERE DEAD IN NEARLY 50 PERCENT TO IMPINGEMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FILTER, SCREEN • REACTOR STARTUP EXPERIENCE • TRUJAN (PWR) • ANIMAL, FISH • MORTALITY • CONDENSER COOLING SYSTEM • FAILURE, INCIDENT

112209

SURVEILLANCE REQUIREMENTS FOR BATTERIES NOT MET AT TRUJAN
 MONTLAK GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR. B/NR. 76-26 TO U.S. NRC, REGION V, APRIL 9, 1976. DUKLET 50-300. TYPE--PWR. RPU--BEST.. AE--BECHTEL

CAUSE - PROCEDURAL DEFICIENCY. DURING AN ON-SITE QA AUDIT, IT WAS NOTED THAT THE REQUIRED WEEKLY MEASUREMENT OF BATTERY MILET CELL ELECTROLYTE HEIGHT AND QUARTERLY MEASUREMENT OF ELECTROLYTE HEIGHT FOR EACH BATTERY HAD NOT BEEN DONE. EXISTING PLANT PROCEDURES, BASED UPON MANUFACTURER'S RECOMMENDED SURVEILLANCE AND MAINTENANCE SCHEDULES, REQUIRED LESS FREQUENT TESTING. NO LOW LEVELS HAVE BEEN FOUND. PROCEDURES WERE REVISED TO REFLECT TECH SPEC REQUIREMENTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS • TESTING • MODIFICATION • REACTOR STARTUP EXPERIENCE • FAILURE, ADMINISTRATIVE CONTROL • TEST INTERVAL • TRUJAN (PWR) • BATTERIES & CHARGERS

112212

COJINE NEUTRON ANALYSIS NOT CONDUCTED WITHIN REQUIRED PERIOD AT TRUJAN
 MONTLAK GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR. B/NR. 76-29 TO U.S. NRC, REGION V, APRIL 12, 1976. DUKLET 50-300. TYPE--PWR. RPU--BEST.. AE--BECHTEL

CAUSE - SPECTROMETER NOT OPERABLE. FOLLOWING A REACTOR TRIP FROM 50-58 POWER, 74 IODINE NUCLEIC ANALYSIS WAS NOT CONDUCTED WITHIN 1 HOUR AS REQUIRED BECAUSE THE SPECTROMETER WAS INOPERABLE. THE CABLE DETECTOR HAD BEEN RETURNED TO THE VENDOR FOR REPAIR. THE REPLACEMENT REQUIRED 24 HOURS OF PRECONDITIONING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

113243 CONTINUED
 LOGGING + CHEMICAL ANALYSIS + FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + OFF GAS + SPECTROMETRY, V. GAMMA
 + TEST INTERVAL + TROJAN (PWR) + SPECTROMETRY + FAILURE, INHERENT

113244
 REACTOR COOLANT FLOW FROM RHM SYSTEM LOST AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR D/RD 76-22 TO U.S. NRC, REGION V, APRIL 12, 1976. DCKET 50-344. TYPE--PWR. MFG--BEST. AE--BELMTEL

CAUSE - INADVERTENT OPENING OF SWITCHER. WHILE THE REACTOR WAS IN COOL SHUTDOWN WITH ELECTRICAL
 LOADS SUPPLIED FROM OFF SITE, A CIRCUIT SWITCHER SUPPLYING ONE ESF BUS INADVERTENTLY OPENED
 CAUSING THE OPERATING RHM PUMP TO STOP. RCS FLOW WAS LOST FOR 5 MINUTES. THE CAUSE OF SWITCHER
 OPERATION CANNOT BE IDENTIFIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + ELECTRIC POWER + REACTOR STARTUP EXPERIENCE + MAIN COOLING SYSTEM + FLOW + TROJAN (PWR) +
 BREAKER + COOLING SYSTEM, SECONDARY + PUMPS

113216
 PLANT OPERATED WITH SEQUENCER CONTACTS NOT SEISMICALLY QUALIFIED AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR D/RD 76-28 TO U.S. NRC, REGION V, APRIL 13, 1976. DCKET 50-344. TYPE--PWR. MFG--BEST. AE--BELMTEL

CAUSE - DESIGN DEFICIENCY. AS A RESULT OF THE NORMAL SHUTDOWN AND DWA SEQUENCER CONTACTS FAILING,
 CERTAIN HIGH AMPACITY WIRING CONTACTS WERE REPLACED WITH LOW AMPACITY WIRING CONTACTS AS
 REPORTED EARLIER. INVESTIGATION SHOWED THAT THE NEW CONTACTS HAD NOT BEEN SUFFICIENTLY
 SEISMICALLY QUALIFIED. RETESTING SHOWED SPURIOUS CONTACT CLOSURE AT FREQUENCIES FROM 37 TO 42 HZ
 AND 0.5 G. THE APPARENT CAUSE IS ATTRIBUTED TO DESIGN DEFICIENCY. THE MOUNTING WAS INADEQUATE.
 MODIFICATIONS WERE MADE AND TESTED PROPERLY. THE REACTOR HAD BEEN OPERATED AT UP TO 502 PWRHM
 WITH THE DEFICIENT CONTACTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

TESTING + TEST, PROOF + MODIFICATION + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + SEISMIC DESIGN +
 TROJAN (PWR) + RELAYS

113217
 DIGITAL ROD POSITION INDICATION SYSTEM FAILS AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 4 PGS. LTR D/RD 76-27 TO U.S. NRC, REGION V, APRIL 16, 1976. DCKET 50-344. TYPE--PWR. MFG--BEST. AE--BELMTEL

CAUSE - TOO HIGH AMBIENT TEMPERATURE. DURING A REACTOR STARTUP WITH PWRHM AT 24, ALL DIGITAL ROD
 POSITION INDICATION WAS LOST. THE REACTOR WAS MANUALLY SHUT DOWN BUT NOT WITHIN 1 HOUR AS
 REQUIRED. REPAIRS WERE MADE. UPRI FAILURES OCCURRED ON THE NEXT 2 DAYS. OVERHEATING OF DATA A
 AND DATA B CABINETS CAUSED SEVERAL FAILURES OF ELECTRICAL COMPONENTS. THE CABINETS ARE NEAR A
 MAIN STEAM LINE IN THE CONTAINMENT. AN AIR CONDITIONING UNIT WAS INSTALLED ON EACH DATA CABINET.
 ALL ELECTRICAL COMPONENTS NOT OPERATING OR OPERATING AT REDUCED CAPABILITY WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + FAILURE, DESIGN ERROR + INSTRUMENT, POSITION + CONTROL
 PANEL/ROOM + TROJAN (PWR) + REACTOR SHUTDOWN + TEMPERATURE + INSTRUMENT, DIGITAL + CONTROL ROOMS

113482
 FEEDWATER BYPASS ISOLATION VALVE FAILS TO CLOSE AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS. LTR D/RD 76-29 TO U.S. NRC, REGION V, APRIL 25, 1976. DCKET 50-344. TYPE--PWR. MFG--BEST. AE--HECHTEL

CAUSE - SOLENOID COIL BURNED OUT. FOLLOWING A CONTROLLED SHUT DOWN WHEN THE REACTOR WAS MANUALLY
 TRIPPED, THE FEEDWATER BYPASS ISOLATION VALVE FAILED TO CLOSE ON SIGNAL. THE CONTROL SOLENOID
 COIL HAD BURNED OUT. CENTRAL OIL HAD LEAKED PAST THE SEAL AND IMMERGED THE COIL RESULTING IN A
 BREAK DOWN OF THE INSULATION. THE COIL WAS REPLACED AND THE SEAL TIGHTENED AND REALIGNED. ALL
 OTHER SIMILAR COILS WERE CHECKED AND FOUND FREE OF OIL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

FAILURE, EQUIPMENT + CONTAINMENT ISOLATION + REACTOR STARTUP EXPERIENCE + SEAL + LEAK + BYPASS + TROJAN (PWR)
 + FAILURE, INHERENT + SOLENOID + COOLING SYSTEM, SECONDARY + FEEDWATER + VALVES

113487
 REACTOR COOLANT SYSTEM SAMPLING FREQUENCY EXCEEDS LIMIT AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

112467 CONTINUED

3 PGS. LTR B/WG 76-32 TO U.S. NRC, REGION V, APRIL 29, 1976. DOCKET 50-386. TYPE--PWR. MFG--BEST. AC--BECHTEL

CAUSE - PERSONNEL ERROR. THE NCS CHLORIDE AND FLUORIDE CONCENTRATION SAMPLING FREQUENCY WAS EXCEEDED. THREE 47 HOURS ELAPSED BETWEEN SAMPLES EXCEEDING THE 72 HOUR LIMIT. THE TECHNICIAN ASSIGNED TO PERFORM THESE ANALYSES FAILED TO DO IT ON THE DAY ASSIGNED AND POSTPONED IT ONE DAY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + HEALTHY COOLANT + SAMPLING + CHEMICAL ANALYSIS + REACTOR STARTUP EXPERIENCE + MAIN COOLING SYSTEM + TEST INTERVAL + COOLANT QUALITY + TROJAN (PWR)

114107

DIESEL FUEL OIL STORAGE TANK BELOW MINIMUM LEVEL AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
2 PGS. LTR B/WG 76-31 TO U.S. NRC, REGION V, MAY 13, 1976. DOCKET 50-386. TYPE--PWR. MFG--BEST. AC--BECHTEL

CAUSE - DEFICIENT PROCEDURE. WHILE CONDUCTING STARTUP TESTING WITH THE REACTOR AT 75% POWER AND WHILE INVESTIGATING APPARENT ANOMALOUS LEVEL INDICATIONS, BOTH DIESEL FUEL OIL TANKS WERE FOUND TO CONTAIN LESS THAN THE REQUIRED 33000 GALLONS EACH. PROCEDURE LISTED THE LIMITING TANK LEVEL TO BE 54% BASED ON LMCNELL'S TANK CAPACITY CALCULATIONS. CALCULATIONS HAD BEEN CORRECTED, BUT THE PROCEDURE HAD NOT BEEN REVISED TO INDICATE 77% AS MINIMUM LEVEL. FUEL WAS TRANSFERRED BETWEEN TANKS IMMEDIATELY TO BRING ONE TANK LEVEL ABOVE THE MINIMUM. FUEL WAS UNDELETED FROM THE OTHER TANK.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + FAILURE, ADMINISTRATIVE CONTROL + SYSTEM CAPACITY + TROJAN (PWR) + FUEL, FOSSIL + GENERATION, DIESEL

114108

CONDENSATE STORAGE TANK LEVEL BELOW THE LIMIT AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
2 PGS. LTR B/WG 76-32 TO U.S. NRC, REGION V, MAY 13, 1976. DOCKET 50-386. TYPE--PWR. MFG--BEST. AC--BECHTEL

CAUSE - INCORRECT VALVE LINEUP. WHILE OPERATING IN STARTUP MODE WITH REACTOR POWER AT 13 AND THE NCS AT NO LOAD TEMPERATURE AND PRESSURE, CONDENSATE STORAGE TANK LEVEL WAS DISCOVERED TO BE BELOW THE LIMIT DUE TO AN INCORRECT VALVE LINEUP. THE VALVE LINEUP WAS CORRECTED AND MAKEUP INCREASED TO THE MAXIMUM TO REFILL THE TANK. THE LEVEL WAS ABOVE LIMITS WITHIN 40 MINUTES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR + PROCEDURES AND MANUALS + CONDENSATION + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + SYSTEM CAPACITY + TROJAN (PWR)

114135

BORON INJECTION TANK BORON CONCENTRATION BELOW LIMIT AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
2 PGS. LTR B/WG 76-33 TO U.S. NRC, REGION V, MAY 13, 1976. DOCKET 50-386. TYPE--PWR. MFG--BEST. AC--BECHTEL

CAUSE - DILUTION DUE TO SAMPLING MAKEUP. WHILE OPERATING AT 42% POWER, ROUTINE SAMPLE ANALYSIS SHOWED THE BORON INJECTION TANK BORON CONCENTRATION TO BE 17,177 PPM. TECH SPECS REQUIRE BETWEEN 20,000 AND 22,500 PPM. APPARENTLY DILUTION DUE TO MAKEUP FOR LEVEL LOST DURING ROUTINE ANALYSIS WAS NOT TAKEN INTO ACCOUNT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

BORON + DILUTION + FAILURE, OPERATOR ERROR + POISON, SOLUBLE + SAFETY INJECTION + SAMPLING + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + CHEMICAL JEN + TROJAN (PWR) + CONCENTRATION

115121

NCS LEAKAGE DETECTION SYSTEMS INOPERABLE FOR 3 MINUTES AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
2 PGS. LTR B/WG 76-34 TO U.S. NRC, REGION V, MAY 14, 1976. DOCKET 50-386. TYPE--PWR. MFG--BEST. AC--BECHTEL

CAUSE - MAINTENANCE ON MAIN ENERGY BUS. NCS LEAKAGE DETECTION SYSTEMS (ATMOSPHERE PARTICULATE AND GASEOUS RADIOACTIVITY MONITORS) WERE INOPERABLE FOR 3 MINUTES WHILE THEIR POWER SUPPLY WAS DEREGULATED FOR CORRECTIVE MAINTENANCE. THE REACTOR WAS AT ZERO POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

MAINTENANCE AND REPAIR + ELECTRIC POWER + FAILURE, INSTRUMENT + REACTOR STARTUP EXPERIENCE + CONTAINMENT LEAK MONITOR + TROJAN (PWR)

115122

TWO INDEPENDENT OFFSITE AC POWER SOURCES NOT AVAILABLE AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR BYLER 78-35 TO U.S. NRC, REGION V, MAY 14, 1978, DCKET 50-344, TYPE--PWH, WFO--BEST, AC--DECMTEL

CAUSE - DISCONNECT FAILURE. TWO PHYSICALLY INDEPENDENT OFFSITE AC POWER SOURCES WERE NOT AVAILABLE AS REQUIRED WHEN A 230 KV SWITCHWARD BUS WAS DEENERGIZED FOR 8 HOURS TO REPAIR A DISCONNECT. THE STATIONARY CONTACT PRESSURE OF THE DISCONNECT WAS LESS THAN DESIGN. THE BUS RESTALS HAVE SLIGHTLY SETTLED, AND AN OPERATOR FAILED TO ASSURE THAT THE DISCONNECTS WERE COMPLETELY CLOSED RESULTING IN FAILURE OF THE DISCONNECT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * ELECTRIC POWER * REACTOR STARTUP EXPERIENCE * RESONANCE * RUFF SITE * TROJAN (PWH) * BREAKER

115117

SURVEILLANCE ON CONTAINMENT PRESSURE TRANSMITTER NOT PERFORMED AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR BYLER 78-36 TO U.S. NRC, REGION V, MAY 20, 1978, DCKET 50-344, TYPE--PWH, WFO--BEST, AC--DECMTEL

CAUSE - PROCEDURAL DEFICIENCY. MONTHLY TESTING OF CONTAINMENT PRESSURE INSTRUMENT LOOPS AND TRANSMITTERS IS REQUIRED. PROCEDURES EXIST FOR TESTING THE LOOPS BUT THE TRANSMITTERS WERE OMITTED. PROCEDURES ARE BEING REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT * PROCEDURES AND MANUALS * TESTING * INSTRUMENT CALIBRATION * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * TEST INTERVAL * ENGINEERED SAFETY FEATURE * TROJAN (PWH) * SENSORS, PRESSURE

115118

CONTAINMENT PRESSURE EXCEEDS LIMIT AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR BYLER 78-37 TO U.S. NRC, REGION V, MAY 20, 1978, DCKET 50-344, TYPE--PWH, WFO--BEST, AC--DECMTEL

CAUSE - OPERATOR ERROR. CONTAINMENT PRESSURE EXCEEDED THE 0.5 PSI LIMIT BY 0.1 PSI FOR 4 HOURS. PRESSURE WAS OBSERVED TO BE AT THE POSITIVE LIMIT BUT DUE TO THE TIME REQUIRED TO SAMPLE, ANALYZE, AND PREPARE A DISCHARGE PERMIT TO PUNGE THE CONTAINMENT, THE LIMIT WAS EXCEEDED. IT HAS BEEN DETERMINED THAT VENTING TO REDUCE PRESSURE DOES NOT REQUIRE A DISCHARGE PERMIT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT * FAILURE, OPERATOR ERROR * REACTOR STARTUP EXPERIENCE * PRESSURE, INTERVAL * TROJAN (PWH) * COMMUNICATION

115119

REACTOR MADE CRITICAL WITHOUT TESTING MANUAL TRIP AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR BYLER 78-38 TO U.S. NRC, REGION V, MAY 20, 1978, DCKET 50-344, TYPE--PWH, WFO--BEST, AC--DECMTEL

CAUSE - PROCEDURAL DEFICIENCY. THE REACTOR WAS MADE CRITICAL WITHOUT TESTING THE MANUAL TRIP FEATURE. PLANT STARTUP PROCEDURE DID NOT REQUIRE IT. PROCEDURE HAS BEEN REVISED TO INCLUDE THE TEST.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

PROCEDURES AND MANUALS * REACTOR PROTECTION SYSTEM * TESTING * INSTRUMENT, SWITCH * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * TROJAN (PWH)

115120

CONTAINMENT ISOLATION VALVES NOT TESTED FOR OPERABILITY AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR BYLER 78-39 TO U.S. NRC, REGION V, MAY 20, 1978, DCKET 50-344, TYPE--PWH, WFO--BEST, AC--DECMTEL

CAUSE - PROCEDURAL DEFICIENCY. THIRTEEN OF THE 150 CONTAINMENT ISOLATION VALVES WERE NOT TESTED FOR OPERABILITY AS REQUIRED. TEST PROCEDURES DID NOT INCLUDE 13 VALVES AND THE OTHER 2 WERE OVERLOOKED BY TEST PERSONNEL. ALL VALVES WERE IMMEDIATELY TESTED. PROCEDURE HAS BEEN REVISED TO INCLUDE ALL THESE VALVES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 1.00 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT ISOLATION * PROCEDURES AND MANUALS * TESTING * REACTOR STARTUP EXPERIENCE * FAILURE

115120 CONTINUED
ADMINISTRATIVE CONTROL * TEST INTERVAL * TROJAN (PWR) * VALVES

115122
SURVEILLANCE NOT PERFORMED ON SOME SAFETY-RELATED VALVES AT TROJAN
PORTLAND GENERAL ELECTRIC CO., MAINTENANCE
2 PWS, LTR B/NO 70-03 TO USSA NRC, REGION V, MAY 21, 1970, BUCKET 50-300, TYPE--PWR, MFG--BEST, AE--BECHTEL

CAUSE - PROCEDURAL DEFICIENCY. SEVERAL COMPONENT COOLING WATER SYSTEM VALVES WERE NOT ROUTINELY CYCLED AND SEVERAL SERVICE WATER SYSTEM VALVES WERE NOT ROUTINELY VERIFIED TO BE IN THEIR CORRECT POSITION DURING JANUARY, FEBRUARY, AND MARCH 1970. TEST PROCEDURES HAD NOT BEEN REVISED AFTER TECH SPECS WERE REVISED. PROCEDURES HAVE BEEN UPDATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * TESTING * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * TEST INTERVAL * COMPONENT COOLING SYSTEM * TROJAN (PWR) * SERVICE WATER SYSTEM * VALVES

115124
REGULATEUR ISOLATION VALVE RESPONSE TIME EXCEEDS LIMIT AT TROJAN
PORTLAND GENERAL ELECTRIC CO., MAINTENANCE
2 PWS, LTR B/NO 70-03 TO USSA NRC, REGION V, MAY 21, 1970, BUCKET 50-300, TYPE--PWR, MFG--BEST, AE--BECHTEL

CAUSE - HYDRAULIC PRESSURE TOO LOW. WHILE TESTING THE FEEDWATER ISOLATION VALVES FOR SECONDARY HYDRAULIC ANALYSIS, 1 OF THE 6 VALVES WAS FOUND TO HAVE A CLOSURE TIME OF 15.5 SECONDS EXCEEDING THE 8 SECOND LIMIT. THE HYDRAULIC ACTUATING PRESSURE WAS TOO LOW TO ADEQUATELY ACTUATE THE VALVE IN THE REQUIRED TIME. VALVE HYDRAULIC SYSTEM PRESSURE WAS INCREASED TO IMPROVE CLOSURE TIME. THE REACTOR WAS IN SHUTDOWN DURING TESTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * RESPONSE TIME * REACTOR STARTUP EXPERIENCE * TEST, SYSTEM OPERABILITY * TROJAN (PWR) * HYDRAULIC SYSTEM * FEEDWATER * VALVES

115132
STEAM-DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT TROJAN
PORTLAND GENERAL ELECTRIC CO., MAINTENANCE
2 PWS, LTR B/NO 70-03 TO USSA NRC, REGION V, JUNE 10, 1970, BUCKET 50-300, TYPE--PWR, MFG--BEST, AE--BECHTEL

CAUSE - TRIP MECHANISM NOT RESET. THE STEAM-DRIVEN AUXILIARY FEEDWATER PUMP FAILED TO START DURING ROUTINE STARTUP OPERATIONS. SUBSEQUENT TO LAST OPERATION, THE TRIP AND TRIMBLE VALVE HAD NOT BEEN COMPLETELY CLOSED PREVENTING THE TRIP MECHANISM FROM LATCHING. THE OPEN INDICATION LIGHT HAD FAILED. THE OPERATOR THOUGHT THE VALVE WAS CLOSED WHEN IT WAS NOT. THE TRIP MECHANISM WAS RESET BY CLOSING THE VALVE. THE OPEN INDICATION WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATION ERROR * FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * INSTRUMENT, POSITION * TROJAN (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * PUMP

115134
DIESEL FUEL NOT SAMPLED ON SCHEDULE AT TROJAN
PORTLAND GENERAL ELECTRIC CO., MAINTENANCE
2 PWS, LTR B/NO 70-03 TO USSA NRC, REGION V, JUNE 10, 1970, BUCKET 50-300, TYPE--PWR, MFG--BEST, AE--BECHTEL

CAUSE - PROCEDURAL DEFICIENCY. A SAMPLE OF THE DIESEL FUEL WAS NOT TAKEN WITHIN THE REQUIRED 31 DAY PERIOD. THE PROCEDURE WAS INADEQUATE FOR PROPER SCHEDULING AND RECORDKEEPING. PROCEDURE HAS BEEN REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * SAMPLING * REACTOR STARTUP EXPERIENCE * FAILURE, ADMINISTRATIVE CONTROL * TEST INTERVAL * TROJAN (PWR) * FUEL, DIESEL * ENGINE, INTERNAL COMBUSTION * GENERATOR, DIESEL

115135
DIGITAL ROD POSITION INDICATION LOST FOR ONE ROD AT TROJAN
PORTLAND GENERAL ELECTRIC CO., MAINTENANCE
2 PWS, LTR B/NO 70-03 TO USSA NRC, REGION V, JUNE 10, 1970, BUCKET 50-300, TYPE--PWR, MFG--BEST, AE--BECHTEL

CAUSE - CIRCUIT BOARD FAILURE. INDIVIDUAL DIGITAL ROD POSITION INDICATION WAS LOST FOR ROD M-10 FOR 5 HOURS. CIRCUIT BOARD FAILED ON BOTH DATA A AND DATA B CHANNELS FOR ROD M-10. THE CIRCUIT BOARD WAS REPLACED TO RESTORE INDICATION. THE REACTOR WAS OPERATING AT 100% POWER.

115115 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT + REACTOR STARTUP EXPERIENCE + INSTRUMENT, POSITION + TROJAN (PWR) + FAILURE, IMMINENT + CONTROL ROOMS + ELECTRONIC FUNCTION UNITS

115116
 EMERGENCY DIESEL FUEL OIL TANK VOLUME LESS THAN LIMIT AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR D/LER 76-46 TO U.S. NRC, REGION V, JUNE 14, 1976. DOCKET 50-344. TYPE--PWR, NFG--WEST., AE--BECHTEL

CAUSE - AUTO MAKEUP SET POINT LOW. WITH THE REACTOR SHUT DOWN, 1 OF THE 2 EMERGENCY DIESEL FUEL OIL TANKS WAS FOUND TO HAVE 193 GALLONS LESS THAN THE REQUIRED 1370 GALLONS. THE DIESEL FUEL OIL DAY TANK AUTO MAKEUP SET POINT WAS SET AT 1177 GALLONS VICE 1370 GALLONS. OPERATION OF A DIESEL FOR TESTING USED SUFFICIENT FUEL TO DECREASE THE LEVEL BELOW THE LIMIT. SET POINTS HAVE BEEN ADJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INSTRUMENT, SWITCH + REACTOR STARTUP EXPERIENCE + STORAGE CONTAINER + FAILURE, MAINTENANCE ERROR + SET POINT + SYSTEM CAPACITY + TROJAN (PWR) + FUEL, FOSSIL + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL + SENSORS, LEVEL

115631
 OPERABILITY OF BORIC ACID TRANSFER SYSTEMS NOT VERIFIED AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
 2 PGS. LTR D/RO 76-47 TO U.S. NRC, REGION V, JUNE 17, 1976. DOCKET 50-344. TYPE--PWR, NFG--WEST., AE--BECHTEL

CAUSE - SCHEDULING DEFICIENCY. WHILE THE UNIT WAS SHUT DOWN, WEEKLY SURVEILLANCE TO VERIFY BORIC ACID TRANSFER SYSTEM OPERATION WAS NOT PERFORMED AS REQUIRED. THE PERIODIC SURVEILLANCE SCHEDULE DID NOT INCLUDE THIS TEST. THE SYSTEM WAS TESTED IMMEDIATELY WITH SATISFACTORY RESULTS. TEST SCHEDULE WAS REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS + TESTING + REACTOR STARTUP EXPERIENCE + CHEMICAL SHIM + FAILURE, ADMINISTRATIVE CONTROL + TEST INTERVAL + TROJAN (PWR) + PUMPS

115634
 CONTROL ROOM VENTILATION SYSTEM HEATERS FAIL TO REMAIN ENERGIZED AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
 2 PGS. LTR D/RO 76-48 TO U.S. NRC, REGION V, JUNE 18, 1976. DOCKET 50-344. TYPE--PWR, NFG--WEST., AE--BECHTEL

CAUSE - UNKNOWN. DURING TESTING OF THE CONTROL ROOM EMERGENCY VENTILATION SYSTEM WHILE OPERATING AT 100% POWER, THE HEATERS FAILED TO REMAIN ENERGIZED FOR 10 HOURS AS REQUIRED. HEATER TEMPERATURE CONTROLLER APPEARED TO HAVE FAILED. HOWEVER, THE HEATERS OPERATED FOR 36 HOURS IN SUBSEQUENT TESTING. CAUSE OF FAILURE IS UNKNOWN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + VENTILATION SYSTEM + REACTOR STARTUP EXPERIENCE + TEST, SYSTEM OPERABILITY + CONTROL PANEL/ROOM + TROJAN (PWR) + HEATERS

115426
 DOSE EQUIVALENT IODINE ANALYSIS NOT OBTAINED FOLLOWING POWER REDUCTION AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR D/RO 76-49 TO U.S. NRC, REGION V, JUNE 24, 1976. DOCKET 50-344. TYPE--PWR, NFG--WEST., AE--BECHTEL

CAUSE - OPERATOR ERROR. REACTOR POWER WAS REDUCED FROM 90% TO 57% IN 40 MINUTES AND THE REQUIRED DOSE EQUIVALENT IODINE ANALYSIS WAS NOT PERFORMED WITHIN THE SPECIFIED TIME PERIOD. THE ANALYSIS WAS PERFORMED 10 HOURS LATER AND ACTIVITY LEVELS IN THE COOLANT WERE NORMAL. A PLACQUE WAS PLACED IN THE CONTROL ROOM TO REMIND OPERATORS TO OBTAIN AN ANALYSIS WITH EACH POWER CHANGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FUEL INTEGRITY + FAILURE, OPERATOR ERROR + IODINE + REACTOR TRANSIENT + REACTOR COOLANT + SAMPLING + REACTOR STARTUP EXPERIENCE + TROJAN (PWR)

116210
 INCONSISTENCY FOUND BETWEEN TECH SPECS AND SAFETY ANALYSIS AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., RAINIER, OR
 3 PGS. LTR D/RO 76-42 TO U.S. NRC, REGION V, JULY 13, 1976. DOCKET 50-344. TYPE--PWR, NFG--WEST., AE--BECHTEL

110210 CONTINUED

CAUSE - LACK OF INFORMATION. AN INCONSISTENCY WAS RECOGNIZED BETWEEN THE STANDARD TECH SPECS AND THE SAFETY ANALYSIS REGARDING THE IMPERMEABLE MISALIGNED CONTROL ROD. THE MEASURED HOT CHANNEL FACTOR ASSOCIATED WITH THE PSEUDO DROPPED ROD PHYSICS TEST MEASUREMENT WAS VERY CLOSE TO THE LIMITING VALUE. THE CAUSE WAS LACK OF INFORMATION CONCERNING SPECIFICS OF ANALYSIS REGARDING A SINGLE DROPPED ROD AND SUBSEQUENT HOT CHANNEL FACTORS. UNGS AND AGENU RESULTS. TECH SPECS WERE REVISED TO REQUIRE A FLUX PAD TO BE TAKEN AND HOT CHANNEL FACTORS DETERMINED WITHIN 24 HOURS AFTER A MISALIGNED ROD IS DECLASSIFIED IMPERMEABLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR STARTUP EXPERIENCE * TEST, PHYSICS * FAILURE, ADMINISTRATIVE CONTROL * HOT CHANNEL FACTOR * ACCIDENT, CONTROL ROD DROPPED * REACTOR PHYSICS * MATHEMATICAL TREATMENT * TROJAN (PWR) * TRANSIENT

110204

SPECIAL REPORT ON ECCS SAFETY INJECTION NO. 2 AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR

2 PGS, LTR W/NO 70-53 TO U.S. NRC, REGION IV, JULY 20, 1970, UCCKET 50-300, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - OPERATIONAL DIFFICULTIES. DURING A NORMAL STARTUP WITH THE REACTOR CRITICAL AND ROD CONTROL IN AUTOMATIC, TUBING GENERATOR LOAD WAS BEING INCREASED FROM 100 MBE TO 150 MBE WHEN THE TUBING TRIPPED DUE TO A HIGH-HIGH STEAM GENERATION LEVEL WHICH CAUSED A REACTOR TRIP. THE STEAM DUMP VALVES TO THE CONDENSER OPERATED NORMALLY DECREASING FLOW TO THE LO-LO SET POINT WHICH, IN COINCIDENCE WITH HIGH STEAM LINE FLOW, INITIATED A SAFETY INJECTION. THE LIKELY CAUSE WAS OPERATIONAL DIFFICULTIES IN MAINTAINING A PROPER BALANCE OF REACTOR POWER, GENERATOR LOAD, AND COOLANT LEVEL IN SG WHILE TRANSFERRING FROM MANUAL TO AUTOMATIC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SCRAM, REAL * SAFETY INJECTION * REACTOR STARTUP EXPERIENCE * TROJAN (PWR) * REACTOR SHUTDOWN * FAILURE, INHERENT

117774

PLANT DISCHARGES EXCEEDED SOME ETS LIMITS AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR

2 PGS, LTR W/NO 70-53 TO U.S. NRC, REGION V, AUG. 17, 1970, UCCKET 50-300, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - IMPROPER FUNCTIONING OF INSTRUMENTS. DURING POWER OPERATION FOR STARTUP TESTING, PLANT CHEMICAL AND THERMAL MONITORING INSTRUMENTATION WAS NOT FUNCTIONING PROPERLY WHICH RESULTED IN ERGONOMOUS INDICATION OF ETS LIMITS. WAB SAMPLE ANALYSIS AND COMPUTATIONS INDICATED THAT LIMITS WERE NOT BEING EXCEEDED. REEVALUATION LATER INDICATED THE HEAT RATE DISCHARGE LIMIT, WCCA DISCHARGE LIMIT, AND SURVEILLANCE MEASUREMENTS WERE EXCEEDED. PLANT DISCHARGE MONITORING INSTRUMENTATION WILL BE CALIBRATED AND OPERABLE PRIOR TO RESUMPTION OF POWER OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROGRAM * RELEASE RATE * FAILURE, INSTRUMENT * REACTOR STARTUP EXPERIENCE * INSTRUMENT, ABNORMAL INDICATION * MONITORING PROGRAM, ENVIRONMENTAL * TROJAN (PWR) * WASTE HEAT * CONDENSER COOLING SYSTEM * SENSORS, TEMPERATURE * SENSORS, FLOW * INSTRUMENTS, MISC.

110202

NON-RADIOACTIVE GAS RELEASED TO AUXILIARY BUILDING AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR

2 PGS, LTR W/NO 70-53 TO U.S. NRC, REGION V, SEPT. 1, 1970, UCCKET 50-300, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - CORROSION OF SURGE TANK NOZZLES. WHILE PUMPING WHT, NON-RADIOACTIVE GAS WAS RELEASED TO THE AUXILIARY BUILDING FROM A HOLE IN THE GAS COLLECTION HEADER ON THE INLET TO THE SURGE TANK. APPLE CORROSION ALLOWANCE WAS NOT ALLOWED ON THE SURGE TANK NOZZLES. THE HEADER WAS ISOLATED. THE CARBON STEEL NOZZLE WAS REPLACED WITH A STAINLESS STEEL NOZZLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AIRBORNE RELEASE * CORROSION * BUILDING * MATERIAL * MODIFICATION * FAILURE, DESIGN ERROR * LEAK * TROJAN (PWR) * WIPES AND PIPE FITTINGS

110204

WASTE GAS DECAY TANK VENTED WITHOUT A VALID DISCHARGE PERMIT AT TROJAN
PORTLAND GENERAL ELECTRIC CO., RAINIER, OR

2 PGS, LTR W/NO 70-53 TO U.S. NRC, REGION V, SEPT. 7, 1970, UCCKET 50-300, TYPE--PWR, NRC--BEST., AE--BECHTEL

CAUSE - PERSONNEL ERROR. A WASTE GAS DECAY TANK WAS VENTED WITH A VALID DISCHARGE PERMIT AND THEN REFILLED WITH WITHIN 20 PSI. THE TANK WAS THEN AGAIN VENTED WITHOUT A NEW PERMIT BEING OBTAINED. THERE WAS NO ACTIVITY INDICATED IN THE TANK FROM EITHER RELEASE. THE CAUSE WAS PERSONNEL ERROR IN NOT OBTAINING A NEW PERMIT. THE REACTOR WAS IN SHUTDOWN AT THE TIME.

110204 *CONTINUED*

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * WASTE DISPOSAL * WASTE DISPOSAL, GAS * STORAGE CONTAINERS * TROJAN (PWR)

110205

CONTAINMENT AIR COOLER VALVE FAILS TO OPEN FULLY AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
2 PGS, LTR D/RD 70-55 TO U.S. NRC, REGION V, SEPT. 7, 1970, DCKET 50-304, TYPE--PWR, MFG--WEST., AE--DECHTEL

CAUSE - VALVE OPERATOR COIL SHORTED OUT, DURING TESTING ON THE CCB SYSTEM. THE VALVE IN THE RETURN LINE FROM ONE TRAIL OF CONTAINMENT AIR COOLERS WOULD NOT CYCLE OPEN. THE VALVE MOTOR OPERATOR COIL SHORTED OUT NOT PERMITTING MAKEUP TO THE OPEN CONTACTS. THE COIL WAS REPLACED AND THE VALVE CYCLED. THE REACTOR WAS IN SHUTDOWN AT THE TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTAINMENT AIR COOLING * TEST, SYSTEM OPERABILITY * COMPONENT COOLING SYSTEM * TROJAN (PWR) * FAILURE, INHERENT * VALVE OPERATORS * VALVES

110702

ERRORS FOUND IN LOCA ANALYSIS AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
8 PGS, LTR D/RD 70-52 TO U.S. NRC, REGION V, SEPT. 15, 1970, DCKET 50-304, TYPE--PWR, MFG--WEST., AE--DECHTEL

CAUSE - INCORRECT ASSUMPTIONS USED. A LACK OF CONSERVATISM IN SAN FINDINGS HAS BEEN RECOGNIZED BY BESTINGHOUSE IN REGARD TO (1) THE ECCS ASSUMPTION FOR VESSEL UPPER HEAD TEMPERATURE WHICH INCREASES THE PEAK CLAD TEMPERATURE BY 53 F (TO 1930 F), AND (2) INCREASED CONTACT DNB PENALTY FOR A ROD-THIMBLE (COLDWALL) BOP (108 TO 308). THE COMPUTER CODES DID NOT CORRECTLY ACCOUNT FOR THE REAL PHENOMENA. INTERIM ADMINISTRATIVE CHANGES HAVE BEEN MADE UNTIL THE ISSUE IS RE-EVALUATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * COMPUTER PROGRAM * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * ANALYTICAL MODEL * DNB * FAILURE, DESIGN ERROR * FUEL ROD * TROJAN (PWR) * TEMPERATURE

119537

CHLORINE DISCHARGED TO COLUMBIA RIVER AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
3 PGS, LTR D/RD 70-58 TO NRC, REGION V, OCT. 8, 1970, DCKET 50-304, TYPE--PWR, MFG--WEST., AE--DECHTEL

CAUSE - DEFICIENT PROCEDURE. DURING ROUTINE CHLORINATION OF THE SERVICE WATER SYSTEM, A MEASURABLE CONCENTRATION OF CHLORINE WAS DISCHARGED. A HIGH CONCENTRATION OF 1.2 PPM WAS MEASURED AT THE MIDPOINT OF THE 1-HOUR DISCHARGE. THE RATE OF CHLORINE INJECTION WAS SET HIGHER THAN THE CAPACITY OF THE SODIUM SULFITE INJECTION PUMPS. SODIUM SULFITE DEPLETES ANY RESIDUAL CHLORINE. A PROCEDURE IS BEING WRITTEN TO MANUALLY CONTROL BOTH THE CHLORINE AND SODIUM SULFITE INJECTIONS. THE REACTOR WAS AT 40% POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT * PROCEDURES AND MANUALS * REACTOR STARTUP EXPERIENCE * CHLORINE * FAILURE, ADMINISTRATIVE CONTROL * TROJAN (PWR) * SERVICE WATER

119538

CHLORINE DISCHARGED TO COLUMBIA RIVER AT TROJAN
PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
3 PGS, LTR D/RD 70-59 TO NRC, REGION V, OCT. 15, 1970, DCKET 50-304, TYPE--PWR, MFG--WEST., AE--DECHTEL

CAUSE - SODIUM BISULFITE PUMP FAILURE. CHLORINATION OF THE SERVICE WATER SYSTEM WAS BEING CONDUCTED TO VERIFY THE EFFICIENCY OF A REVISED DECHLORINATION PROCEDURE. BOTH THE CHLORINATION AND DECHLORINATION SYSTEMS WERE IN MANUAL CONTROL. TWICE CHLORINE WAS DETECTED IN THE EFFLUENT FOR A 10 MINUTE PERIOD. THE SODIUM BISULFITE PUMPS WERE NOT INJECTING TO THE EFFLUENT WATER SYSTEM. CHLORINATION WAS STOPPED UNTIL THE PUMPS CAN BE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EFFLUENT * FAILURE, EQUIPMENT * REACTOR STARTUP EXPERIENCE * CHLORINE * TROJAN (PWR) * SERVICE WATER * PUMPS

119804

TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP TRIPS ON OVERSPEED AT TROJAN

11806 OCCURRENCE
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR B/NHC 76-02 TO U.S. NRC, REGION V, NOV. 3, 1976. DCKET 50-346. TYPE--PWR, NRU--BEST.. AE--BECHTEL

CAUSE - GOVERNOR SPEED SENSOR CABLE FAILURE. WHILE TESTING AFTER MAINTENANCE WITH THE REACTOR AT 60% POWER, THE TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP TRIPPED ON OVERSPEED. IT WAS OPERATING AT NO-LOAD. THE MAXIMUM GOVERNOR SPEED SENSOR CIRCUIT CABLE HAD FAILED. THE FAULTY CABLE WAS REPLACED. THE CAUSE OF FAILURE HAS NOT BEEN DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * PUMPS * OPERATOR * AUXILIARY * TURBINE * COOLING SYSTEM, SECONDARY * CONTROL SYSTEM * ELECTRICAL FUNCTION UNITS * FAILURE, COMPONENT * TEST, SYSTEM OPERABILITY * FAILURE, INCIDENT

12092
 ADDITIONAL INFORMATION ON RELEASE OF NONRAADIOACTIVE GAS AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR B/NHC TO U.S. NRC, REGION V, NOV. 11, 1976. DCKET 50-346. TYPE--PWR, NRU--BEST.. AE--BECHTEL

CAUSE - BOLD JOINT DESIGN DEFICIENCY. NONRAADIOACTIVE GAS WAS RELEASED TO THE AUXILIARY BUILDING FROM A HOLE IN THE GAS COLLECTION HEADER ON THE INLET TO THE SURGE TANK ON 8/11/76 AS REPORTED EARLIER. FAILURE MAY OCCURRED AT THE POINT WHERE STAINLESS STEEL (SCH 10) INLET PIPING MEETS A CARBON STEEL (SCH 40) SPOOL PIECE PRIOR TO ENTERING THE SURGE TANK. THE TRANSITION WAS MADE BY REDUCING THE CARBON STEEL WALL THICKNESS AND MAKING A JOINT WELD. A COMBINATION OF THE TRANSITION WELD AND REDUCED WALL THICKNESS PROBABLY CAUSED THE FAILURE. A NEW SPOOL PIECE OF STAINLESS STEEL WAS INSTALLED USING A SOCKET WELD. FIVE OTHER SIMILAR JOINTS WILL BE MODIFIED ALSO.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * PIPES AND PIPE FITTINGS * WELDS * CLEAR * FAILURE, PIPE * WASTE HANDLING * AIRBORNE RELEASE * FAILURE, DESIGN ERROR * MODIFICATION * MATERIAL

12097
 CENTRIFUGAL CHARGING PUMP SUCTION VALVES FAIL TO OPEN AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR B/NHC TO U.S. NRC, REGION V, NOV. 12, 1976. DCKET 50-346. TYPE--PWR, NRU--BEST.. AE--BECHTEL

CAUSE - FAILED COIL/TONGUE SWITCH TOO LOW. DURING AN INADVERTENT SAFETY INJECTION WHILE THE PLANT WAS SHUT DOWN, 2 CENTRIFUGAL CHARGING PUMP SUCTION VALVES FROM THE REFUELING WATER STORAGE TANK (RC-112), (2) FAILED TO OPEN. THE ONE OPERATING REACTOR COOLANT PUMP WAS SECURED DUE TO LOSS OF COMPONENT COOLING WATER ON CONTAINMENT ISOLATION. ALL OTHER RCs PERFORMED AS DESIGNED. THE OPENING COIL IN CONTROLLER FOR RC-112 SHORT CIRCUITED. IT WAS REPLACED. THE TONGUE CUTOFF SWITCH FOR RC-112 WAS SET TOO LOW. IT WAS RESET. BOTH VALVES HAD BEEN MANUALLY CLOSED WMD TO PREVENT LEAKAGE PRIOR TO THIS OCCURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * VALVES * PUMPS * SAFETY INJECTION * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * EMERGENCY CLIPPING SYSTEM

12098
 SAFETY INJECTION SUPPLY VALVE FAILS TO OPEN AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR B/NHC 76-02 TO U.S. NRC, REGION V, NOV. 12, 1976. DCKET 50-346. TYPE--PWR, NRU--BEST.. AE--BECHTEL

CAUSE - TORQUE SWITCH SET IMPROPERLY. DURING TESTING WITH THE REACTOR AT 50% POWER, SAFETY INJECTION SUPPLY VALVE TO RCS COOLERS FROM TRAIN A (RC-1031A) FAILED TO OPEN ELECTRICALLY. AN OPERATOR MANUALLY MOVED IT FROM ITS SEAT AFTER WHICH IT WAS OPENED ELECTRICALLY. THE TONGUE LIMIT BYPASS SWITCH WAS IMPROPERLY SET PREVENTING SUFFICIENT TORQUE TO BE APPLIED TO THE VALVE TO OPEN IT. IT WAS RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * VALVES * SAFETY INJECTION * FAILURE, EQUIPMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * SET POINT

12099
 REACTOR PROTECTION SYSTEM INTERLOCK SET INCORRECTLY AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS. LTR B/NHC 76-02 TO U.S. NRC, REGION V, NOV. 12, 1976. DCKET 50-346. TYPE--PWR, NRU--BEST.. AE--BECHTEL

CAUSE - PRESSURE DISTABLES INCORRECTLY ADJUSTED. WHILE OPERATING AT 50% POWER, REACTOR PROTECTION SYSTEM INTERLOCK TO BLOCK/UNBLOCK CONTAIN REACTOR TRIPS AT LOW POWER LEVELS (M-T INTERLOCK) WAS FOUND TO BE INCORRECTLY SET. THE AT POWER REACTOR TRIPS SHOULD NOT BE BLOCKED IF TUNING IMPULSE PRESSURE IS 0.2 PSIA. TURBINE IMPULSE PRESSURE DISTABLES WERE SET AT 0.1/0.14. TURBINE IMPULSE

120200 (CONTINUED)

PRESSURE DISTABLES WERE INCORRECTLY ADJUSTED DUE TO A STATIC HEAD ON THE PRESSURE TRANSMITTERS (WHICH HAD ALSO BEEN ADJUSTED TO COMPENSATE FOR THE STATIC HEAD). DISTABLES WERE RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * INSTRUMENT, INTERLOCK * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * SENSORS, PRESSURE * TEST, SYSTEM OPERABILITY * SET POINT * REACTOR PROTECTION SYSTEM * FAILURE, MAINTENANCE ERROR

120204

SUPPLEMENTAL INFORMATION ON MUST VALVE FAILURES AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 2 PGS, LTR D/RO 76-04 TO U.S. NRC, REGION V, NOV. 12, 1976, DOCKET 50-344, TYPE--PWR, NRC--WEST., AE--DECHTEL

CAUSE - BYPASS SWITCH SET INCORRECTLY. TWO MOTOR-OPERATED VALVES LOCATED BETWEEN THE SUCTION OF THE CENTRIFUGAL CHARGING PUMPS AND THE MUST FAILED TO OPEN ON A SPURIOUS SI SIGNAL AS REPORTED EARLIER. DURING OTHER WORK, 2 OTHER VALVES ALSO FAILED TO OPEN COMPLETELY. INVESTIGATION FOUND THE FOLLOWING: THERE IS A BYPASS SWITCH FOR THE OPEN TONGUE SWITCH WHICH BYPASSES THE TONGUE SWITCH UNTIL AFTER THE VALVE IS PULLED OFF ITS SEAT. THIS BYPASS SWITCH IS ALSO USED FOR CLOSED INDICATION. THE BYPASS SWITCHES DRIFTED WITH USE SO THAT THE TONGUE SWITCH CUT IN BEFORE THE VALVE WAS COMPLETELY OFF ITS SEAT. THE BYPASS SWITCHES WERE READJUSTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJ. (PWR) * INSTRUMENT, SWITCH * BYPASS * INSTRUMENT, POSITION * DRIFT * FAILURE, INHERENT * VALVES * ENGINEERED SAFETY FEATURE * FAILURE, COMMON MODE

120400

FEEDWATER BYPASS ISOLATION VALVE FAILS TO CLOSE AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS, LTR D/RO 76-04 TO U.S. NRC, REGION V, NOV. 12, 1976, DOCKET 50-344, TYPE--PWR, NRC--WEST., AE--DECHTEL

CAUSE - HYDRAULIC CONTROL VALVE BINDING. IN THE PROCESS OF LINING UP THE FEEDWATER SYSTEM FOR MAINTENANCE AFTER A NORMAL REACTOR SHUTDOWN, FEEDWATER BYPASS ISOLATION VALVE MJ-297JD DID NOT CLOSE WHEN OPERATED FROM THE LOCAL CONTROL PANEL. ITS MAIN HYDRAULIC CONTROL VALVE, A SOLENOID-OPERATED, 2-POSITION, 3-DAY VALVE, SPRING-LOADED TO A CLOSED POSITION, APPEARED TO BIND UP. THE CENTRAL VALVE WAS MANUALLY OPERATED. THE T12 BYPASS VALVE WAS CYCLED SEVERAL TIMES. DURING THE NEXT SCHEDULED OUTAGE, THE CONTROL VALVE WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * VALVES * FEEDWATER * BYPASS * CONTAINMENT ISOLATION * COOLING SYSTEM, SECONDARY * SOLENOID * FAILURE, EQUIPMENT * FAILURE, INHERENT

120208

TURBINE DRIVEN AUXILIARY FEEDWATER PUMP FAILS TO START AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS, LTR D/RO 76-05 TO U.S. NRC, REGION V, NOV. 18, 1976, DOCKET 50-344, TYPE--PWR, NRC--WEST., AE--DECHTEL

CAUSE - TRIP/THROTTLE VALVE RESET IMPROPERLY. AFTER COMPLETING A NORMAL REACTOR SHUTDOWN, BOTH MAIN FEEDWATER PUMPS WERE SECURED. THEN, THE TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP FAILED TO AUTOMATIC START. THE TRIP AND THROTTLE VALVE (MJ 3071) WAS NOT PROPERLY RESET FOR AN AUTOMATIC START BY AN AUXILIARY OPERATOR. IT WAS PROPERLY RESET AND THE PUMP WAS SUCCESSFULLY AUTOMATICALLY STARTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

TROJAN (PWR) * PUMPS * FEEDWATER * AUXILIARY * COOLING SYSTEM, SECONDARY * FAILURE, EQUIPMENT * FAILURE, OPERATOR ERROR

120700

FEEDWATER ISOLATION VALVE FAILS TO CLOSE AT TROJAN
 PORTLAND GENERAL ELECTRIC CO., PORTLAND, OR
 3 PGS, LTR D/RO 76-06 TO U.S. NRC, REGION V, DEC. 9, 1976, DOCKET 50-344, TYPE--PWR, NRC--WEST., AE--DECHTEL

CAUSE - HYDRAULIC SELECTOR VALVE FAILS. WHILE ROLLING THE MAIN TURBINE AT 45 POWER, A REACTOR TRIP OCCURRED AND FEEDWATER ISOLATION VALVE MJ2971D FAILED TO SHUT AUTOMATICALLY. THE RIVETT CO. MODEL 0459-0041 HYDRAULIC SELECTOR VALVE, WHICH DIRECTS HYDRAULIC PRESSURE TO THE OPERATING PISTON OF MJ2971D, FAILED TO OPERATE. THE SELECTOR VALVE UNIT WAS REPLACED AND MJ2971D OPERATED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

120740 *CONTINUED*
 TRUCK (PWR) * VALVES * FUELWATER * CONTAINMENT ISOLATION * FAILURE, EQUIPMENT * HYDRAULIC SYSTEM * CONTROL
 * FAILURE, IMMINENT

117056
 DIESEL GENERATOR BREAKER MALFUNCTIONS AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 J PGS, LTR D/RM 100-70-2 TO NRC OFFICE OF I & E, REGION II, MAR 10, 1970, DOCKET 50-250, TYPE--PWR, RFG--
 WEST., AE--DECONT

CAUSE - CHARGING MOTOR FAILURE. DURING 100% POWER OPERATION, THE LIGHT WHICH INDICATES THAT POWER IS AVAILABLE TO EMERGENCY DIESEL GENERATOR 30 BREAKER CLOSING SPRING CHARGING MOTOR WAS OBSERVED NOT ON. A BUSHING ON CHARGING MOTOR DRIVE SHAFT PERMITTED THE SHAFT TO BE MISALIGNED WITH THE CHARGING SPRING RATCHET WHEEL CAUSING JAMMING. ALSO SEVERAL TEETH WERE BROKEN OFF THE CHARGING MOTOR GEAR RENDERING THE MOTOR IMPERABLE. A SPARE BREAKER WAS INSTALLED. PARTS NEEDED TO REPAIR THE FAULTY BREAKER ARE ON ORDER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * FAILURE, EQUIPMENT * TURKEY POINT J (PWR) * FAILURE, IMMINENT * GEAR * BREAKER * GENERATOR, DIESEL

117032
 CHARGING PUMP LEAKS AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 J PGS, LTR D/RM 100-70-1 TO NRC OFFICE OF I & E, REGION II, MAR 10, 1970, DOCKET 50-250, TYPE--PWR, RFG--
 WEST., AE--DECONT

CAUSE - CRACK IN PUMP CASING. DURING FULL POWER OPERATION, WATER WAS FOUND LEAKING FROM CHARGING PUMP 2A. THE PUMP WAS REMOVED FROM SERVICE. A CRACK WAS FOUND IN THE PUMP CASING BETWEEN ONE OF THE VALVE CHAMBERS AND ITS STUFFING BOX. IT WAS WELD REPAIRED. THE CAUSE OF CRACKING HAS NOT BEEN DETERMINED. A NEW CASING IS ON ORDER. THE PUMP WILL BE REQUIR WHEN IT ARRIVES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * TURKEY POINT J (PWR) * MAIN COOLING SYSTEM * LEAK * FAILURE, IMMINENT * CRACK * FUELWATER * PUMPS

115512
 SET POINT DRIFT IN PRESSURIZER LEVEL COMPARTMENT AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 J PGS, LTR D/RM 100-70-3 TO NRC OFFICE OF I & E, REGION II, JUNE 10, 1970, DOCKET 50-250, TYPE--PWR, RFG--
 WEST., AE--DECONT

CAUSE - INSTRUMENT DRIFT. DURING TESTING WITH THE REACTOR AT 100% POWER, OUTPUT 1 OF A PRESSURIZER LEVEL COMPARTMENT WAS FOUND TO TRIP AT 0.005 VOLTS, EXCEEDING THE UPPER LIMIT OF 0.000 VOLTS. THE CAUSE WAS INSTRUMENT DRIFT. THE TRIP SET POINT WAS INITIALLY AT THE UPPER LIMIT. IT NOW IS USING SET AT A MORE CONSERVATIVE VALUE TO ALLOW FOR NORMAL DRIFT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * TURKEY POINT J (PWR) * SET POINT * DRIFT * SENSORS, LEVEL

115511
 BORON CONCENTRATION IN BORON INJECTION TANK LOW AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 J PGS, LTR D/RM 101-70-4 TO NRC OFFICE OF I & E, REGION II, JUNE 25, 1970, DOCKET 50-251, TYPE--PWR, RFG--
 WEST., AE--DECONT

CAUSE - INLEAKAGE THROUGH ISOLATION VALVES. DURING 100% POWER OPERATION, SAMPLING SHOWED THAT THE BORON CONCENTRATION OF THE BORON INJECTION TANK WAS BELOW THE 20,000 PPM LIMIT. DILUTION WAS CAUSED BY INLEAKAGE FROM THE BOST VIA THE BIST INLET AND JUTLET ISOLATION VALVES. A SIMILAR PROBLEM OCCURRED IN UNIT 4. REPAIRS WERE MADE TO STOP LEAKAGE THROUGH THE VALVES. CONCENTRATED ACID WAS ADDED TO BRING THE CONCENTRATION WITHIN LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * POISON, SOLUBLE * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * CHEMICAL SPIN * TURKEY POINT J (PWR) * LEAK * CONCENTRATION * VALVES

117157

117157 *CONTINUED*
 ERRORS FOUND IN CERTAIN SAFETY ANALYSIS AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 5 PGS. LTR D/RD 250-70-5 TO NRC OFFICE OF I & E, REGION II, AUG. 10, 1976. DOCKET 50-250. TYPE--PWR, NRC--
 WEST.. AE--DECONTROL

CAUSE - NON-CONSERVATIVE ASSUMPTIONS. WESTINGHOUSE HAS INFORMED THE UTILITY THAT RECENT DEVELOPMENTS HAVE AFFECTED THE RESULTS OF 2 SAFETY ANALYSIS. ONE INVOLVES THE TEMPERATURE OF THE FLUID IN THE UPPER HEAD. THIS WAS ASSUMED TO BE EQUAL TO THE VESSEL INLET TEMPERATURE. CONSERVATIVE JUDGMENT IS TO ASSUME IT TO BE EQUAL TO THE VESSEL OUTLET TEMPERATURE. THE CONSEQUENCE IS A REDUCTION IN THE MAXIMUM ALLOWABLE HEAT FLUX HUT CHANNEL FACTOR. ANOTHER DEVELOPMENT INVOLVES ROD BCU. THE ROD BCU PENALTY IS HIGHER THAN PREVIOUSLY USED. BOTH DEVELOPMENTS HAVE BEEN COMPENSATED FOR BY ADJUSTING OPERATING CONDITIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * HOT CHANNEL ANALYSIS * FAILURE, DESIGN ERROR * HOT CHANNEL FACTOR * TURKEY POINT J (PWR) * TEMPERATURE * FUEL ELEMENTS

110192
 DIESEL GENERATOR CIRCUIT BREAKER INOPERABLE AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/RD 250-70-6 TO NRC OFFICE OF I & E, REGION II, SEPT. 23, 1976. DOCKET 50-250. TYPE--PWR, NRC--
 WEST.. AE--DECONTROL

CAUSE - CLOSING SPRINGS NOT CHARGED. DURING 100% POWER OPERATION, IT WAS FOUND THAT THE CLOSING SPRINGS IN DIESEL GENERATOR 3A CIRCUIT BREAKER WERE NOT IN THE COMPRESSED OR CHARGED POSITION INDICATING THAT THE BREAKER COULD NOT RESPOND TO A CLOSING SIGNAL. A WIPON BUSHING BETWEEN THE CLOSING SPRING DRIVE MOTOR ECCENTRIC AND THE LINKAGE TO THE RATCHET WHEEL WAS WORN PREVENTING THE DRIVE SHAFT FROM ADVANCING THE RATCHET WHEEL. THE DRIVE MOTOR WAS NOT COMPRESSING THE SPRING AND WIPON UNTIL IT FAILED. THE WORN BUSHING WAS REPLACED AND THE MOTOR REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * EMERGENCY POWER, ELECTRIC * TEST, SYSTEM OPERABILITY * TURKEY POINT J (PWR) * HEARING * FAILURE, INHERENT * BEAR * BREAKER * GENERATOR, DIESEL

119008
 DIESEL GENERATOR COOLING WATER SURGE TANK LEVEL LOW AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/RD 250-70-7 TO NRC OFFICE OF I & E, REGION II, OCT. 15, 1976. DOCKET 50-250. TYPE--PWR, NRC--
 WEST.. AE--DECONTROL

CAUSE - SAMPLE VALVE NOT CLOSED COMPLETELY. WHILE OPERATING AT 100% POWER, INVESTIGATION OF A DIESEL GENERATOR A ENGINE TROUBLE ALARM FOUND THE ENGINE COOLING WATER SURGE TANK LEVEL TO BE LOW (ABOUT 2 INCHES FROM THE BOTTOM). WATER WAS FOUND TO BE DRIPPING FROM THE MANUALLY OPERATED COOLING WATER SAMPLE VALVE, WHICH WAS PARTIALLY OPEN. THE SAMPLE VALVE WAS CLOSED AND WATER WAS ADDED TO THE SURGE TANK. PROPER SAMPLING TECHNIQUES WERE RE-EMPHASIZED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * FAILURE, OPERATOR ERROR * WATER * SAMPLING * STORAGE CONTAINER * TURKEY POINT J (PWR) * LEAK * COOLING * SYSTEM CAPACITY * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL

110972
 BORON CONCENTRATION IN BORON INJECTION TANK BELOW LIMIT AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/RD 250-70-8 TO NRC OFFICE OF I & E, REGION II, OCT. 20, 1976. DOCKET 50-250. TYPE--PWR, NRC--
 WEST.. AE--DECONTROL

CAUSE - UNKNOWN. WHILE THE REACTOR WAS AT 100% POWER, RESULTS OF A ROUTINE SAMPLE INDICATED THAT THE BORON CONCENTRATION OF THE BORON INJECTION TANK WAS 18200 PPM, WHICH WAS BELOW THE 20000 PPM LIMIT. THE BIT WAS RECIRCULATED WITH THE BORIC ACID STORAGE TANK. ABOUT AN HOUR LATER, FOLLOWUP SAMPLE RESULTS INDICATED THAT THE BIT CONCENTRATION HAD INCREASED TO 20700 PPM. THE CAUSE OF THE LOW CONCENTRATION COULD NOT BE DETERMINED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

POISON, SCALABLE * SAFETY INJECTION * SAMPLING * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * TURKEY POINT J (PWR) * CONCENTRATION * FAILURE, INHERENT

119011
 CHARGING PUMP CONNECTING ROD BEARINGS FAIL AT TURKEY POINT J
 FLORIDA POWER & LIGHT CO., MIAMI, FL
 3 PGS. LTR D/RD 250-70-9 TO NRC OFFICE OF I & E, REGION II, NOV. 15, 1976. DOCKET 50-250. TYPE--PWR, NRC--

11781 OCCURRENCE
BEST.. AE--RECEIVED

CAUSE - INSUFFICIENT LUBRICATION. WHILE OPERATING AT 100% POWER, CHARGING PUMP 3B WAS REMOVED FROM SERVICE BECAUSE OF DAMAGE TO THE CONNECTING ROD BEARINGS. THERE HAD BEEN INSUFFICIENT LUBRICATION OF THE BEARINGS DUE TO REDUCED OIL PRESSURE FROM LEAKAGE PAST A WORN CAUSSEMEAU WEIST PIN AND AN OIL RESTRICTION WITHIN THE CONNECTING ROD ITSELF. AT THE TIME, CHARGING PUMP 3A WAS AVAILABLE FOR STANDBY SERVICE BECAUSE OF A DEGRADED PUMP CASING. TO RESTORE A SECOND CHARGING PUMP, THE 3B CASING WAS INSTALLED IN THE 3A PUMP. WHEN THE NEW CASING ARRIVES PUMP 3B WILL BE REEVALUATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TURKEY POINT 3 (PWR) * PUMPS * BEARING * FEEDWATER * MAIN COOLING SYSTEM * COOLANT PURIFICATION SYSTEM * LUBRICATION * FAILURE, EQUIPMENT * FAILURE, MAINTENANCE ERROR * FLOW MISMATCH

11782
SET POINT DRIFT IN STEAM FLOW COMPARTOR AT TURKEY POINT 3
FLORIDA POWER & LIGHT CO., MIAMI, FL
J P65, LTR 8/40 250-70-10 TO NRC OFFICE OF I & E, REGION II, DEC. 22, 1970, DCKET 50-250, TYPE--PWR, NRC--
BEST.. AE--RECEIVED

CAUSE - TWO FILTER CAPACITORS FAIL. WHILE PERFORMING A CALIBRATION DURING THE REFUELING OUTAGE, THE TRIP SET POINT OF STEAM FLOW COMPARTOR FC-3-004 ASSOCIATED WITH STEAM LINE 3B WAS FOUND TO BE NONCONSERVATIVE. TWO FILTER CAPACITORS (C2 AND C3) ON A PRINTED CIRCUIT BOARD IN THE POWER SUPPLY SECTION OF THE COMPARTOR HAD FAILED. THE DEFECTIVE CAPACITORS ALLOWED A RIPPLE VOLTAGE TO BE SUPERIMPOSED ON THE DC VOLTAGE FROM THE POWER SUPPLY. THEY WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

TURKEY POINT 3 (PWR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * SENSORS, FLOW * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * COMPONENTS * STEAM * REFUELING

11783
SET POINT DRIFT IN OVERTEMPERATURE TRIP CHANNEL AT TURKEY POINT 3
FLORIDA POWER & LIGHT CO., MIAMI, FL
J P65, LTR 8/40 251-70-1 TO NRC OFFICE OF I & E, REGION II, FEB. 25, 1970, DCKET 50-251, TYPE--PWR, NRC--
BEST.. AE--RECEIVED

CAUSE - FAILURE OF 2 CAPACITORS. DURING A TEST WHILE OPERATING AT 100% POWER, 1 OF THE 3 OVERTEMPERATURE DELTA-T REACTOR TRIP SET POINTS WAS FOUND TO BE 1 DEGREE ABOVE THE LIMIT. TWO 200 MFU FILTER CAPACITORS HAD FAILED. THEY WERE REPLACED. THE SET POINT WAS THEN SATISFACTORILY RETESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * SET POINT * TURKEY POINT 3 (PWR) * DRIFT * SENSORS, TEMPERATURE

11784
LEVEL IN REFUELING WATER STORAGE TANK LOW AT TURKEY POINT 3
FLORIDA POWER & LIGHT CO., MIAMI, FL
J P65, LTR 8/40 251-70-2 TO NRC OFFICE OF I & E, REGION II, FEB. 26, 1970, DCKET 50-251, TYPE--PWR, NRC--
BEST.. AE--RECEIVED

CAUSE - CONTROL ROOM GAGE IN ERROR. DURING A TEST WHILE OPERATING AT 100% POWER, A SPECIAL TEST GAGE WAS USED TO DETERMINE THE ACTUAL WATER LEVEL IN THE REFUELING WATER STORAGE TANK. THE TANK CONTAINED 310,000 GALLONS WHICH IS BELOW THE LIMIT. THE CONTROL ROOM GAGE READ 325,000 GALLONS. LEVEL WAS RESTORED TO ABOVE LIMITS IN 30 MINUTES. A WIDE RANGE BAILEY TYPE PH MULTI-POINT INDICATOR GAGE IS USED. A NARROW RANGE GAGE WILL BE INSTALLED AS A BACKUP IN THE CONTROL ROOM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR COOLANT * REFUELING * SYSTEM MAINTENANCE * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * INSTRUMENT, ANOMALOUS INDICATION * SYSTEM CAPACITY * TURKEY POINT 3 (PWR) * SENSORS, LEVEL

11785
STEAM GENERATOR TUBE SUPPORT PLATE EXAMINED AT TURKEY POINT 3
FLORIDA POWER & LIGHT CO., MIAMI, FL
J P65, LTR 8/40 251-70-3 TO NRC OFFICE OF I & E, REGION II, MAY 27, 1970, DCKET 50-251, TYPE--PWR, NRC--
BEST.. AE--RECEIVED

CAUSE - NOT YET DETERMINED. DURING THE REFUELING OUTAGE, A SECTION OF THE SIXTH TUBE SUPPORT

114377 *CONTINUED*

PLATE WAS REMOVED FROM STEAM GENERATOR * BY THE MANUFACTURER. PRELIMINARY RESULTS INDICATE SOME CRACKING. EXAMINATION RESULTS AND EVALUATIONS HAVE NOT DETERMINED THE CAUSE. THE PROGRAM IS CONTINUING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REFUELING * EXAMINATION * SUPPORT STRUCTURE * STEAM GENERATOR * SURVEILLANCE PROGRAM * TUBING * TURKEY POINT * (PWR) * CRACK

115510

BORON CONCENTRATION IN BORON INJECTION TANK LOW AT TURKEY POINT *

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR D/RO 291-76-5 TO NRC OFFICE OF I & E, REGION II, JUNE 25, 1976. DOCKET 90-251. TYPE--PW, NRC--WEST., AE--BECHTEL

CAUSE - INLEAKAGE THROUGH ISOLATION VALVES. WHILE THE REACTOR WAS AT 100% POWER, ROUTINE SAMPLING SHOWED THAT THE BORON CONCENTRATION OF THE BORON INJECTION TANK AND BORIC ACID STORAGE TANK B WERE BELOW THE 20,000 PPM LIMIT. THIS HAD ALSO OCCURRED ON THE PREVIOUS DAY. DILUTION WAS CAUSED BY INLEAKAGE FROM THE PUMP VIA THE BIST INLET AND OUTLET ISOLATION VALVES. VALVE LEAKAGE WAS STOPPED. CONCENTRATED ACID WAS ADDED TO BRING THE CONCENTRATION TO WITHIN LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * POISON, SOLUBLE * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * CHEMICAL SPIN * LEAK * TURKEY POINT * (PWR) * CONCENTRATION * VALVES

115512

BORON CONCENTRATION IN BORON INJECTION TANK LOW AT TURKEY POINT *

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR D/RO 290-76-4 TO NRC OFFICE OF I & E, REGION II, JUNE 25, 1976. DOCKET 90-250. TYPE--PW, NRC--WEST., AE--BECHTEL

CAUSE - INLEAKAGE THROUGH ISOLATION VALVE. WHILE OPERATING AT 100% POWER, SAMPLING SHOWED THAT THE BORON CONCENTRATION OF THE BORON INJECTION TANK WAS BELOW THE 20,000 PPM LIMIT. DILUTION WAS CAUSED BY INLEAKAGE FROM THE PUMP VIA THE BIST INLET AND OUTLET ISOLATION VALVES. SINCE THE BIST WAS BEING RECIRCULATED WITH THE BAST SYSTEM, 2 OF THE 3 BAST'S WERE ALSO DILUTED. MAINTENANCE WAS PERFORMED ON THE INLET VALVES TO STOP LEAKAGE. LEAKAGE PAST THE OUTLET VALVES WAS STOPPED BY ISOLATING THE LEAKOFF LINE. CONCENTRATED ACID WAS ADDED TO RETURN TO WITHIN LIMITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * POISON, SOLUBLE * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * CHEMICAL SPIN * LEAK * TURKEY POINT * (PWR) * CONCENTRATION * VALVES

117150

ERRORS FOUND IN CERTAIN SAFETY ANALYSIS AT TURKEY POINT *

FLORIDA POWER & LIGHT CO., MIAMI, FL

5 PGS. LTR D/RO 251-76-7 TO NRC OFFICE OF I & E, REGION II, AUG. 19, 1976. DOCKET 90-251. TYPE--PW, NRC--WEST., AE--BECHTEL

CAUSE - NON-CONSERVATIVE ASSUMPTIONS. WESTINGHOUSE HAS INFORMED THE UTILITY THAT RECENT DEVELOPMENTS HAVE AFFECTED THE RESULTS OF 2 SAFETY ANALYSIS. ONE INVOLVES THE TEMPERATURE OF THE FLOW IN THE UPPER HEAD. THIS WAS ASSUMED TO BE EQUAL TO THE VESSEL INLET TEMPERATURE. CONSERVATIVE JUDGMENT IS TO ASSUME IT TO BE EQUAL TO THE VESSEL OUTLET TEMPERATURE. THE CONSEQUENCE IS A REDUCTION IN THE MAXIMUM ALLOWABLE HEAT FLUX FOR THE CHANNEL FACTOR. ANOTHER DEVELOPMENT INVOLVES PWR BEC. THE ROD BOW PENALTY IS HIGHER THAN PREVIOUSLY USED. BOTH DEVELOPMENTS HAVE BEEN COMPENSATED FOR BY ADJUSTING OPERATING CONDITIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * ACCIDENT, LOSS OF COOLANT * HOT CHANNEL ANALYSIS * FAILURE, DESIGN ERROR * HOT CHANNEL FACTOR * TURKEY POINT * (PWR) * TEMPERATURE * FUEL ELEMENTS

117600

STARTING TRANSFORMER BREAKER FAILS TO CLOSE AT TURKEY POINT *

FLORIDA POWER & LIGHT CO., MIAMI, FL

3 PGS. LTR D/RO 251-76-6 TO NRC OFFICE OF I & E, REGION II, AUG. 25, 1976. DOCKET 90-251. TYPE--PW, NRC--WEST., AE--BECHTEL

CAUSE - PH SWITCH NOT MAKING PROPER CONTACT. DURING 100% POWER OPERATION, THE GENERATOR WAS TRIPPED BY GENERATOR LOCKOUT ACTION. THE STARTUP TRANSFORMER BREAKER FAILED TO CLOSE DURING THE AUTOMATIC TRANSFER SEQUENCE FROM THE AUXILIARY TRANSFORMER LEAVING THE 69 KV BUS UNCLOSED. THE PH SWITCH WAS NOT MAKING PROPER CONTACT WHICH PREVENTED THE BREAKER FROM CLOSING. THE BREAKER WAS LOWERED, THEN RAISED, TO ESTABLISH CONTACT.

117000 CONTINUED
 AVAILABILITY - NRC PUBLIC DOCUMENT GROUP, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMMENT + ACCIDENT, LOSS OF POWER + ELECTRIC POWER + INSTRUMENT, SWITCH + TURKEY POINT 4 (TP4) + OPERABLE + TRANSFORMERS

118077
 INTERIM REPORT ON COMMON MAT FOUNDATION PLACEMENT DEFICIENCY AT WATERFORD 3
 LOUISIANA POWER & LIGHT CO., NEW ORLEANS, LA
 APPROX. 20 PGS. LHM D/MT TO NRC OFFICE OF I & E, REGION IV, AUG. 5, 1976. DOCKET 50-302. TYPE--PWR, NRG--
 COMB., AE--EBASCO

CASE - IMPROPER PLACING SEQUENCES. DURING PLACEMENT OF CONCRETE BLOCK 19 OF THE COMMON FOUNDATION MAT, IMPROPER PLACING SEQUENCES ALLOWED PREVIOUSLY PLACED STEPS OR LAYERS OF CONCRETE TO TAKE INITIAL SET BEFORE FRESH CONCRETE WAS PLACED. VIBRATION CAUSED THE FRESH CONCRETE TO SPILL OVER THE SLOPES OF THE PRECEDING LAYERS OF CONCRETE RATHER THAN ACHIEVE THE REQUIRED STEPPED BEDDING PLANES. BASED ON PRELIMINARY RESULTS OF AN EVALUATION WHICH INCLUDED CORE DRILLING AND WATER PRESSURE TESTS, IT APPEARS THAT EXTENSIVE REPAIRS MAY BE NECESSARY TO RESTORE STRUCTURAL INTEGRITY IN THE AFFECTED AREA.

AVAILABILITY - NRC PUBLIC DOCUMENT GROUP, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONCRETE + CONTAINMENT CONSTRUCTION + CONTAINMENT STRUCTURE + STRUCTURAL INTEGRITY + FAILURE, INSTALLATION ERROR + FOUNDATION ENGINEERING + CONSTRUCTION + WATERFORD 3 (PWR)

117056
 COMMON FOUNDATION MAT PLACEMENT DEFICIENCY AT WATERFORD 3
 LOUISIANA POWER & LIGHT CO., NEW ORLEANS, LA
 2 PGS. LHM D/MT TO NRC OFFICE OF I & E, REGION IV, AUG. 5, 1976. DOCKET 50-302. TYPE--PWR, NRG--COMB., AE--
 EBASCO

CASE - IMPROPER PLACING SEQUENCES. DURING PLACEMENT OF CONCRETE BLOCK 19 OF THE COMMON FOUNDATION MAT, IMPROPER PLACING SEQUENCES ALLOWED PREVIOUSLY PLACED STEPS OR LAYERS OF CONCRETE TO TAKE INITIAL SET BEFORE FRESH CONCRETE WAS PLACED. VIBRATION CAUSED THE FRESH CONCRETE TO SPILL OVER OR FLOW DOWN THE SLOPES OF THE PRECEDING LAYERS RATHER THAN ACHIEVE THE STEPPED BEDDING PLANES AS REQUIRED. THIS IS CONJUNCTIVE TO A COLD JOINT. THE DEFICIENCY IS UNDER INVESTIGATION TO DETERMINE CORRECTIVE ACTION.

AVAILABILITY - NRC PUBLIC DOCUMENT GROUP, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONCRETE + CONTAINMENT + CONTAINMENT CONSTRUCTION + STRUCTURAL INTEGRITY + FAILURE, INSTALLATION ERROR + CONSTRUCTION + VOID + WATERFORD 3 (PWR)

118104
 VOIDS FOUND IN REACTOR AUXILIARY BUILDING INTERIOR WALL AT WATERFORD 3
 LOUISIANA POWER & LIGHT CO., NEW ORLEANS, LA
 10 PGS. LHM D/MT TO NRC OFFICE OF I & E, REGION IV, SEPT. 16, 1976. DOCKET 50-302. TYPE--PWR, NRG--COMB., AE--
 EBASCO

CASE - IMPROPER VIBRATION. DURING PLACEMENT OF CONCRETE IN A REACTOR ANALYSIS BUILDING INTERIOR WALL, IMPROPER CONSOLIDATION OCCURRED IN THE LOWER PORTION OF THE WALL. DUE TO THE NARROW WIDTH (18 INCHES) OF THE WALL AND THE HIGH CONCENTRATION OF EMBEDDED PLATES AND REINFORCING STEEL, PERSONNEL ACCESS INTO THE LOWER PORTION OF THE WALL WAS PROHIBITED AND LIGHTING WAS LIMITED. THEREFORE, PNEUMATIC VIBRATORS HAD TO BE LOWERED FROM THE UPPER PORTION OF THE WALL. UPON REMOVAL OF THE FORMS, NUMEROUS UNEXPECTED AND VOID AREAS WERE FOUND IN THE LOWER PORTION OF THE WALL DUE TO IMPROPER VIBRATION. REPAIR PROCEDURES ARE BEING DEVELOPED.

AVAILABILITY - NRC PUBLIC DOCUMENT GROUP, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONCRETE + BUILDING + FAILURE, FABRICATION ERROR + VIBRATION + CONSTRUCTION + CONCRETE, REINFORCED + VOID + AUXILIARY + WATERFORD 3 (PWR)

118925
 SURFACE FLOW ON CONTAINMENT ANCHOR BOLT NUTS AT BATTS BAN 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 4 PGS. LHM D/MT TO NRC OFFICE OF I & E, MARCH 9, 1976. DOCKETS 50-390/391. TYPE--PWR, NRG--BEST., AE--TVA

CASE - FOLDED METAL WITH INCLUSIONS. THE REACTOR CONTAINMENT VESSEL BOTTOM SHELL HINGE IS ANCHORED TO A CONCRETE FOUNDATION MAT BY 300 3-1/2-INCH DIAMETER BOLTS. DURING THE FINAL INSPECTION 20 TOP ANCHOR BOLT NUTS WERE FOUND WITH INDICATIONS WHICH APPEARED TO BE SURFACE IRREGULARITIES. EXAMINATION SHOWED THAT THE INDICATIONS WERE FOLDED METAL WITH NONMETALLIC INCLUSIONS IN THE SEAMS AND ADJOINING METALS. ALL (1) FROM UNIT 1 AND 9 FROM UNIT 2) WERE REPLACED TO REMOVE ANY DOUBT.

AVAILABILITY - NRC PUBLIC DOCUMENT GROUP, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM

111929 CONTINUED
CHARGE \$2.00

PASTERED * FLAW * FAILURE, FABRICATION ERROR * SUPPORT STRUCTURE * CONSTRUCTION * PRESSURE VESSELS * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

112001
QUALITY ASSURANCE PROGRAM BREAKDOWN AT WATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
3 PGS, LTR W/RPT TO NRC OFFICE OF I & E, MARCH 17, 1976, DOCKET: 50-390/391, TYPE--PWR, NRG--WEST., AE--TVA

CASE - CONSTRUCTION DEFICIENCY. AFTER DISCOVERY OF DISCREPANCIES IN DOCUMENTATION OF RADIOGRAPHS AND WELD HISTORIES, CBI STOPPED ALL CONTRACT WORK AT WATTS BAR. SUBSEQUENTLY, TVA PERMITTED CBI TO RESUME LIMITED WORK ON THE UNIT 2 BOTTOM LINER PLATE UNDER CERTAIN SPECIFIED CONDITIONS. CBI HAS SUBMITTED CORRECTIVE ACTION PLANS FOR THE CONTAINMENT VESSELS, BOTTOM LINERS, AND 2 STAINLESS STEEL TANKS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * WELDS * REACTOR STARTUP EXPERIENCE * FAILURE, FABRICATION ERROR * TEST, NONDESTRUCTIVE * QUALITY ASSURANCE * INSTALLATION * CONSTRUCTION * RECORDS * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

112004
INTERIM REPORT ON DOCUMENTATION OF RADIOGRAPHS AND WELD HISTORY AT WATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
3 PGS, LTR W/RPT TO NRC OFFICE OF I & E, APRIL 23, 1976, DOCKET: 50-390/391, TYPE--PWR, NRG--WEST., AE--TVA

CASE - ADMINISTRATIVE DEFICIENCY. TVA AND CBI ARE CONTINUING TO WORK TOWARD RESOLUTION OF DEFICIENCIES IN THE DOCUMENTATION OF RADIOGRAPHS AND WELD HISTORY RECORDS. ALL JOBSITE RADIOGRAPHIC FILM HAS BEEN REVIEWED. AGREEMENT HAS BEEN REACHED THAT THERE IS COMPLETE COVERAGE OF THE CONTAINMENT VESSEL JOINTS REQUIRING RADIOGRAPHY AND THAT EACH INDIVIDUAL FILM MATCHES UP WITH ADJACENT FILM. THE COMPLETE LEAK CHASE SYSTEM OF UNIT 1 HAS BEEN REEXAMINED BY PRESSURE DECAY TESTS WITH SATISFACTORY RESULTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * WELDS * CONTAINMENT STRUCTURE * TEST, NONDESTRUCTIVE * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * CONSTRUCTION * RECORDS * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

112010
DEFICIENCY IN THE DOCUMENTATION OF FABRICATION FOR RCS SYSTEM SUPPORTS AT WATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS, LTR W/RPT TO NRC OFFICE OF I & E, REGION II, APRIL 23, 1976, DOCKET 50-390/391, TYPE--PWR, NRG--WEST., AE--TVA

CASE - ADMINISTRATIVE DEFICIENCY. BRISTOL STEEL AND IRON WORKS SUBMITTED A NONCONFORMANCE REPORT DESCRIBING IN DETAIL PROBLEMS WITH IN-PROCESS DOCUMENTATION IN REGARD TO THE RECORDING OF MATERIAL, WELDER, AND WELDING MATERIAL IDENTIFICATIONS FOR STRUCTURAL STEEL REACTOR COOLANT SYSTEM SUPPORTS. TVA WORKED WITH BSIW TO DEVELOP A PLAN FOR THE CORRECTION OF THESE PROBLEMS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * STEEL * FAILURE, ADMINISTRATIVE CONTROL * SUPPORT STRUCTURE * QUALITY ASSURANCE * MAIN COOLING SYSTEM * CONSTRUCTION * RECORDS * IDENTIFICATION * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

112010
DOCUMENTATION DEFICIENCY FOR STRUCTURAL STEEL RCS SUPPORTS AT WATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
2 PGS, LTR W/RPT TO NRC OFFICE OF I & E, REGION II, APRIL 23, 1976, DOCKET: 50-390/391, TYPE--PWR, NRG--WEST., AE--TVA

CASE - ADMINISTRATIVE DEFICIENCY. A DEFICIENCY OCCURRED WITH IN-PROCESS DOCUMENTATION IN REGARD TO RECORDING OF MATERIAL, WELDER, AND WELDING MATERIAL IDENTIFICATIONS FOR STRUCTURAL STEEL REACTOR COOLANT SYSTEM SUPPORTS. GUIDELINES FOR RESOLUTION OF THE PROBLEMS HAVE BEEN DEVELOPED. THE FABRICATOR IS BRISTOL STEEL AND IRON WORKS, INC.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * WELDING * MATERIAL * FAILURE, ADMINISTRATIVE CONTROL * SUPPORT STRUCTURE * QUALITY ASSURANCE * MAIN COOLING SYSTEM * CONSTRUCTION * RECORDS * IDENTIFICATION * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

112010
DOCUMENTATION FOR STRUCTURAL STEEL FOR RCS SUPPORT DEFICIENT AT WATTS BAR 1 AND 2

115020 (CONTINUED)

TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 6 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, JUNE 30, 1970. COCKETS 50-390/391, TYPE--PWR, NRC--WEST.,
 AE--TVA

CAUSE - QA DEFICIENCY. PROBLEMS WERE FOUND WITH INPROCESS DOCUMENTATION IN REGARD TO RECORDING OF MATERIAL, DELIVER, AND DELIVERING IC'S. A PLAN WAS DEVELOPED TO CORRECT THESE PROBLEMS. RESPONSIBILITY FOR ENFORCING QUALITY ASSURANCE REQUIREMENTS WAS TRANSFERRED FROM BSIW CORPORATE QA DEPARTMENT TO THE NUCLEAR QA DEPARTMENT. THE PROBLEM NO LONGER EXISTS. AFFECTED MATERIAL HAS NOW BEEN RELEASED FOR SHIPMENT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FABRICATION * WELDING * MATERIAL * FAILURE, ADMINISTRATIVE CONTROL * SUPPORT STRUCTURE * QUALITY ASSURANCE * CONSTRUCTION * RECORDS * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR)

115025

CRACKS FOUND IN BLACK LEAN COIL SPOOLS ON RELAYS AT WATTS BAR 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 3 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, JULY 9, 1970. COCKETS 50-390/391, TYPE--PWR, NRC--WEST.,
 AE--TVA

CAUSE - IMPROPER MIX OF LEAD. INSPECTION FOUND 8 CRACKED AND BROKEN BLACK LEAN COIL SPOOLS ON RELAYS CONTAINED IN THE 6900-VOLT SHUTDOWN BOARDS. THE PROBLEM WAS TRACED TO AN IMPROPER MIXTURE OF BLACK LEAN BY THE VENDOR. LIFE EXPECTANCY TESTS INDICATED THAT THE CRACKS SHOULD HAVE NEGLECTIBLE EFFECT ON COIL LIFE EXCEPT WHERE A SPOOL IS SO BADLY CRACKED THAT WIRE SUPPORT IS LOST AND THE WINDING COULD FALL DOWN THE CORE. ON CONTINUOUSLY ENERGIZED AC RELAYS AND OTHER WPA RELAYS WITH BLACK SPOOLS, A 10 POUND TENSILE FORCE WILL BE APPLIED TO THE COIL SPOOL FLANGE. IF IT CRACKS, IT WILL BE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER * FAILURE, FABRICATION ERROR * CONSTRUCTION * WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR) * FAILURE, COMMON MODE * RELAYS

119702

WE 6900-VOLT AUXILIARY POWER SWITCHGEAR DEFICIENCY FOUND AT WATTS BAR 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 2 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 5, 1970. COCKETS 50-390/391, TYPE--PWR, NRC--WEST.,
 AE--TVA

CAUSE - BLACK LEAN COIL SPOOLS FAIL. INVESTIGATION FOUND 8 CRACKED AND BROKEN COIL SPOOLS ON 12WAS1A2P RELAYS CONTAINED IN THE 6900-VOLT SHUTDOWN BOARDS 2A-A AND 2B-B. DEFICIENCIES WERE ALSO FOUND ON 12WAS0E1B7F RELAYS AND SHUTDOWN BOARD 1A-A. ALL DEFECTIVE COIL SPOOLS WERE MADE OF BLACK LEAN. ALL CLASS 1E GE WPA TYPE RELAYS WILL BE REINSPECTED. THOSE RELAYS CONTAINING DEFECTIVE COIL SPOOLS WILL BE REPLACED BEFORE PREOPERATIONAL TESTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR) * CONSTRUCTION * RELAYS * EMERGENCY POWER, ELECTRIC * FAILURE, COMMON MODE * FAILURE, COMPONENT * FAILURE, DESIGN ERROR

119022

SEISMIC LOADS FOR PIPE TUNNELS DEFICIENT AT WATTS BAR 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 1 PG, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 8, 1970. COCKETS 50-390/391, TYPE--PWR, NRC--WEST.,
 AE--TVA

CAUSE - DESIGN ERROR. THE SEISMICALLY INDUCED LOADS USED IN THE DESIGN OF THE REINFORCED CONCRETE PIPE TUNNELS FOR THE REFUELING AND PRIMARY WATER STORAGE TANKS (1 TUNNEL PER UNIT) WERE NOT BASED ON THE SEISMIC CRITERIA PRESENTED IN THE PSAR. CONSTRUCTION OF THE PIPE TUNNELS HAS BEEN HALTED PENDING THE RESULTS OF AN EVALUATION TO DETERMINE THE ADEQUACY OF THE PRESENT DESIGN TO WITHSTAND THE SEISMICALLY INDUCED LOADS ASSOCIATED WITH THE SITE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WATTS BAR 1 (PWR) * WATTS BAR 2 (PWR) * CONSTRUCTION * SEISMIC DESIGN * DESIGN CRITERIA * CONTAINMENT * COMPARTMENT * PIPES AND PIPE FITTINGS * CONCRETE * FAILURE, DESIGN ERROR * STRUCTURAL INTEGRITY

120422

UNEXPECTED SOIL CONDITIONS IN INTAKE CHANNEL AREA AT WATTS BAR 1 AND 2
 TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN
 3 PGS, LTR W/RYPT TO NRC OFFICE OF I & E, REGION II, NOV. 10, 1970. COCKETS 50-390/391, TYPE--PWR, NRC--WEST.,
 AE--TVA

120022 *CONTINUED*

CAUSE - SOIL VARIATIONS. THE ORIGINAL SOILS EXPLORATION PROGRAM IN THE INTAKE CHANNEL AREA DEFINED A GENERAL SOIL PROFILE WHICH HAD A 15 FOOT LAYER OF FIRM BASAL GRAVEL OVER THE TOP OF ROCK. DURING EXCAVATION OF THE CHANNEL, UPSTREAM SIDE WAS AS EXPECTED EXCEPT THE TOP OF THE ROCK WAS 13 FEET HIGHER THAN EXPECTED. HERE, ALL GRAVEL WILL BE REMOVED AND GRANULAR FILL WILL BE PLACED. ON THE DOWNSTREAM SIDE, LAYERS OF SAND AND ONE LAYER OF CLAY WERE FOUND IN THE FIRM GRAVEL. IT WAS DECIDED TO EXCAVATE DOWN TO ROCK IN THIS AREA AND PLACE GRANULAR FILL AND THEN COMPACTED EARTHFILL AS ORIGINALLY PLANNED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

BATTS BAR 1 (PWR) + BATTS BAR 2 (PWR) + CONSTRUCTION + CANAL + INTAKE + CONDENSED COILING SYSTEM + FOUNDATION ENGINEERING + LIQUEFACTION + FAILURE, IMMINENT + SOIL PROPERTY, IN SITU + BACKFIT

120782

RELAYS ON SOLUTION BOARD LOGIC PANELS OPERATE SPORADICALLY AT BATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

1 PG. LTR W/RTY TO NRC OFFICE OF I & E, REGION II, DEC. 22, 1976, DOCKETS 50-390/391, TYPE--PWR, NRC--WEST., AE--TVA

CAUSE - UNKNOWN. DURING NISE CHECKS ON THE CLASS IE SHUTDOWN BOARD LOGIC PANEL, IT WAS FOUND THAT THE NC CONTACTS OF THE RELAYS OPERATED SPORADICALLY. THE DEFECTIVE RELAYS WERE RETURNED TO THE VENDOR FOR CORRECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

BATTS BAR 1 (PWR) + BATTS BAR 2 (PWR) + CONSTRUCTION + RELAYS + CONTROL SYSTEM + EQUIPMENT + TEST, SYSTEM OPERABILITY + FAILURE, INSTRUMENT

120783

THO-POSITION SELECTOR SWITCH MALFUNCTIONS AT BATTS BAR 1 AND 2
TENNESSEE VALLEY AUTHORITY, CHATTANOOGA, TN

1 PG. LTR W/RTY TO NRC OFFICE OF I & E, REGION III, DEC. 22, 1976, DOCKETS 50-390/391, TYPE--PWR, NRC--WEST., AE--TVA

CAUSE - NOT YET DETERMINED. FCA FIELD ASSEMBLED CONTROL STATION THO-POSITION SELECTOR SWITCHES. A FALSE DETENT OCCURS WHEN THE SWITCH HANDLE IS ROTATED TO THE EXTREME RIGHT POSITION AND THEN ALLOWED TO ROTATE SLIGHTLY TOWARD THE LEFT POSITION. WHEN THIS OCCURS, THE SPRING TENSION ON THE MOVABLE CONTACT BLOCK IS RELIEVED SUFFICIENTLY SUCH THAT CONTACT CONTINUITY IS NO LONGER RELIABLE. THIS DEFICIENCY IS BEING ANALYZED TO DETERMINE THE CAUSE AND CORRECTIVE ACTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

BATTS BAR 1 (PWR) + BATTS BAR 2 (PWR) + CONSTRUCTION + INSTRUMENT, SWITCH + PLW + FAILURE, INSTRUMENT

109197

SET POINT DRIFT IN LOOP TEMPERATURE SWITCH AT YANKEE ROBE

YANKEE ATOMIC ELECTRIC CO., ROBE, MS

2 PGS. LTR W/RTY TO NRC OFFICE OF I & E, REGION I, JAN. 2, 1976, DOCKET 50-29, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - INSTRUMENT DRIFT. DURING A REFUELING OUTAGE, A ROUTINE CHECK UP LOOP WIDE RANGE COLD LEG TEMPERATURE INDICATOR NO 1 FOUND THE BISTABLE SET POINT IN EXCESS OF THE TECH SPEC LIMIT. THE APPARENT CAUSE WAS INSTRUMENT DRIFT. THE WESTINGHOUSE TYPE V27D6J3 BISTABLE WAS RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM + YANKEE ROBE (PWR) + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + REFUELING + TEST, SYSTEM OPERABILITY + RESET POINT + DRIFT + SENSORS, TEMPERATURE + ELECTRONIC FUNCTIONAL UNITS

110330

NUCLEAR INSTRUMENTATION CHANNEL 5 CABLE CONNECTED IMPROPERLY AT YANKEE ROBE

YANKEE ATOMIC ELECTRIC CO., ROBE, MS

3 PGS. LTR W/RTY TO NRC OFFICE OF I & E, REGION I, JAN. 13, 1976, DOCKET 50-29, TYPE--PWR, NRC--WEST., AE--STONE & WEBSTER

CAUSE - MAINTENANCE ERROR. DURING ZERO POWER PHYSICS TESTING, INTERMEDIATE RANGE DETECTOR CH-5 CJC NORMALLY CONNECTED TO THE INPUT OF THE REACTIVITY COMPUTER FOR PHYSICS TESTING WAS TRANSFERRED TO NI CH-3. WHEN THE REACTOR WAS TAKEN CRITICAL, NI CH-3 HAD A NEGATIVE SUR AND A DECREASING LEVEL SIGNAL. THE REACTOR WAS TRIPPED. THE NEGATIVE AND POSITIVE LEADS EXTENDED FROM THE NI PANEL TO THE DETECTOR HAD BEEN EXCHANGED. THE LEADS WERE RECONNECTED AS DESIGNED AND TESTED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

11C336 (CONTINUED)
CHARGE \$2.00

YANKEE ROBE (PWR) • FAILURE, INSTRUMENT • FAILURE, MAINTENANCE ERROR • INSTRUMENT, ABNORMAL INDICATION • INSTRUMENT, INTERMEDIATE RANGE • REACTOR SHUTDOWN • CABLES AND CONNECTORS

111787

TWO LEAKS FOUND IN A CHARGING PUMP PIPING AT YANKEE ROBE
YANKEE ATOMIC ELECTRIC CO., ROBE, MA
2 PGS, LTR N/RO 50-29/70- TO NRC OFFICE OF I & E, REGION I, MARCH 9, 1970, DOCKET 50-29, TYPE--PWR, NRC--
WEST., AE--STUNE & WEBSTER

CAUSE - VIBRATION INDUCED FATIGUE. DURING AN INSPECTION WHILE OPERATING AT 70% PWR, THE OPERATOR NOTED SLIGHT LEAKAGE FROM CHARGING PUMP 3 PIPING AT THE RELIEF VALVE DISCHARGE FLANGE WELD AND THE PUMP SUCTION TEE TO RELIEF VALVE DISCHARGE LINE WELDS. THE 2 WELD CRACKS WERE APPARENTLY CAUSED BY VIBRATION INDUCED FATIGUE FAILURE. THE FLANGE AND TEE WERE REPLACED IN KIND. DUE TO THE REPETITIVENESS OF THIS OCCURRENCE, THE PLANT IS INVESTIGATING INSTALLING A PULSATION DAMPER ON THE CHARGING PUMP DISCHARGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE • WELDS • YANKEE ROBE (PWR) • FAILURE, FATIGUE • FAILURE, DESIGN ERROR • VIBRATION • MAIN COOLING SYSTEM • LEAK • FEEDWATER • PIPES AND PIPE FITTINGS

110210

ERROR FOUND IN ACCIDENT ANALYSIS ASSUMPTION AT YANKEE ROBE
YANKEE ATOMIC ELECTRIC CO., ROBE, MA
3 PGS, LTR N/RO 50-29/70-02/017 TO NRC OFFICE OF I & E, REGION I, MAY 27, 1970, DOCKET 50-29, TYPE--PWR, NRC--
WEST., AE--STUNE & WEBSTER

CAUSE - ERROR IN ASSUMED FLOW RATE. WHILE SHUT DOWN FOR MAIN EXCITER REPAIRS, A REVIEW OF THE EMERGENCY CORE COOLING SYSTEM ANALYSIS DISCOVERED AN ERROR IN THE ACCIDENT ANALYSIS. THE ECCS ACCUMULATOR FLOW WAS HIGHER THAN THAT ASSUMED IN THE ANALYSIS. A TECH SPEC CHANGE WAS REQUESTED TO REDUCE THE ACCUMULATOR PRESSURE AND, THEREBY, REDUCE FLOW TO BE CONSISTENT WITH THAT ASSUMED IN THE ANALYSIS. THE CHANGE WAS APPROVED AND THE REACTOR RETURNED TO POWER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ACCIDENT ANALYSIS • ACCIDENT, LOSS OF COOLANT • YANKEE ROBE (PWR) • MODIFICATION • PRESSURE, INTERNAL • FAILURE, ADMINISTRATIVE CONTROL • FLOW • ACCUMULATORS

110372

CRACK FOUND IN CHARGING PUMP WELD AT YANKEE ROBE
YANKEE ATOMIC ELECTRIC CO., ROBE, MA
2 PGS, LTR N/RO 50-29/70-05 TO NRC OFFICE OF I & E, REGION I, JUNE 3, 1970, DOCKET 50-29, TYPE--PWR, NRC--
WEST., AE--STUNE & WEBSTER

CAUSE - DEFECTIVE WELD. DURING A ROUTINE STARTUP, THE AUXILIARY OPERATOR NOTED SLIGHT LEAKAGE FROM THE WELD ON THE INLET TO CHARGING PUMP 3 RELIEF VALVE. CHARGING WAS CHANGED TO PUMP 1. A FULL 1/16-INCH PULLBACK GAP WAS NOT ALLOWED DURING INSTALLATION OF THE PIPE AND VIBRATION INDUCED FATIGUE FAILURE RESULTED. THE AFFECTED SECTION WAS REPLACED IN KIND AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE • WELDS • YANKEE ROBE (PWR) • FAILURE, FATIGUE • VIBRATION • FAILURE, INSTALLATION ERROR • MAIN COOLING SYSTEM • LEAK • FEEDWATER • PIPES AND PIPE FITTINGS

110901

ADDITIONAL INFORMATION ON CHARGING PUMP WELD CRACK AT YANKEE ROBE
YANKEE ATOMIC ELECTRIC CO., ROBE, MA
3 PGS, LTR N/RO 50-29/70-05/030 TO NRC OFFICE OF I & E, REGION I, JULY 6, 1970, DOCKET 50-29, TYPE--PWR, NRC--
WEST., AE--STUNE & WEBSTER

CAUSE - IMPROPER INSTALLATION. AS REPORTED EARLIER, DURING A ROUTINE STARTUP, THE OPERATOR NOTED LEAKAGE FROM THE WELD ON THE INLET TO CHARGING PUMP 3 RELIEF VALVE. A FULL 1/16-INCH PULLBACK GAP WAS NOT ALLOWED DURING INSTALLATION OF THE PIPE AND VIBRATION INDUCED FATIGUE FAILURE RESULTED. THE AFFECTED SECTION WAS REPLACED IN KIND. DUE TO THE REPETITIVENESS OF THIS INCIDENT, A DESIGN CHANGE WAS PREPARED TO INSTALL A PULSATION DAMPER AND SWEEPING ELBOWS ON THE CHARGING PUMP DISCHARGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE • WELDS • YANKEE ROBE (PWR) • MODIFICATION • FAILURE, FATIGUE • VIBRATION • FAILURE, INSTALLATION ERROR • MAIN COOLING SYSTEM • LEAK • FEEDWATER • PIPES AND PIPE FITTINGS

115701

BORON CONCENTRATION IN EXCESS OF ACCIDENT ANALYSIS LIMITS AT YANKEE NUO
 YANKEE ATOMIC ELECTRIC CO., ROBE, MA
 J PGS, LTR W/NO 50-29/76-07/017 TC NRC OFFICE OF I & E, REGION I, JULY 8, 1976, DOCKET 50-26, TYPE--PWR, NPG--
 -BEST., AE--STONE & WEBSTER

CAUSE - PERSONNEL ERROR. AN INVESTIGATION INTO THE DETAILS OF A REPORTABLE OCCURRENCE DISCOVERED THAT, DURING THE HYDROSTATIC LEAK TEST OF THE REACTOR VESSEL AND PORTIONS OF THE PHYSICS TESTING PROGRAM FOR CORE XI STARTUP, THE ASSUMED BORON CONCENTRATION OF THE LOCA ANALYSIS WAS EXCEEDED. PERSONNEL HAVE BEEN REMINDED OF THEIR RESPONSIBILITIES TO REVIEW ACCIDENT ANALYSIS ASSUMPTIONS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * FAILURE, OPERATOR ERROR * YANKEE NUO (PWR) * TEST, PHYSICS * CHEMICAL SHIM * DRAIN COOLING SYSTEM * TEST, LEAK * CONCENTRATION

115702

BORON CONCENTRATION OF SAFETY INJECTION TANK EXCEEDS LIMIT AT YANKEE NUO
 YANKEE ATOMIC ELECTRIC CO., ROBE, MA
 J PGS, LTR W/NO 50-29/76-06/017 TC NRC OFFICE OF I & E, REGION I, JULY 8, 1976, DOCKET 50-26, TYPE--PWR, NPG--
 -BEST., AE--STONE & WEBSTER

CAUSE - FAILURE TO FOLLOW PROCEDURES. WHILE OPERATING AT 98% POWER, A ROUTINE SAFETY INJECTION TANK MAKEUP WAS PERFORMED ACCORDING TO PROCEDURES. THE SUPERVISOR THEN FOUND THAT THE ACCEPTANCE CRITERIA COULD NOT BE MET. BORON CONCENTRATION WAS TOO HIGH. DUE TO TIME LIMITATIONS ON THE LENGTH OF TIME THE RECIRCULATION VALVES MAY BE OPENED, THE CONCENTRATION COULD NOT BE REDUCED. PREVIOUS CASES HAD NOT REQUIRED AN UPPER LIMIT. CHEMISTRY CALCULATIONS FOR MAKEUP DID NOT CONSIDER A HIGH LIMIT. ALSO, THE PROCEDURE WAS PERFORMED WITHOUT REGARD TO AN UPPER LIMIT. THE ACCEPTANCE CRITERIA HAD BEEN EXCEEDED 10 TIMES SINCE STARTUP OF CORE XII.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR * PROCEDURES AND MANUALS * POISON, SOLUBLE * YANKEE NUO (PWR) * SAFETY INJECTION * STORAGE CONTAINER * CHEMICAL SHIM * CONCENTRATION

116532

ERROR FOUND IN ROD EJECTION ACCIDENT ANALYSIS AT YANKEE NUO
 YANKEE ATOMIC ELECTRIC CO., ROBE, MA
 J PGS, LTR W/NO 50-29/76-08/017 TC NRC OFFICE OF I & E, REGION I, AUG. 13, 1976, D. ET 50-29, TYPE--PWR, NPG--
 -BEST., AE--STONE & WEBSTER

CAUSE - ERROR IN APPLICATION OF CODES. DURING FULL POWER OPERATION A REVIEW OF THE ROD EJECTION ACCIDENT ANALYSIS REVEALED AN ERROR IN THE METHOD USED FOR CORE XI ANALYSIS. THE PRESENT CORE (CORE XII) ANALYSIS IS BASED ON CORE XI ANALYSIS. THIS WAS AN ERROR IN THE METHODS AND APPLICATIONS OF THE ANALYSIS CODES. A RE-ANALYSIS REVEALED THAT THE MAXIMUM ALLOWABLE ZERO POWER EJECTED ROD WORTH IS 0.75% RW VS THAT CALCULATED FOR CORE XI RELOAD OF 1.0% RW. THIS IS A TECH SPEC VIOLATION. A TECH SPEC CHANGE WAS SUBMITTED FOR THE PRESENT CORE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * COMPUTER PROGRAM * CONTROL ROD WORTH * YANKEE NUO (PWR) * FAILURE, ADMINISTRATIVE CONTROL * ACCIDENT, CONTROL ROD EJECTION * MATHEMATICAL TREATMENT

117671

ERROR FOUND IN ACCIDENT ANALYSIS AT YANKEE NUO
 YANKEE ATOMIC ELECTRIC CO., ROBE, MA
 J PGS, LTR W/NO 50-29/76-09/017 TC NRC OFFICE OF I & E, REGION I, SEPT. 13, 1976, DOCKET 50-29, TYPE--PWR, NPG--
 -BEST., AE--STONE & WEBSTER

CAUSE - INCORRECT ASSUMPTION. RECENT STUDIES SHOW THAT THE FLUID TEMPERATURE OF THE UPPER HEMISPHERICAL HEAD APPROACHES THE HOT LEG TEMPERATURE. LOCA ANALYSIS WAS PERFORMED USING THE COLD LEG TEMPERATURE. AS A RESULT OF RE-ANALYSIS, THE LIMITING LINEAR HEAT GENERATION RATE WAS REDUCED BY 0.85 KW/FT TO ASSURE THAT PEAK CLAD TEMPERATURE FOR A LOCA WOULD NOT EXCEED 2200 F.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT ANALYSIS * CLADDING * ACCIDENT, LOSS OF COOLANT * YANKEE NUO (PWR) * ANALYTICAL MODEL * HOT CHANNEL ANALYSIS * FAILURE, DESIGN ERROR * FUEL ROD * TEMPERATURE

120290

ERROR FOUND IN ACCIDENT ANALYSIS AT YANKEE NUO
 YANKEE ATOMIC ELECTRIC CO., ROBE, MA
 J PGS, LTR W/NO 50-29/76-10/010 TC NRC OFFICE OF I & E, REGION I, SEPT. 30, 1976, DOCKET 50-29, TYPE--PWR, NPG--
 -BEST., AE--STONE & WEBSTER

12020 CONTINUED

CAUSE - CONNECTION FACTOR OMITTED. DURING A REVIEW OF THE COME ATE ANALYSIS IN PREPARATION OF CURVE ATE ANALYSIS, AN ERROR WAS DISCOVERED IN THE TECH SPEC CURVE THAT DETERMINES THE ALLOWABLE PEAK LEAK. IT WAS NON-CONSERVATIVE BY 2.7%. THE CURVE DID NOT INCLUDE A CORRECTION FOR THE FACT THAT ONLY 0.973 OF THE PLAT IS GENERATED IN THE FUEL AND 0.027 IS DUE TO GAMMA ENERGY. PLANT LEAK WAS REDUCED IMMEDIATELY BY 2.7% TO CORRECT FOR THIS ERROR. IN THE FUTURE, DATA USED IN ACCIDENT ANALYSIS WILL BE UNDER MORE STRINGENT REVIEW AND CONTROL.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

YANKEE NUCLE (PWR) * INCIDENT ANALYSIS * HOT CHANNEL ANALYSIS * HOT CHANNEL * ACCIDENT, LOSS OF COOLANT * FAILURE, ADMINISTRATIVE CONTROL * ANALYTICAL MODEL * GAMMA

12021

CHANGING PUMP HEADS DRAIN LINE DROD LEAKS AT YANKEE NUCLE

YANKEE ATOMIC ELECTRIC CO., ROCHE, MA

J PCS, LTR D/PJ 50-29770-11701 TO NRC OFFICE OF I & E, REGION I, DEC. 7, 1970, DCKET 50-029, TYPE--PWR, NRG--BEST., AE--STONE & WEBSTER

CAUSE - INSTALLATION ERROR. DURING 92A POWER OPERATION, THE OPERATOR NOTED SLIGHT LEAKAGE FROM A WELDED NIPPLE ON CHANGING PUMP J DISCHARGE HEADS DRAIN LINE. INVESTIGATION INDICATED THAT A FULL 1/16 INCH FULL SIZED GAP HAD NOT BEEN ALLOWED DURING INSTALLATION OF THE PIPE. A FULL 1/16 INCH NIPPLE WAS ENSURED DURING REPAIR. THE NIPPLE WAS REPLACED IN KIND AND THE PUMP RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, PIPE * DRUGS * YANKEE NUCLE (PWR) * FAILURE, INSTALLATION ERROR * MAIN COOLING SYSTEM * LEAK * PURGATION * PIPES AND PIPE FITTINGS

12022

SAFETY INJECTION ACCUMULATOR BORON CONCENTRATION HIGH AT YANKEE NUCLE

YANKEE ATOMIC ELECTRIC CO., ROCHE, MA

J PCS, LTR D/PJ 50-29770-12701 TO NRC OFFICE OF I & E, REGION I, DEC. 2, 1970, DCKET 50-029, TYPE--PWR, NRG--BEST., AE--STONE & WEBSTER

CAUSE - TITRANT SOLUTION IN ERROR. DURING 92B POWER OPERATION, RESULTS OF A SAMPLE FROM THE SAFETY INJECTION ACCUMULATOR INDICATED THAT THE BORON CONCENTRATION WAS 30 PPM OVER TECH SPEC LIMIT. INVESTIGATION REVEALED THAT THE STANDARD SODIUM HYDROXIDE TITRANT HAD A CONCENTRATION 4% LOWER THAN SPECIFIED. ALL REGULAR BORON CONCENTRATIONS WERE RESAMPLED WITH FRESH REAGENT AND FOUND TO BE SATISFACTORY. THIS IS NOT A REPEATABLE OCCURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

YANKEE NUCLE (PWR) * CONCENTRATION * POISON, SOLUBLE * SAFETY INJECTION * TEST, SYSTEM OPERABILITY * FAILURE, OPERATOR ERROR * ACCUMULATORS * CHEMICAL ANALYSIS

12023

MAIN COOLANT PUMP BREAKER FAILS TO OPEN AT YANKEE NUCLE

YANKEE ATOMIC ELECTRIC CO., ROCHE, MA

J PCS, LTR D/PJ 50-29770-13 TO NRC OFFICE OF I & E, REGION I, DEC. 13, 1970, DCKET 50-029, TYPE--PWR, NRG--BEST., AE--STONE & WEBSTER

CAUSE - WARMING. FOLLOWING A PLANT TRIP FROM POWER, MAIN COOLANT PUMP J WAS INADVERTENTLY RESTARTED DURING SCHED RECEIPT WHEN 2900 V BUS 1 WAS RE-ENERGIZED. THE PUMP BREAKER SHOULD HAVE OPENED AUTOMATICALLY ON LOSS OF POWER TO ITS BUS. THE OPERATOR COULD NOT TRIP THE PUMP FROM THE CONTROL BOARD. THE WESTINGHOUSE MCP WE 13N AIR CIRCUIT BREAKER, 2900 290-E, TRIP MECHANISM HAD APPARENTLY JAMMED, PREVENTING THE TRIP COIL FROM BURNING OUT. A NEW TRIP COIL WAS INSTALLED BUT THE BREAKER FAILED ON 10 TESTS. A SPARE BREAKER WAS INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT NUMBER, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

YANKEE NUCLE (PWR) * BREAKER * PUMPS * MAIN COOLING SYSTEM * ELECTRIC POWER * FAILURE, EQUIPMENT * FAILURE, IMMINENT

12024

SQUARE ROOT EXTRACTION READS HIGH AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

2 PCS, LTR D/PJ 50-29775-28 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 19, 1970, DCKET 50-297, TYPE--PWR, NRG--BEST., AE--SUT & LUNDY

CAUSE - DEFECTIVE OPERATIONAL AMPLIFIER. WHILE THE UNIT WAS OPERATING AT 83% POWER, A SQUARE ROOT EXTRACTION SA, FOUND TO BE READING 2.2% HIGH. THIS IS NON-CONSERVATIVE FOR STEAM FLOW-REDUCED PLUS RESTART REACTOR TRIP. A DEFECTIVE POT OPERATIONAL AMPLIFIER (OP-AMP FAIRCHILD TYPE 105) WAS FOUND IN THE MODULE.

110289 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * INSTRUMENT, ABNORMAL INDICATION * ZION 1 (PWR) * FAILURE, INHERENT * ELECTRONIC FUNCTION UNITS * INSTRUMENTS, DISC.

110290
 MAIN STEAM RELIEF VALVE MALFUNCTIONS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR D/RO 50-295/75-25 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 19, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - SET POINT DRIFT IN E/P CONVERTER. DURING HOT SHUTDOWN, LOOP 1 A MAIN STEAM ATMOSPHERIC RELIEF VALVE DID NOT OPEN, USING THE AIR OPERATOR, UNTIL A DEMAND SIGNAL OF 702 WAS APPLIED. THE ZERO SET POINT OF A HONEYWELL E/P CONVERTER, MODEL NO 870 022-012-00-00-01-20-00, HAD DRIFTED LCB, RESULTING IN A HIGH ELECTRICAL INPUT BEING NECESSARY FOR OPENING OF THE VALVE. THE E/P CONVERTER WAS CALIBRATED. THE VALVE WAS OPERABLE USING THE MOTOR OPERATOR AND BY MANUAL OPERATION AT THE TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (89 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * OPRESSURE RELIEF * ZION 1 (PWR) * SET POINT * PNEUMATIC SYSTEM * DRIFT * FAILURE, INHERENT * COOLING SYSTEM, SECONDARY * VALVES

110980
 NITROGEN FILL VALVE TO ACCUMULATORS FAILS TO CLOSE AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR D/RO 50-295/78-1 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 27, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - CALLED VALVE INTERNALS. WHILE THE REACTOR WAS OPERATING AT 828 POWER, THE NITROGEN FILL VALVE TO THE ACCUMULATORS FAILED TO CLOSE. THE MANUAL ISOLATION VALVE, LOCATED OUTSIDE CONTAINMENT, WAS CLOSED TO PROVIDE ISOLATION. SIX DAYS LATER, IT WAS REALIZED THAT THIS VIOLATED TECH SPECS. THE REACTOR WAS THEN SHUT DOWN. THE VALVE INTERNALS WERE FOUND TO BE CALLED INDICATING THAT MECHANICAL BINDING PREVENTED VALVE CLOSURE. THE VALVE STEM, PLUG, AND GAGE WERE REPLACED. THE COPES-VULCAN 1-INCH AIR OPERATED VALVE, MODEL D 100-100, WAS TESTED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * NITROGEN * ZION 1 (PWR) * REACTOR SHUTDOWN * FAILURE, INHERENT * VALVES * ACCUMULATORS

110979
 POTENTIAL OF CLAD FAILURE DURING CERTAIN ACCIDENTS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR D/RO 50-295/78-2 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 4, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - PELLETT-CLAD INTERACTION. PRELIMINARY ANALYSIS BY WESTINGHOUSE INDICATED THE POTENTIAL OF CLAD FAILURE DURING CERTAIN CLASS 2 ACCIDENTS. THE CAUSE IS THE POTENTIAL PELLETT-CLAD INTERACTION. THERE ARE NO SAFETY CONCERNS FOR THE PUBLIC. NO IMMEDIATE ACTION IS REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ACCIDENT * HAZARDS ANALYSIS * FAILURE, DESIGN ERROR * FAILURE, CLADDING * ZION 1 (PWR) * FUEL CLAD INTERACTION * FAILURE, COMMON MODE

111045
 CONTAINMENT TEMPERATURE NOT RECORDED EACH SHIFT AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR D/RO 50-295/78-3 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 20, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - PROCEDURAL DEFICIENCY. CONTAINMENT TEMPERATURE WAS NOT RECORDED SHIFTLY FROM 10-7-75 TO 1-18-76. PROCEDURES HAD BEEN REWRITTEN TO ELIMINATE A DUPLICATION IN DATA BEING TAKEN AND TO PLACE ALL LEAK RATE PARAMETERS ON ONE PROCEDURE. WHEN THIS WAS DONE, FREQUENCY OF CONTAINMENT TEMPERATURE MEASUREMENT WAS INADVERTENTLY CHANGED TO DAILY, AN AUDIT BY STATION QUALITY ASSURANCE GROUP DISCOVERED THE ERROR. PROCEDURES WILL BE REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (88 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * PROCEDURES AND MANUALS * FAILURE, ADMINISTRATIVE CONTROL * QUALITY ASSURANCE * TEST INTERVAL * ZION 1 (PWR) * RECORDS * SENSORS, TEMPERATURE

111775

HEAT TRACE HEATER FAILS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR B/MU 50-295/79-9 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 20, 1976, DOCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - CORROSION CRACKING OF SHEATH. DURING A ROUTINE SURVEILLANCE ON THE HEAT TRACE SYSTEM WHILE OPERATING AT 85% POWER, THE HEATER FAILURE ALARM WAS NOTED TO BE ON FOR A CIRCUIT. THE HEATER CABLE FAILED DUE TO CORROSION CRACKING OF THE 300 STAINLESS STEEL OUTER SHEATH AND SUBSEQUENT ELECTRICAL FAULT. REPAIR WAS MADE USING INCONEL 600 CABLE TO ELIMINATE RECURRENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CORROSION • MODIFICATION • TEST, SYSTEM OPERABILITY • FAILURE, DESIGN ERROR • ZION 1 (PWR) • HEATERS

111776

MONIC ACID VALVE LEAKS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR B/MU 50-295/79-9 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 3, 1976, DOCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - FAILED DIAPHRAGM. WHILE THE REACTOR WAS OPERATING AT 85% POWER, THE MONIC ACID FILTER OUTLET VALVE WAS FOUND TO BE LEAKING DUE TO A FAILED DIAPHRAGM. MONIC ACID LINES REQUIRE HEAT TRACING TO MAINTAIN TEMPERATURES. THE DIAPHRAGM BECAME BRITTLE AFTER A PERIOD OF TIME DUE TO THE HEAT. THE INHIBIT & TACH DIAPHRAGM VALVE WAS ISOLATED FOR 40 MINUTES FOR REPLACEMENT OF THE DIAPHRAGM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • POISON, SOLUBLE • THERMAL MECHANICAL EFFECT • SEAL • LEAK • ZION 1 (PWR) • FAILURE, INHERENT • VALVES

111800

OVERTEMPERATURE DIFFERENTIAL TEMPERATURE SWITCH FAILS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR B/MU 50-295/79-7 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 4, 1976, DOCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - DEFECTIVE OPERATIONAL AMPLIFIERS. DURING TESTING OF OVERTEMPERATURE DELTA T TRIP CIRCUITS WHILE THE UNIT WAS AT 85% POWER, A COMPARATOR WAS FOUND TO BE INOPERATIVE. TWO MOTOROLA PART NO SC64256K, TYPE 709, OPERATIONAL AMPLIFIERS WERE DEFECTIVE. THEY WERE REPLACED AND THE MODULE RECALIBRATED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT • REACTOR PROTECTION SYSTEM • INSTRUMENT CALIBRATION • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • ZION 1 (PWR) • FAILURE, INHERENT • SENSORS, TEMPERATURE • ELECTRONIC FUNCTION UNITS

112716

AUXILIARY FEEDWATER PUMP FAILS TO START AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR B/MU 50-295/79-10 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 16, 1976, DOCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - TURBINE WATERBLOW. DURING SHUT DOWN, WHEN AN ATTEMPT WAS MADE TO START AUXILIARY FEEDWATER PUMP 1A TO MAINTAIN S/G PRESSURE, THE PUMP FAILED TO START DUE TO THE TURBINE BEING WATERBLOWN. THE PUMP HAD BEEN STARTED AND STOPPED SEVERAL TIMES TO MAINTAIN PRESSURE RESULTING IN A HIGHER THAN NORMAL MOISTURE ACCUMULATION RATE. THE TURBINE DRAIN VALVES WERE THROTTLLED FURTHER OPEN. THE PUMP THEN OPERATED SATISFACTORILY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

WATER • TURBINE • ZION 1 (PWR) • FAILURE, INHERENT • AUXILIARY • COOLING SYSTEM, SECONDARY • FEEDWATER • PUMPS

112732

NON-CONSERVATIVE SCALING OF DELTA T LOGS OCCURS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR B/MU 50-295/79-8 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 16, 1976, DOCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - INADEQUATE REVIEW OF CHANGE. WHILE THE UNIT WAS OPERATING AT 90% POWER, 4 POWER RANGE CURRENT DETECTORS WERE RESCALED BUT THE DELTA T SENSATIONS WERE NOT RESCALED TO REFLECT THE DETECTOR CURRENTS. THIS RESULTED IN A NON-CONSERVATIVE SCALING OF THE DELTA-T LOOPS. THE CAUSE

112732 (CONTINUED)

WAS INADEQUATE REVIEW OF PACPOSIC CHANGES AND FAILURE TO RUN AN END-TO-END CHECK AFTER COMPLETION. THE MAXIMUM ERROR WAS 4.4% AT 90% POWER. THE DELTA T SUMMATORS WERE RECALLED AND END-TO-END CHECKS WERE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS * REACTOR PROTECTION SYSTEM * TESTING * INSTRUMENT CALIBRATION * TEMPERATURE GRADIENT * INSTRUMENT, SWITCH * FAILURE, ADMINISTRATIVE CONTROL * ZION 1 (PWR) * SENSOR, TEMPERATURE

112314

POWER RANGE DETECTOR FAILS AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

3 PGS., LTR D/PO 50-295/76-39 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 23, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - POWER SUPPLY FAILURE. WHILE THE REACTOR WAS OPERATING AT 82% POWER, POWER RANGE DETECTOR #103 FAILED. THE HIGH VOLTAGE POWER SUPPLY MANUFACTURED BY POWER DESIGNS INC., HAD FAILED. IT WAS REPLACED. THE DEFECTIVE UNIT WAS SENT TO WESTINGHOUSE FOR REPAIRS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ELECTRIC POWER * FAILURE, INSTRUMENT * INSTRUMENT, POWER RANGE * ZION 1 (PWR) * FAILURE, INSTRUMENT * ELECTRONIC FUNCTION UNITS

112731

CONTAINMENT RADIATION MONITORS INOPERABLE AT ZION 1

COMMONWEALTH EDISON, ZION, ILLINOIS

3 PGS., LTR D/PO 50-295/76-29 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 24, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - BLOWER DRIVE WHEEL FAILS. WHILE OPERATING AT 82% POWER, THE CONTAINMENT PARTICULATE RADIATION MONITOR AND THE CONTAINMENT GASEOUS MONITOR WERE DECLARED INOPERABLE. THE PIN ON THE DRIVE WHEEL FOR THE BLOWER WAS FOUND SHEARED OFF. THE BLOWER SERVES BOTH MONITORS. A NEW PART WAS FABRICATED AND THE MONITORS RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT * CONTAINMENT * TEST, SYSTEM OPERABILITY * MONITORING SYSTEM, RADIATION * ZION 1 (PWR) * FAILURE, INSTRUMENT * RADIATION MONITORS * BLOWERS

112718

FUEL MOVED WHILE RADIATION MONITOR WAS INOPERABLE AT ZION 1

COMMONWEALTH EDISON, ZION, IL

3 PGS., LTR D/PO 50-295/76-16 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, APRIL 2, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - OPERATOR OVERSIGHT. WHILE FUEL WAS BEING MOVED DURING REFUELING, A CONTAINMENT PURGE RADIATION MONITOR WAS FOUND TO BE INOPERABLE. FUEL MOVEMENT CONTINUED IN VIOLATION OF TECH SPECS. MANUAL GRAB SAMPLES WERE OBTAINED. THE OPERATOR FAILED TO REALIZE THAT FUEL MOVEMENT MUST STOP. PROCEDURES WERE NOT COMPLETE FOR ANNUNCIATOR RESPONSE. PROCEDURES WILL BE REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FUEL HANDLING * FAILURE, OPERATOR ERROR * CONTAINMENT PURGE * PROCEDURES AND MANUALS * REFUELING * ZION 1 (PWR) * RADIATION MONITORS

112731

STEAM PRESSURE TRANSMITTER DRIFTS TO FULL SCALE AT ZION 1

COMMONWEALTH EDISON, ZION, IL

3 PGS., LTR D/PO 50-295/76-12 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, APRIL 6, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - FROZEN INSTRUMENT LINES. WHILE THE REACTOR WAS OPERATING AT 90% POWER, A STEAM PRESSURE TRANSMITTER DRIFTED TO MAXIMUM OUTPUT EQUIVALENT TO 1200 PSI. THIS CAUSED THE PRESSURE RELIEF VALVE ON 3/4 IN TO OPEN. SINCE THE REMAINING 2 CHANNELS WERE READING NORMALLY, THE M/A STATION WAS PUT INTO MANUAL AND THE RELIEF VALVE WAS CLOSED. THE INSTRUMENT LINES FROZE DUE TO COLD WEATHER OUTSIDE (-14 F) AND THE FACT THAT THE VENTILATION DAMPERS TO THE VALVE HOUSE WERE LEFT OPEN. THE DAMPERS WERE CLOSED, PIPES THAWED, AND THE INSTRUMENT RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

VENTILATION SYSTEM * INSTRUMENT, SWITCH * FAILURE, MAINTENANCE ERROR * INSTRUMENT, ABNORMAL INDICATION * STEAM GENERATOR * TUBING * WEATHER, SEVERE * ZION 1 (PWR) * DANGEROUS, PRESSURE

113217
 UNSCHEDULED RELEASE OF RADIOACTIVE GAS OCCURS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/PO 50-295-70-15 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, APRIL 9, 1976, DOCKET 50-295, TYPE--PWR, HPG--WEST., AE--SGT & LUNDY

CAUSE - VALVE LEAKAGE. WHILE PREPARING FOR REFUELING AND DURING VENTING OF THE REACTOR VESSEL HEAD AND REACTOR COOLANT SYSTEM LOOPS, GAS FROM 2 WASTE GAS SYSTEM DECAY TANKS WAS DRAWN THROUGH A LEAKING VALVE TO THE PRESSURIZER RELIEF TANK AND ON INTO THE REACTOR COOLANT SYSTEM. IT WAS THEN RELEASED TO THE CONTAINMENT PURGE EXHAUST. AN ESTIMATED TOTAL ACTIVITY OF 30 CI ESCAPED DURING A 27.5 HR PERIOD. TWO OTHER ISOLATION VALVES WERE CLOSED TO TERMINATE THE RELEASE. PROCEDURES WILL BE REVIEWED AND UPDATED PRIOR TO FURTHER VENTING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AIRBORNE RELEASE + FAILURE, EQUIPMENT + WASTE STORAGE + REFUELING + STORAGE CONTAINMENT + LEAK + ZION 1 (PWR) + VALVES

113318
 SE TARGET DELTA I BAND EXCEEDED AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/PO 50-295/70-10 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, APRIL 9, 1976, DOCKET 50-295, TYPE--PWR, HPG--WEST., AE--SGT & LUNDY

CAUSE - TEST CONDITIONS. DURING THE 100% TESTING PROGRAM, A 50% LOAD REDUCTION TEST WAS PERFORMED FROM 100% POWER. THE RESULTING INCREASE IN CORE BENCH CONCENTRATION 5 HOURS LATER REQUIRED CONTROL ROD MOTION TO RESTORE REACTOR COOLANT TEMPERATURE THUS CAUSING THE SE TARGET DELTA I BAND TO BE EXCEEDED FOR GREATER THAN 1 HOUR IN THE PREVIOUS 24 HOURS. THIS TEST WAS PERFORMED AT END OF CORE LIFE WHERE ULTIMATE CAPABILITY IS MINIMAL. THE REASON INCREASE FOLLOWING THE LOAD REDUCTION WAS MORE REACTIVITY THAN COULD BE COMPENSATED FOR BY DILUTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTIVITY EFFECT + REACTOR KINETICS + REASON + POWER DISTRIBUTION + TEST, SYSTEM OPERABILITY + REACTOR PHYSICS + ZION 1 (PWR) + FAILURE, INCIDENT

115084
 MANAGEMENT INDIVIDUAL RECEIVES OVEREXPOSURE AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 7 PGS. LTR W/PT TO NRC DIRECTOR OF I & E, APRIL 15, 1976, DOCKET 50-295, TYPE--PWR, HPG--WEST., AE--SGT & LUNDY

CAUSE - DIRECT VIOLATION OF PROCEDURES. WHEN THE REFUELING CAVITY WAS PARTIALLY FLOODED IN PREPARATION FOR THE FIRST REFUELING, EXCESSIVE LEAKAGE INTO THE REACTOR CAVITY WAS EVIDENCED. THREE ENTRIES WERE MADE INTO THE REACTOR CAVITY AREA IN UNSUCCESSFUL ATTEMPTS TO LOCATE THE LEAKAGE PATH. DOSE RATES UP TO 10 R/HR WERE OBSERVED. A MANAGEMENT PERSONNEL WAS ADVISED AGAINST RETURNING TO THE AREA. HE WENT ANYWAY UNDER RESTRICTION OF A 500 MREM EXPOSURE LIMIT. WHEN HE CHECKED HIS METER, IT WAS OFF SCALE. FILM BADGE RESULTS INDICATED AN EXPOSURE OF 8050 MREM. HE HAD ENTERED A FIELD OF 150 TO 200 R/HR IN DIRECT VIOLATION OF PROCEDURES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT + MAINTENANCE AND REPAIR + COMPLIANCE + HIGH RADIATION + PERSONNEL EXPOSURE, RADIATION + REFUELING + FAILURE, ADMINISTRATIVE CONTROL + ZION 1 (PWR)

113766
 GASEOUS RELEASE RATE EXCEEDS REPORT LEVEL AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/PO 50-295-70-20 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, APRIL 20, 1976, DOCKET 50-295, TYPE--PWR, HPG--WEST., AE--SGT & LUNDY

CAUSE - GASEOUS LEAKAGE FROM BOTH UNITS. THE QUARTERLY AVERAGE GASEOUS RELEASE RATE FOR THE 1ST QUARTER 1976 WAS 7397 PICOC-CI/SEC. WHICH EXCEEDS TWICE THE ANNUAL OBJECTIVE OF 1200 MICRO-CI/SEC. HIGHER RELEASE LEVELS WERE DUE TO GASEOUS LEAKAGE FROM BOTH REACTOR SYSTEMS ACCOMPANIED BY FREQUENT PURGING OF CONTAINMENT. THE RELEASE WAS 50100 CI OF NOBLE GAS. DURING APRIL SOME LEAKS WERE FOUND AND REPAIRED IN BOTH UNITS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (10 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AIRBORNE RELEASE + EFFLUENT + NOBLE GAS + RELEASE RATE + MAIN COOLING SYSTEM + LEAK + ZION 1 (PWR)

114785
 TWO WORKERS RECEIVE OVEREXPOSURES AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL

115147 *CONTINUED*

A T.F. AMPLIFIER CARD, WESTINGHOUSE PART W3363 C0601, HAD FAILED. IT WILL BE REPLACED AS SOON AS PARTS ARE AVAILABLE. AREA SURVEYS WILL BE PERFORMED ONCE A SHIFT UNTIL THE MONITOR IS PLACED BACK IN SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * TEST, SYSTEM OPERABILITY * ZION 1 (PWR) * FAILURE, INHERENT * ELECTRONIC FUNCTION UNITS * RADIATION MONITORS

115148

NITROGEN SUPPLY ISOLATION VALVE FAILS TO CLOSE AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR D/NO 50-295/76-30 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUNE 17, 1976, DCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - CALLING ONE TO MISALIGNMENT. WHILE THE UNIT WAS COOLING DOWN FROM HOT SHUTDOWN, THE NITROGEN SUPPLY TO THE ACCUMULATORS ISOLATION VALVE FAILED TO CLOSE FROM THE CONTROL ROOM SWITCH. THE COPES-VULCAN INC., MODEL D100-100 OPERATOR, 1 INCH, AIR OPERATED GAGE AND PLUG TYPE VALVE FAILED TO RETURN CLOSED UNDER SPRING FORCE DUE TO CALLING ON THE GAGE AND PLUG. THE CLOSURE SPRING IN THE VALVE OPERATOR HAS CONTACT SURFACES THAT WERE NOT MACHINED PARALLEL CAUSING THE STEM AND PLUG TO ENTER THE GAGE WITH .000 INCH INTERFERENCE. SHIMS WERE ADDED TO REALIGN THE STEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * NITROGEN * FAILURE, FABRICATION ERROR * ZION 1 (PWR) * VALVES * ACCUMULATORS

115049

FUEL OIL LEAK NEAR DIESEL GENERATOR FUEL INJECTION PUMP AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR D/NO 50-295/76-35 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 14, 1976, DCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - CRACKED FITTING. WITH THE REACTOR AT 30% POWER FOLLOWING A STARTUP, DIESEL GENERATOR 1A WAS RUNNING UNLOADED FOLLOWING THE TURNING ROLL WHEN THE OPERATOR NOTICED FUEL OIL LEAKAGE AT FUEL INJECTION PUMP 8L. THE ENGINE WAS MANUALLY SHUT DOWN. THE LEAK WAS DUE TO A CRACKED FITTING ON THE INLET LINE TO A FUEL INJECTION PUMP. THE FITTING WAS REPLACED. THE CAUSE OF FAILURE IS BELIEVED TO BE FATIGUE CRACKING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

EMERGENCY POWER, ELECTRIC * FAILURE, PIPE * FAILURE, FATIGUE * VIBRATION * LEAK * ZION 1 (PWR) * FUEL, FOSSIL * CRACK * ENGINES, INTERNAL COMBUSTION * GENERATOR, DIESEL * PIPES AND PIPE FITTINGS

115000

SUMMATOR FOUND TO BE RAMBLING AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR D/NO 50-295/76-34 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 15, 1976, DCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - FAILED CAPACITOR. DURING TESTING WITH THE UNIT IN HOT STANDBY, A SUMMATOR WAS FOUND TO BE RAMBLING BY 100 MVDC. THIS SUMMATOR PROVIDES THE TAYLOR SIGNAL FOR OVER-POWER AND OVER-TEMPERATURE DELTA T PROTECTION CIRCUITS FOR LOOP 1. THE ERROR OF 100 MV OR 2.5% IS NONCONSERVATIVE BY 0.25%. THE SUMMATOR MODEL 111 MODULE WAS REPLACED BY A SPARE. WHEN THE DEFECTIVE MODULE WAS REPAIRED, A FAILED CAPACITOR CB WAS FOUND. THE CAPACITOR WAS REPLACED. THE MODULE WILL BE USED AS A SPARE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * TEST, SYSTEM OPERABILITY * ZION 1 (PWR) * FAILURE, INHERENT * INSTRUMENTS, MISC.

110230

SAFETY INJECTION ACCUMULATOR LEVEL INCREASES AT ZION 1

COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR D/NO 50-295/76-36 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 20, 1976, DCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - MOMENTARY BACKLEAKAGE OF CHECK VALVES. DURING OPERATION AT 30% POWER, WITH SAFETY INJECTION ACCUMULATOR ID LEVEL INDICATORS WERE FOUND TO BE READING 100%. THE ACTUAL LEVEL WAS VERIFIED TO BE BELOW THE UPPER LEVEL TOP ON THE ACCUMULATOR. THE ACCUMULATOR WAS DRAINED TO 50% AND NITROGEN PRESSURE ADJUSTED TO ABOVE 600 PSIG. APPARENTLY THE CHECK VALVES ON THE DISCHARGE LINE EXPERIENCED A MOMENTARY BACKLEAKAGE THAT CAUSED REACTOR COOLANT SYSTEM WATER TO FLOW INTO THE ACCUMULATOR. SAMPLES DID NOT SHOW A BORON CONCENTRATION DECREASE. HOWEVER, ACTIVITY LEVEL

116236 PLUTINIUM
 WAS 2 TIMES HIGHER THAN THAT OF ACCUMULATION IN.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

SAFETY INJECTION * LEAK * ZION 1 (PWR) * SYSTEM CAPACITY * VALVE CHECK * ACCUMULATIONS

116237
 CONTAINMENT SPRAY VALVE FAILS TO OPEN FULLY AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/PJ 50-295/70-06 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 22, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AL--SGT & LUNDY

CAUSE - TUNNE SWITCH JUMPED OUT TOO SOON. DURING TESTING WITH THE REACTOR AT 90% POWER, CONTAINMENT SPRAY PUMP IA OUTLET VALVE FAILED TO OPEN FULLY. THE TUNNE SWITCH IN THE LIMIT TUNNE OPERATOR OCCURRED BEFORE THE VALVE OPENED. IT WAS FOUND TO HAVE LOOSE CONTACTS. THE SWITCH WAS REPLACED AND ITS SETTING INCREASED FROM THE MINIMUM SETTING OF 1.0 TO 1.75. THE LIMIT TUNNE OPERATOR WAS CLEANED AND REASSEMBLED AND THE VALVE WAS SUCCESSFULLY TESTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT SPRAY * FAILURE, EQUIPMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * ZION 1 (PWR) * SET POINT * VALVES

116238
 REACTOR OPERATION OUTSIDE DELTA I BAND EXCEEDS LIMIT AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/PJ 50-295/70-37 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 20, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AL--SGT & LUNDY

CAUSE - LARGE POWER CHANGE AND FEED PUMP TRIP. DURING A POWER INCREASE AFTER A TRIP FROM 95% POWER, 10 MIN DURATION WAS IN PROGRESS, TO COMPENSATE FOR THE INCREASING REACTOR CONCENTRATION. HOWEVER, THIS WAS INSUFFICIENT TO PREVENT DELTA I FROM GOING OUTSIDE THE BAND ON THE NEGATIVE SIDE FOR 50 MINUTES. LATER, FEEDWATER PUMP IC TRIPPED AND DELTA I AGAIN WENT OUTSIDE THE BAND FOR A TOTAL OF 70 MINUTES. POWER WAS REDUCED TO LESS THAN 50%. DELTA I WAS EXCEEDED FOR MORE THAN 1 HOUR BECAUSE OF EARLIER LARGE POWER CHANGES AND BECAUSE OF THE FEEDWATER PUMP TRIP.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FLUX DISTRIBUTION * FAILURE, OPERATED ERROR * REACTOR STABILITY * REACTOR PHYSICS * ZION 1 (PWR)

117026
 ERRORS PLDNO IN SAFETY ANALYSIS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 4 PGS. LTR D/PJ 50-295/70-01 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 13, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AL--SGT & LUNDY

CAUSE - INCORRECT ASSUMPTIONS. WESTINGHOUSE NOTIFIED COMMONWEALTH EDISON THAT RECENT STUDIES IN THE AREA OF UPPER HEAT TEMPERATURE AND ROD BOW HAVE RESULTED IN POSSIBLE UNREVIEWED SAFETY QUESTIONS. PRELIMINARY ANALYSIS INDICATE THAT USING THE HIGHER UPPER HEAT TEMPERATURE RESULTS IN A 30 F HIGHER PEAR CLAD TEMPERATURE FOLLOWING A LUCA. RECENT ROD BOW MEASUREMENTS INDICATE AN ADDITIONAL 10% UNDER BOWING IS REQUIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

INCIDENT ANALYSIS * CLADDING * FUEL ELEMENT BOWING * DEFICIENT, LOSS OF COOLANT * UNB * FAILURE, DESIGN ERROR * FUEL ROD * ZION 1 (PWR) * TEMPERATURE

118074
 CIRCULATING WATER PUMP TRIPS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/PJ 50-295/70-01 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, AUG. 20, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AL--SGT & LUNDY

CAUSE - FAULT ON CIRCUIT OFF COMMON BUS. DURING TESTING WHILE OPERATING AT 90% POWER, A CIRCUIT BREAKER SERVING CIRCULATING WATER PUMP IC TRIPPED. THE TEMPERATURE DIFFERENTIAL ELEMENT 1-CH SPEC'S BY A MAXIMUM OF 7% PER 15 MINUTES WHILE POWER WAS BEING REDUCED. THE LIMIT HAS BEEN EXCEEDED ON 4 PREVIOUS OCCASIONS. A FAULT OCCURRED ON A CIRCUIT OFF THE SAME BUS WHICH FEEDS PUMP IC EXCITER. THE BREAKER FEEDING THE FAULTED CIRCUIT PLUS THE BREAKER FEEDING THE BUS WERE TRIPPED CAUSING THE PUMP IC TRIP. THE CAUSE IS BEING INVESTIGATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * TEMPERATURE GRADIENT * FAULT * ZION 1 (PWR) * CONDENSER COOLING SYSTEM * BREAKER * PUMPS

117032
 TWO AUXILIARY FEEDWATER PUMPS FAIL TO START AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/WO 50-295/70-42 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 25, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AE--SGT & LUNDY

CAUSE - STICKING VALVE/PLUGGED STRAINER. FOLLOWING A REACTOR TRIP, 2 OF THE 3 AUXILIARY FEEDWATER PUMPS DID NOT START AND OPERATE AS DESIGNED. PUMP 1A T-DRIVE DRIVE TRIPPED FROM OVERSPEED WHICH MIGHT HAVE BEEN FROM THE GOVERNOR VALVE STICKING. AFTER THE TRIP MECHANISM WAS RESET, THE PUMP OPERATED SATISFACTORILY. THE MALFUNCTION COULD NOT BE REPRODUCED. PUMP 1C FAILED TO DEVELOP FULL DISCHARGE PRESSURE RESULTING IN LOW FLOW. A SUCTION STRAINER WHICH WAS INSTALLED TO CATCH ANY DEBRIS AFTER A MODIFICATION TO THE SECONDARY WATER STORAGE SYSTEM PIPING WAS FOUND TO BE PARTIALLY PLUGGED. IT WAS REMOVED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT + FAILURE, MAINTENANCE ERROR + FAILURE, SIMULTANEOUS + ZION 1 (PWR) + AUXILIARY + COOLING SYSTEM, SECONDARY + FEEDWATER + PUMPS + FILTERS

117037
 DELTA I RANG EXCEEDED FOR TWENTY MINUTES AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/WO 50-295/70-40 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 25, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AE--SGT & LUNDY

CAUSE - RAPID LOAD SWING. THE DELTA I BAND WAS EXCEEDED FOR 20 MINUTES ABOUT 90% POWER FOLLOWING A LOAD SWING FROM 100% TO 65% TO 100% DURING THE NIGHT. WHEN THIS OCCURRED, THE REACTOR WAS AT 100% POWER WITH XENON CONCENTRATION DECREASING RAPIDLY. THE OPERATOR COULD NOT WITHDRAW CEA TO RESTORE DELTA I BECAUSE THE RCS TEMPERATURE WAS NEAR THE LIMIT. ALSO, A POWER INCREASE WAS NOT POSSIBLE WITHOUT EXCEEDING RCS TEMPERATURE. CONDITIONS WERE RESTORED BY CONTROLLED BORATION TO LOWER RCS TEMPERATURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, OPERATOR ERROR + REACTOR STABILITY + REACTOR TRANSIENT + POWER DISTRIBUTION + REACTOR CONTROL + ZION 1 (PWR)

117005
 AIR EJECTOR PARTICULATE MONITOR FAILS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR D/WO 50-295/70-39 TO NRC DIRECTORATE OF OPERATIONS, REGION III, AUG. 25, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AE--SGT & LUNDY

CAUSE - PLUGGED SERVICE WATER LINE. WHILE OPERATING AT 100% POWER, THE AIR EJECTOR PARTICULATE MONITOR FAILED DUE TO MOISTURE BEING CARRIED THROUGH THE LINE TO THE PROBE ASSEMBLY. INVESTIGATION FOUND MUD IN THE COOLER AND SERVICE WATER INLET LINE WHICH STOPPED THE FLOW OF SERVICE WATER. THUS MOISTURE WAS NOT CONDENSED AND SEPARATED FROM THE AIR IN THE COOLER AND THUS THE AIR GOING TO THE RADIATION MONITOR WAS WET WHICH RUINED THE SCINTILLATION PROBE. SWIFT SURVEILLANCE CAN HELP DIAGNOSE THE PROBLEM SOONER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, COMPONENT + SAMPLING + FLOW BLOCKAGE + CONDENSER + ZION 1 (PWR) + SERVICE WATER + FAILURE, INHERENT + RADIATION MONITORS + HEAT EXCHANGERS

11703A
 SAFETY INJECTION OCCURS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR D/WPT TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 27, 1970. DOCKET 50-295. TYPE--PWR. NRC--BEST., AE--SGT & LUNDY

CAUSE - HYDRAULIC TRANSIENT. DURING A STARTUP WITH THE REACTOR AT 20% POWER, WHILE ATTEMPTING TO PLACE THE FEEDWATER PLC CONTROLLERS IN AUTOMATIC, A SAFETY INJECTION OCCURRED DUE TO HIGH STEADY STATE DELTA P ON 2 LOOPS. A RAPID FEEDWATER FLOW INCREASE ON STEAM GENERATOR 10 EITHER ITSELF CAUSED A MECHANICAL SHOCK TO STEADY STATE PRESSURE TRANSMITTERS 1B AND 1D OR CAUSED A HYDRAULIC TRANSIENT IN SG 10 WITH SUBSEQUENT MECHANICAL SHOCK TO THE SAME TRANSMITTERS. THE SHOCK CAUSED THE TRANSMITTERS TO SPIKE HIGH RESULTING IN AN INDICATED HIGH DELTA P ON THE OTHER 2 TRANSMITTERS INITIATING SAFETY INJECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HYDRAULIC EFFECT + SAFETY INJECTION + STEAM GENERATOR + PRESSURE TRANSIENT + ZION 1 (PWR) + REACTOR SHUTDOWN + FEEDWATER + SENSORS, PRESSURE

110232

CONTAINMENT AIR SAMPLE VALVE FAILS TO CLOSE AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
J PLS, LTR N/PL 50-295/70-46 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 8, 1970, DOCKET 50-295, TYPE--PDR, NRC--BEST, AL--SGT & LUNDY

CAUSE - STICKING SOLENOID VALVE. WHILE PERFORMING A CONTAINMENT ISOLATION VALVE OPERABILITY CHECK WITH THE REACTOR AT 900, A CONTAINMENT SAMPLE VALVE FAILED TO CLOSE. THE SOLENOID VALVE ON THE AIR LINE TO THE VALVE OPERATOR WAS STICKING. THIS IS CAUSED BY OIL IN THE AIR SUPPLY LOGGING ON THE SOLENOID PLUNGER. HEAT FROM THE SOLENOID COIL THREW OIL INTO THE AIR SUPPLY LOGGING ON THE PLUNGER TO ADHERE TO THE PLUNGER SLEEVE. THE 1/2" O.D. MODEL NO. M0030040 SOLENOID VALVE WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * CONTAINMENT ATMOSPHERE * LUBRICATION * ZION 1 (PDR) * PNEUMATIC SYSTEM * SOLENOID * VALVES

110233

VENT HEADER ISOLATION VALVE FAILS TO CLOSE AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
J PLS, LTR N/PL 50-295/70-46 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 8, 1970, DOCKET 50-295, TYPE--PDR, NRC--BEST, AL--SGT & LUNDY

CAUSE - STICKING SOLENOID VALVE. WHILE PERFORMING CONTAINMENT ISOLATION VALVE OPERABILITY CHECKS WITH THE REACTOR AT 900 POWER, THE VENT HEADER ISOLATION VALVE FAILED TO CLOSE. THE ASCO, SERIES 8340, SOLENOID VALVE IN THE AIR SUPPLY TO THE OPERATOR FAILED BECAUSE ITS ACTUATING PISTON WAS STUCK. PREVIOUS FAILURES INDICATE THAT THE PISTONS STUCK DUE TO VARNISH BUILDUP ON THEIR SURFACES. VARNISH RESULTS FROM OIL IMPURITIES IN THE INSTRUMENT AIR SYSTEM WHICH COLLECTS ON THE PISTON AND ARE BROKEN DOWN BY THE COIL HEAT. THE SOLENOID VALVE WAS REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * WASTE HANDLING * TEST, SYSTEM OPERABILITY * FAILURE, DESIGN ERROR * LUBRICATION * GAS * ZION 1 (PDR) * PNEUMATIC SYSTEM * SOLENOID * VALVES

110281

CONTAINMENT RADIATION MONITORS FOUND INOPERABLE AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
J PLS, LTR N/PL 50-295/70-49 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 10, 1970, DOCKET 50-295, TYPE--PDR, NRC--BEST, AL--SGT & LUNDY

CAUSE - BLOWER FUSES BLOWN. WHILE THE REACTOR WAS OPERATING AT 100% POWER, THE CONTAINMENT PARTICULATE RADIATION MONITOR AND CONTAINMENT GASEOUS MONITOR WERE FOUND INOPERABLE. THE BLOWER WHICH SERVES BOTH MONITORS WAS NOT RUNNING BECAUSE OF 2 BURNED OUT FUSES (110 VOLT) WHICH CONTROL ELECTRICAL INPUT TO THE BLOWER AND MONITORS. THE CAUSE OF THE BURNED OUT FUSES IS UNKNOWN. THE FUSES WERE REPLACED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * FAILURE, EQUIPMENT * INSTRUMENT, PROTECTIVE * ELECTRICAL PUNCH * TEST, SYSTEM OPERABILITY * ZION 1 (PDR) * FAILURE, INSTRUMENT * RADIATION MONITORS * BLOWERS

116301

CONTAINMENT SPRAY VALVE FAILS TO OPEN AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
J PLS, LTR N/PL 50-295/70-92 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 14, 1970, DOCKET 50-295, TYPE--PDR, NRC--BEST, AL--SGT & LUNDY

CAUSE - UNKNOWN. AFTER COMPLETING A TEST IN THE CONTAINMENT SPRAY PUMPS, PUMP HEADER ISOLATION VALVE WOULD NOT OPEN WITH THE CONTROL FOUR SWITCH. THE VALVE WAS IMMEDIATELY OPENED MANUALLY AND LEFT OPEN. WHEN MAINTENANCE PERSONNEL TESTED THE VALVE, IT STALLED WITH NO PROBLEMS. NO MAINTENANCE WAS PERFORMED. A SMALL AMOUNT OF BOMIC ACID WAS FOUND ON THE STEM. THIS PROBABLY CAUSED THE LIMITSWITCH TO EXCEED ITS TORQUE SETTING AND HENCE COULD NOT WEAR THE STEM LOOSE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (80 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT SPRAY * FAILURE, EQUIPMENT * CAJID * TEST, SYSTEM OPERABILITY * ZION 1 (PDR) * FAILURE, INSTRUMENT * VALVES

110234

REACTOR TRIP BREAKER FAILS TO TRIP AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
J PLS, LTR N/PL 50-295/70-93 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 14, 1970, DOCKET 50-

119312 *CONTINUED*
295. TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - DIRTY BREAKER. DURING TESTING OF SAFEGUARDS TRASH B WITH THE REACTOR AT 97% POWER, THE REACTOR TRIP BREAKER FAILED TO TRIP. ALL LOGIC ASSOCIATED WITH THE IMPLANTED TRIP FROM THE TEST WORKED PROPERLY. A DIRTY BREAKER CAUSED INTERMITTENT OPERATION OF THE BREAKER. AFTER A THOROUGH CLEANING, THE BREAKER WORKED PROPERLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * REACTOR PROTECTION SYSTEM * CMUD * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * ZION 1 (PWR) * BREAKER

119304
PRESSURE OF SAFETY INJECTION ACCUMULATOR BELOW LIMIT AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-295/76-50 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 15, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - NITROGEN FILL VALVE FAILS TO CLOSE. DURING 97% POWER OPERATION, AFTER INCREASING THE PRESSURE IN SAFETY INJECTION ACCUMULATOR IC BY FILLING WITH NITROGEN, THE NITROGEN FILL VALVE FAILED TO RECLOSE. LATER, THE ACCUMULATOR PRESSURE FELL BELOW 600 PSIG. THE ACCUMULATOR WAS REPRESSURIZED USING A MANUAL VALVE. A BODY TO BONNET LEAK WAS FOUND IN THE VALVE THAT FAILED TO CLOSE. THE BOLTS WERE TIGHTENED TO DECREASE THE LEAK. ALSO, THE ACCUMULATOR VENT VALVE WAS LEAKING NITROGEN THROUGH ITS SEAT. A MANUAL ISOLATION VALVE WAS INSTALLED TO STOP THIS LEAKAGE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * SAFETY INJECTION * PRESSURE, INTERNAL * LEAK * ZION 1 (PWR) * VALVES * ACCUMULATORS

119307
CONTAINMENT FAN COOLER DAMPERS FAIL TO SHIFT MODES AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-295/76-57 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 15, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - POOR ORIENTATION OF COUNTERWEIGHT ARM. DURING A SAFEGUARDS ACTUATION TEST WITH THE REACTOR AT 100% POWER, DAMPERS ON 2 CONTAINMENT FAN COOLERS DID NOT SHIFT TO THE ACCIDENT MODE. THE DAMPERS WERE LEFT IN THE ACCIDENT MODE AFTER MANUAL OPERATION. THE CAUSE OF FAILURE WAS A COMBINATION OF POOR ORIENTATION OF THE ACTUATING COUNTERWEIGHT ARM AND A STICKY ACTUATING CYLINDER SHAFT. A MODIFICATION IS IN PROGRESS TO REORIENT THE ACTUATING ARMS AND INSTALL FLEXIBLE SCOTS OVER THE CYLINDER ACTUATING SHAFTS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT * FAILURE, EQUIPMENT * VENTILATION SYSTEM * CONTAINMENT AIR COOLING * MODIFICATION * TEST, SYSTEM OPERABILITY * FAILURE, INSTALLATION ERROR * ZION 1 (PWR) * VALVES

119308
UNPLANNED DILUTION OCCURS AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-295/76-62 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 15, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - VALVE LEFT OPEN. WHILE THE UNIT WAS SHUT DOWN, CHEMICAL ANALYSIS OF THE REACTOR COOLANT AND VISUAL OBSERVATIONS OF THE PRESSURIZED WATER LEVEL INDICATORS INDICATED THAT AN UNPLANNED DILUTION WAS IN PROGRESS. ISOLATION WATER WAS BEING ADDED INTO THE REACTOR COOLANT SYSTEM THROUGH A NORMALLY CLOSED VALVE WHICH WAS INCORRECTLY IN THE OPEN POSITION. SODIC ACID CONCENTRATION DECREASED FROM 1001 PPM TO 966 PPM IN 41 HOURS. CONCENTRATION WAS RESTORED TO 1000 PPM BY ADDING 250 GALLONS OF SODIC ACID. THE VALVE WAS CLOSED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

DILUTION * FAILURE, OPERATOR ERROR * SAMPLING * CHEMICAL SHIM * DRAIN COOLING SYSTEM * ZION 1 (PWR) * CONCENTRATION * VALVES

119306
CONTAINMENT PURGE SUPPLY VALVE STARTS TO LEAK AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-295/76-85 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 20, 1976, DOCKET 50-295, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - BULGE FORMS IN SEATING SURFACE. WHILE OPERATING AT 97% POWER, THE OUTER CONTAINMENT PURGE SUPPLY ISOLATION VALVE BEGAN LEAKING. LEAKAGE WAS CAUSED BY A SMALL BULGE THAT HAD FORMED IN THE SEATING SURFACE OF THE VALVE. THE BULGE WAS ADJUSTED TO MAKE THE SEATING SURFACE EVEN. THIS IS

119704 RECONTAMINATED
A DERRY PHATT CO. RUBER WIPERS, OFFSET DISC, 42 INCH BUTTERFLY VALVE WITH A RUBBER SEAT.

AVAILABILITY - NRC PUBLIC DOCUMENT PCOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT PURGE * CONTAINMENT ISOLATION * SEAL * OLEUM * ZION I (PWR) * FAILURE, INCIDENT * OVALVES

119715

DIESEL GENERATOR FAILS TO START AT ZION I
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/AL 50-295/76-50 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 22, 1976, DCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - NO CAUSE FOUND. DURING AN ACTIVATION TEST WITH THE REACTOR AT 70% POWER, DIESEL GENERATOR #1 FAILED TO START AND RUN WHEN AN SE SIGNAL WAS INITIATED. THE CONTROL ROOM OPERATOR OBSERVED THE ENGINE TO START COMING UP TO SPEED WHEN IT TRIPPED ABOUT HALF WAY THROUGH THE STARTING SEQUENCE. NO FAILURE CAUSE COULD BE DETERMINED FOR THE TRIP OF THE COMPRESSIONLESS RSV-10. 000 HP, 3500 RPM DIESEL ENGINE DURING THE STARTING SEQUENCE.

AVAILABILITY - NRC PUBLIC DOCUMENT M40P, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION I (PWR) * GENERATOR, DIESEL * ENGINES, INTERNAL COMBUSTION * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * EMERGENCY POWER, ELECTRIC

119771

CONTAINMENT ISOLATION VALVE FAILS TO CLOSE AT ZION I
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/AL 50-295/76-01 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 20, 1976, DCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - STUCK ACTUATING PISTON. WHILE PERFORMING THE CONTAINMENT ISOLATION VALVE OPERABILITY CHECK WITH THE REACTOR IN COLD SHUTDOWN, INSTRUMENT AIR TO CONTAINMENT ISOLATION VALVE (ICVIA-010) FAILED TO CLOSE. THE ASLE SERIES 0320 SOLENOID VALVE FAILED BECAUSE ITS ACTUATING PISTON WAS STUCK. PREVIOUS FAILURES OF THIS TYPE WERE DUE TO A VARNISH BUILDUP ON THE PISTONS WHICH CAUSES STICKING. THE ADHESION IS BROKEN BY A SLIGHT TAP. THIS VARNISH IS THOUGHT TO COME FROM OIL INTRODUCED INTO THE INSTRUMENT AIR SYSTEM WHEN IT IS CROSS-TIED WITH THE SERVICE AIR SYSTEM. A NEW INSTRUMENT AIR COMPRESSOR IS BEING INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT PCOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION I (PWR) * OVALVES * CONTAINMENT ISOLATION * PNEUMATIC SYSTEM * INSTRUMENTS, MISC. * TEST, SYSTEM OPERABILITY * LUBRICATION * FAILURE, DESIGN ERROR * SYSTEM CAPACITY

119760

QUARTERLY AVERAGE GASEOUS RELEASE RATE EXCEEDS REPORT LEVEL AT ZION I
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/AL 50-295/76-00 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 5, 1976, DCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - RELEASES FROM AUXILIARY BUILDING. THE QUARTERLY AVERAGE GASEOUS RELEASE RATE FOR THE THIRD QUARTER 1976 WAS 0798 MICROCURIES/SEC. THIS EXCEEDS THE ANNUAL OBJECTIVE OF 1200 PICO-CURIES/SEC. THE MAJOR CAUSE WAS FROM THE AUXILIARY BUILDING. THIS WAS CAUSED BY LEAKS IN THE VOLUME CONTROL TANK CURBICLE AND A LEAKING RELIEF VALVE IN THE NPM SYSTEM. BOTH HAVE BEEN REPAIRED. CONTAINMENT VENTS AND PURGES ALSO ACCOUNTED FOR PART OF THE GAS RELEASE.

AVAILABILITY - NRC PUBLIC DOCUMENT M40P, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION I (PWR) * RELEASE RATE * RADIOACTIVE RELEASE * LEAK * STORAGE CONTAINER * VALVES * PRESSURE RELIEF * FAILURE, MAINTENANCE ERROR * WASTE DISPOSAL * WASTE DISPOSAL, GAS

120005

CONTAINMENT PURGE TOWNE MONITOR INOPERABLE AT ZION I
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/AL 50-295/76-50 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 5, 1976, DCKET 50-295, TYPE--PWR, NRC--BEST., AE--SGT & LUNDY

CAUSE - BLOWER FAILURE. WHILE OPERATING AT 90% POWER, CONTAINMENT PURGE TOWNE MONITOR INTERRUPTOR WAS DECLARED INOPERABLE DUE TO A BLOWER FAILURE. MANUAL WASH SAMPLES WERE INITIATED. THE BLOWER WAS REPLACED. FAILURE IS DIRECTLY RELATED TO ITS CONTINUOUS OPERATION. AN EQUIPMENT LUBRICATION AND PREVENTIVE MAINTENANCE PROGRAM IS IN OPERATION AT THIS TIME.

AVAILABILITY - NRC PUBLIC DOCUMENT M40P, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

120409 *CONTINUED*
 ZION 1 (PWR) * MONITOR * PIDLINE * CONTAINMENT PURGE * FAILURE, COMPONENT * BEAN * FAILURE, INSTRUMENT *
 MISMATCH

120412
 CONTAINMENT ISOLATION VALVE FAILS TO CLOSE AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/RO 50-295/75-32 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 3, 1970. DCKET 50-
 295. TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - JAMMED SOLENOID PILOT VALVE. DURING CONTAINMENT ISOLATION VALVE TESTING ON 12/15/70 WITH
 THE REACTOR AT 89% POWER, VALVE FCV-04-17A FAILED TO STAY CLOSED. THE SOLENOID PILOT VALVE WAS
 JAMMED. THE ASCO MOV 0320A20 SOLENOID FAILED TO VENT DUE TO BAKED ON RESIDUE BOUNCING THE VALVE
 PLUNGER TO THE SLAVE. DEPOSITS DEVELOP FROM BAKING OIL RESIDUE WITH HEAT FROM THE 22 KW OIL
 COILS. OIL IS INTRODUCED INTO THE LINES DURING PERIODS OF TIME WHEN THE SERVICE AIR IS TIED INTO
 THE INSTRUMENT AIR SYSTEM TO SUPPLEMENT CAPACITY. AN ADDITIONAL INSTRUMENT AIR COMPRESSOR IS
 BEING INSTALLED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
 CHARGE \$2.00

ZION 1 (PWR) * VALVES * CONTAINMENT ISOLATION * FAILURE, EQUIPMENT * SOLENOID * TEST, SYSTEM OPERABILITY *
 PNEUMATIC SYSTEM * SYSTEM CAPACITY * LUBRICATION * FAILURE, DESIGN ERROR

120419
 DAMPERS ON TWO CONTAINMENT FAN COOLERS FAIL TO SHIFT AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/RO 50-295/75-31 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 12, 1970. DCKET 50-
 295. TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - DESIGN DEFICIENCIES. WHILE TESTING THE CONTAINMENT FAN COOLERS WITH THE REACTOR AT 89%
 POWER, DAMPERS ON 2 COOLERS FAILED TO SHIFT TO THE ACCIDENT MODE. THE INLET DAMPER ON COOLER IC
 (IFCV-0497) FAILED DUE TO POOR ORIENTATION OF THE COUNTERWEIGHT ARM AND A STICKY ACTUATING
 CYLINDER SHAFT. A MODIFICATION IS IN PROGRESS TO REORIENT THE ARMS AND CURVE THE ACTUATING
 CYLINDER WITH A FLEXIBLE BEAD. FAILURE OF THE OUTLET DAMPER ON COOLER IE (IFCV-0410A) WAS
 UNDER-SIZING OF THE EXHAUST CONTROL AIR LINES. A MODIFICATION IS IN PROGRESS TO ENLARGE THE SIZE
 OF TUBING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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ZION 1 (PWR) * VALVES * CONTAINMENT AIR COOLING * TEST, SYSTEM OPERABILITY * FAILURE, EQUIPMENT * FAILURE,
 DESIGN ERROR * MODIFICATION

120400
 LEVELS ON SIX ACCUMULATORS FOLLOW OUT OF LIMITS AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/RO 50-295/70-00 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 10, 1970. DCKET 50-
 295. TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - INADEQUACY OF LEVEL DETECTORS. DURING CALIBRATION ON ACCUMULATION LEVEL TRANSMITTERS (ON
 BOTH UNITS), THE LEVELS ON 6 OF THE 8 ACCUMULATORS WERE FOUND TO BE OUTSIDE TECH SPEC LIMITS. IN
 EACH CASE THERE HAD BEEN A ZERO SHIFT. ACTUAL LEVELS WERE MEASURED BY DEPRESSURIZING THE
 ACCUMULATORS AND USING A PIECE OF TYGON TUBING AS A SIGHT GLASS OR MAKING UP A HIGH PRESSURE
 SIGHT GLASS. THE ACCURACY OF THE PRESENTLY INSTALLED TRANSMITTERS IS CLOSE TO THE SAME MAGNITUDE
 AS THE TECH SPEC ALLOWABLE BAND. THE ZERO SHIFT PROBLEM AND THE REQUIRED ACCURACY MAKE
 CALIBRATION EXTREMELY DIFFICULT.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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ZION 1 (PWR) * SENSORS, LEVEL * INSTRUMENT CALIBRATION * ACCUMULATORS * LOW REPLEADING SYSTEM * FAILURE,
 INSTRUMENT * SHIFT * SYSTEM CAPACITY * FAILURE, INHERENT * TEST, SYSTEM OPERABILITY

120410
 GAS DECAY TANK VENT STACK MONITOR FAILS LOW AT ZION 1
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/RO 50-295/70-71 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 20, 1970. DCKET 50-
 295. TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - G-M PROBE FAILURE. WHILE OPERATING AT 89% POWER, GAS DECAY TANK VENT STACK MONITOR
 OUTPUT FAILED LOW. NO GAS RELEASE WAS IN PROGRESS AT THAT TIME. G-M PROBE FAILURE WAS THE
 CAUSE OF THE LOW RESPONSE. FAILURE IS ATTRIBUTED TO THE CONSTANT OPERATION OF THE MONITOR. THE
 PROBE WAS REPLACED, CALIBRATED, AND PLACED BACK IN SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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ZION 1 (PWR) * MONITOR * MONITOR, STACK * WASTE TREATMENT * WASTE TREATMENT, GAS * AIRBORNE RELEASE *

14000 - CONTAINMENT
EQUIPMENT * FAILURE * INSTRUMENT

14000

CONTAINMENT PURGE VALVES LEAK DURING THE NIGHT AT ZION 1
COMMONWEALTH EUISON CO., ZION, IL
2 PWS, LTR W/NO 50-295770-90 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 20, 1970, DOCKET 50-
295, TYPE--PWS, RFG--BEST., AE--36T & LUNDF

CAUSE - SEAT CONTRACTION DUE TO COLD AIR, WHILE OPERATING AT 97% POWER, 2 CONTAINMENT PURGE
ISOLATION VALVES BEGAN TO LEAK DURING THE MIDDLE OF THE NIGHT. LEAKAGE ROSE TO 200 SCFM AND
REMAINED THERE FOR AN HOUR BEFORE RETURNING TO ZERO. THIS PHENOMENON HAS HAPPENED SEVERAL TIMES
SINCE THE OUTSIDE AIR TEMPERATURES HAVE DROPPEN BELOW 40 F AT NIGHT. THE VALVE SEATS CONTRACT
AWAY FROM THE VALVE USE TO COLD OUTSIDE AIR COULING UPON THE RUBBER SEATS. THE PENETRATIONS THAT
OCCUR AT THESE VALVES WERE REAT TRACED AND INSULATED TO KEEP THE SEATS AT A WARM TEMPERATURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (PWS) * VALVES * CONTAINMENT PURGE * LEAK RATE * TEMPERATURE * CYCLING * FAILURE * EQUIPMENT *
FAILURE * DESIGN ERROR * MODIFICATION

12002

CIRCULATING WATER TEMPERATURE DIFFERENTIAL EXCEEDS LIMIT AT ZION 1
COMMONWEALTH EUISON CO., ZION, IL
2 PWS, LTR W/NO 50-295770-13 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, DEC. 9, 1970, DOCKET 50-295,
TYPE--PWS, RFG--BEST., AE--36T & LUNDF

CAUSE - VACUUM LEAK THROUGH FAILED ROTARY DISC. DURING OPERATION AT 97% POWER, A ROTARY DISC
SPLIT IN PREHEATER PUMP 10. THE RESULTING LOSS OF CONDENSED VACUUM CAUSED THE CIRCULATING WATER
TEMPERATURE DIFFERENTIAL TO EXCEED TECH SPECS BY 4.6 F MAXIMUM FOR 12 MINUTES WHILE REPAIRS WERE
MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
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ZION 1 (PWS) * TEMPERATURE GRADIENT * CONDENSED VACUUM SYSTEM * FAILURE * EQUIPMENT * INSTRUMENT * PROTECTIVE
* FAILURE * INCIDENT

14012

LOOP TEMPERATURE DIFFERENTIAL INDICATOR FAILS AT ZION 1
COMMONWEALTH EUISON CO., ZION, IL
2 PWS, LTR W/NO 50-295770-72 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 10, 1970, DOCKET 50-
295, TYPE--PWS, RFG--BEST., AE--36T & LUNDF

CAUSE - DEFECTIVE LEAK/LAG MODULE. DURING 97% POWER OPERATION, THE DELTA T DEVIATION ALARM FOR
LOOP 6 SOUNDED. THE OPERATOR FOUND INDICATOR IPI-031 READING 50%. THE MAIN LEAK/LAG MODULE
IPI0212, MODEL 131-114, 3/4 IN ISU WAS FOUND TO BE DEFECTIVE. IT WAS REPLACED WITH A SPARE. THE
DEFECTIVE MODULE WILL BE REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (PWS) * INSTRUMENT * SWITCH * TEMPERATURE GRADIENT * SENSORS * TEMPERATURE * FAILURE * INSTRUMENT *
ELECTRONIC FUNCTION UNITS * FAILURE * INCIDENT * REACTOR PROTECTION SYSTEM

14018

SAFETY INJECTION OCCURS AT ZION 1
COMMONWEALTH EUISON CO., ZION, IL
2 PWS, LTR W/NO 50-295770-11 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 17, 1970, DOCKET 50-295, TYPE--
PWS, RFG--BEST., AE--36T & LUNDF

CAUSE - WATER HAMMER. ON 6/25/70 WHEN 0 HANOVERS ON FEEDWATER PIPE 10 WERE FOUND WORKING, THE UNIT
WAS BROUGHT TO HOT SHUTDOWN. THE NEXT DAY WHILE ATTEMPTING TO UNISULATE THE FEEDWATER LINE TO
BRING THE UNIT TO COLD SHUTDOWN, A WATER HAMMER OCCURRED WHEN COLD WATER ENTERED THE HOT
FEEDWATER LINE. THE WATER HAMMER CAUSED 2 PRESSURE TRANSMITTERS TO SPIRE HIGH RESULTING IN A
SAFETY INJECTION INITIATION. AFTER 2 MINUTES, WHEN ASSURED OF STABLE PLANT PARAMETERS, THE
OPERATOR TERMINATED THE INJECTION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (PWS) * SAFETY INJECTION * HYDRAULIC EFFECT * PRESSURE TRANSIENT

14008

CIRCULATING WATER SYSTEM TEMPERATURE GRADIENT EXCEEDS LIMIT AT ZION 1
COMMONWEALTH EUISON CO., ZION, IL

122006 CONTINUOUS
3 PGS, LTR W/NO 50-29576-84 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, DEC. 14, 1976, DOCKET 50-295,
TYPE--FORM, RFG--BEST., AE--SGT & LUNDY

CAUSE - LAKE STRATIFICATION PROBLEMS. DURING TESTING OF THE CIRCULATING WATER SYSTEM, IT WAS
NOTED, WHILE TAKING LOCAL TEMPERATURE READINGS, THAT THE DELTA T RANDED TO SPEC BY 0.5 F.
DUE TO CHANGES IN LAKE TEMPERATURE AND STRATIFICATION PROBLEMS. THE CORRECTION FACTOR WHICH WAS
BEING APPLIED TO THE CHART READER BECAME INVALID. POWER WAS IMMEDIATELY REDUCED TO BRING THE
DELTA T BACK WITHIN LIMITS. A NEW CORRECTION FACTOR WAS APPLIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (FORM) * TEMPERATURE GRADIENT * CONDENSED COOLING SYSTEM * FAILURE, IMMERENT * INSTRUMENT, ABNORMAL
INDICATION * TEST, SYSTEM OPERABILITY * INSTRUMENT CALIBRATION

120714
CONTAINMENT PUMP VALVE LEAKS AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/NO 50-29576-73 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 17, 1976, DOCKET 50-
295, TYPE--FORM, RFG--BEST., AE--SGT & LUNDY

CAUSE - VALVE SEATS CONTACT IN COLD WEATHER. WITH THE REACTOR AT 80% POWER, A LOW PRESSURE OF 42
PSIG DEVELOPED ON ZONE 4 OF THE PENETRATION PRESSURIZATION SYSTEM. THIS WAS CAUSED BY LEAKAGE
FROM 2 CONTAINMENT PUMP ISOLATION VALVES LOCATED OUTSIDE THE CONTAINMENT. DURING COLD WEATHER,
THE VALVE SEATS CONTRACT. THIS HAS OCCURRED BEFORE. THE VALVES WERE HEAT TRACED BUT ADDITIONAL
EQUIPMENT WAS PLUGGED INTO THE SAME CIRCUIT CAUSING AN OVERLOAD WHICH OPENED THE BREAKER. THE
EQUIPMENT HAS BEEN MOVED FROM THE CIRCUIT AND HEAT TRACING RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (FORM) * LEAK RATE * CONTAINMENT ISOLATION * CONTAINMENT PUMP * FAILURE, EQUIPMENT * FAILURE, IMMERENT
* WEATHER, SEVERE * THERMAL MECHANICAL EFFECT * VALVES

120714
SAMPLE NOT TAKEN FROM STEAM GENERATOR CLOWDOWN AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR W/NO 50-29576-76 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 17, 1976, DOCKET 50-
295, TYPE--FORM, RFG--BEST., AE--SGT & LUNDY

CAUSE - LEAKING VALVES. WHILE OPERATING AT 85% POWER, A CDM SAMPLE FOR STEAM GENERATOR MONITOR
CLT OF SERVICE SURVEILLANCE WAS NOT TAKEN FOR ONE DAY. IT WAS NOT TAKEN BECAUSE THE SAMPLE
SYSTEM CONTAINMENT ISOLATION VALVES WERE LEAKING AND THE VALVES WERE CLOSED TO STOP THE LEAKS.
AN ALTERNATE SAMPLE POINT WAS DETERMINED ON THE FOLLOWING SHIFT. THE VALVE WAS FIXED 3 DAYS
LATER.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (FORM) * TEST INTERVAL * SAMPLING * SHUTDOWN * STEAM GENERATOR * FAILURE, EQUIPMENT * VALVES *
FAILURE, MAINTENANCE ERROR

120087
CIRCULATING WATER DIFFERENTIAL TEMPERATURE EXCEEDS LIMIT AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/NO 50-29576-83 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, DEC. 20, 1976, DOCKET 50-295,
TYPE--FORM, RFG--BEST., AE--SGT & LUNDY

CAUSE - ICE BLOCKED FLOW THROUGH INTAKE SCREENS. DURING AN ABNORMAL STRETCH OF COLD WEATHER WITH
THE REACTOR OPERATING AT 50% POWER, ICE IN THE FOREBAY BEGAN TO RAPIDLY PILE UP THE TRAVELING
SCREENS. THIS CAUSED A HIGH DIFFERENTIAL PRESSURE ACROSS THE SCREENS RESULTING IN CIRCULATING
WATER PUMP TRIP. THE CIRCULATING WATER DIFFERENTIAL TEMPERATURE VIOLATED THE 20 F TECH SPEC BY
2.5 F FOR 25 MINUTES AS POWER WAS BEING REDUCED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM
CHARGE \$2.00

ZION 1 (FORM) * TEMPERATURE GRADIENT * CONDENSED COOLING SYSTEM * FILTER, SCREEN * FLOW BLOCKAGE * WEATHER,
SEVERE * FAILURE, IMMERENT

120750
STACK GAS MONITOR FAILS LOW AT ZION 1
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR W/NO 50-29576-76 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 11, 1976, DOCKET 50-
295, TYPE--FORM, RFG--BEST., AE--SGT & LUNDY

CAUSE - POWER SUPPLY CAPACITY FAILS. RADIATION MONITOR UNLOADING, STACK GAS MONITOR, GAS FLOW
PAILED LOW WHILE THE UNIT WAS OPERATING AT 50% POWER. THE FUSE WAS REPLACED AND IT RANDED OUT

120756 (CONTINUED)

AGAIN. A CAPACITOR FAILED IN THE LOW VOLTAGE POWER SUPPLY MODEL PSC-15. THE INSTRUMENT WAS REPAIRED AND RETURNED TO SERVICE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 1 (PWR) * RADIATION MONITORS * MONITOR, STACK * STACK * MONITOR * FAILURE, INSTRUMENT * ELECTRIC POWER * FAILURE, INHERENT * MONITORING SYSTEM, RADIATION * ELECTRONIC FUNCTION UNITS

120757

RADIATION MONITOR FOUND TO BE SPIRING HIGH AT ZION 1
COMMONWEALTH Edison CO., ZION, IL

3 PGS, LTR W/NO 50-205/70-70 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUL. 21, 1976, DUCRET 50-205, TYPE--PWR, NPG--WEST., AE--SGT & LUNDY

CAUSE - LOW AND HIGH VOLTAGE POWER SUPPLY FAIL. WHILE OPERATING AT 75% POWER, RADIATION MONITOR 1 REOB12, CONTAINMENT GAS MONITOR, WAS FOUND TO BE SPIRING HIGH. FAILURES IN THE LOW AND HIGH VOLTAGE POWER SUPPLY MODEL PSC-15 AND 1011 BANTON CAUSED THE MONITOR TO BE INOPERABLE. THE MONITOR WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 1 (PWR) * RADIATION MONITORS * CONTAINMENT ATMOSPHERE * MONITOR, GAS * ELECTRIC POWER * FAILURE, INSTRUMENT * FAILURE, INHERENT * MONITORING SYSTEM, RADIATION * ELECTRONIC FUNCTION UNITS

110206

REACTOR COOLANT SAMPLE VALVE FAILS TO CLOSE AT ZION 2
COMMONWEALTH Edison CO., ZION, IL

3 PGS, LTR W/NO 50-304/76-5 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 19, 1976, DUCRET 50-304, TYPE--PWR, NPG--WEST., AE--SGT & LUNDY

CAUSE - STEM BINDING ON PACKING. DURING TESTING WITH THE REACTOR AT 70% POWER, 1 OF THE 2 REACTOR COOLANT SAMPLE ISOLATION VALVES FAILED TO CLOSE. THE STEM WAS BINDING ON THE PACKING. THE PACKING WAS LOOSENERD TO ALLOW FREE MOVEMENT OF THE STEM AND STILL PREVENT LEAKAGE. THE VALVE WAS STORPED SUCCESSFULLY.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * REACTOR COOLANT * SAMPLING * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * SEAL * ZION 2 (PWR) * VALVES

110207

RC SAMPLE LINE VALVE FAILS TO CLOSE AT ZION 2
COMMONWEALTH Edison CO., ZION, IL

3 PGS, LTR W/NO 50-304/76-49 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 19, 1976, DUCRET 50-304, TYPE--PWR, NPG--WEST., AE--SGT & LUNDY

CAUSE - IMPROPER SPRING ADJUSTMENT. ONE OF 2 REACTOR COOLANT SAMPLE LINE ISOLATION VALVES FAILED TO CLOSE WHEN ACTUATED FROM THE CONTROL BOARD. THIS IS AN AIR-TO-OPEN, SPRING-TO-CLOSE PASSENGER MODEL JB-20571 VALVE. THERE WAS INSUFFICIENT COMPRESSIVE FORCE FROM THE CLOSING SPRING TO CLOSE THE VALVE. THE ADJUSTING NUT ON THE SPRING WAS TIGHTENED TO PROVIDE MORE COMPRESSION ON THE SPRING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * REACTOR COOLANT * SAMPLING * FAILURE, MAINTENANCE ERROR * ZION 2 (PWR) * VALVES

110958

DRIFT IN STEAM GENERATOR LEVEL INDICATOR AT ZION 2
COMMONWEALTH Edison CO., ZION, IL

3 PGS, LTR W/NO 50-304/76-3 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JAN. 27, 1976, DUCRET 50-304, TYPE--PWR, NPG--WEST., AE--SGT & LUNDY

CAUSE - BOOT-BUNNET LEAK ON ROOT VALVE. WHILE OPERATING AT 61% POWER, 1 OF THE 3 STEAM GENERATOR LEVEL INDICATORS WAS SHOWING READING HIGHER THAN THE OTHER 2. IT READ 61% WHILE THE OTHERS READ 42%. DISTURBANCES FROM THIS CHANNEL WERE TRIPPED UNTIL REPAIRS COULD BE MADE DURING AN OUTAGE 10 DAYS LATER. THE CAUSE WAS A BOOT-BUNNET LEAK ON THE INSTRUMENT ROOT VALVE AT THE STEAM GENERATOR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, SWITCH * STEAM GENERATOR * LEAK * ZION 2 (PWR) * DRIFT * VALVES * SENSORS, LEVEL

110974

PRESSURIZER SAMPLE ISOLATION VALVE FAILS TO CLOSE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/RO 50-304/76-1 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 4, 1976, DCKET 50-304, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - UNKNOWN. ON 3 SEPARATE OCCASIONS DURING NORMAL OPERATION, THE PRESSURIZER LIQUID SAMPLE ISOLATION VALVE FAILED TO CLOSE. FAILURES OCCURRED OVER A 6-DAY PERIOD. THE FAILED VALVE IS A HAZOPILAN, MODEL 39-20571, AIR-TO-OPEN, SPRING-TO-CLOSE VALVE. CAUSE OF FAILURE IS UNKNOWN AT PRESENT. FURTHER INVESTIGATION WILL BE CONDUCTED BEFORE THE END OF THE PRESENT W/TAKE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * PRESSURIZER * TEST, SYSTEM OPERABILITY * ZION 2 (PWR) * VALVES

110975

MAIN STEAM ATMOSPHERIC RELIEF VALVE FAILS TO OPERATE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/RO 50-304/76-0 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 11, 1976, DCKET 50-304, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - TWO FAILED RELAYS. DURING SURVEILLANCE TESTING WHILE THE UNIT WAS SHUT DOWN, LOOP 2A MAIN STEAM ATMOSPHERIC RELIEF VALVE WOULD NOT OPERATE USING THE AIR OPERATOR. TWO RELAYS IN THE MANUAL/AUTOMATIC CONTROLLER IN THE VALVE PNEUMATIC CONTROL SYSTEM HAD FAILED. BOTH WERE REPLACED. THE VALVE WAS STROKED SATISFACTORILY AND RETURNED TO SERVICE. FIVE SAFETY RELIEF VALVES WERE OPERABLE IN LOOP 2A.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * PRESSURE RELIEF * TEST, SYSTEM OPERABILITY * PNEUMATIC SYSTEM * ZION 2 (PWR) * COOLING SYSTEM, SECONDARY * VALVES * RELAYS

111009

SET POINT DRIFT IN STEAM GENERATOR LEVEL TRANSMITTER AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR W/RO 50-304/76-8 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, FEB. 23, 1976, DCKET 50-304, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - SCALE SHIFT. DURING TESTING WITH THE PLANT IN COLD SHUTDOWN, A STEAM GENERATOR LEVEL TRANSMITTER WAS FOUND TO BE OUT OF TOLERANCE BY 3.9%. THE CAUSE WAS A SCALE SHIFT IN THE FISHER PORTER TRANSMITTER MODEL 1302495RBEABW-NS. THE TRANSMITTER WAS RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTION PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * TEST, SYSTEM OPERABILITY * STEAM GENERATOR * SET POINT * ZION 2 (PWR) * DRIFT * SENSORS, LEVEL

111766

QUARTERLY GASEOUS RELEASE RATE EXCEEDS TWICE ANNUAL OBJECTIVE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/RO 50-304/76-9 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, FEB. 26, 1976, DCKET 50-304, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - REACTOR SYSTEM GASEOUS LEAKS. THE FOURTH QUARTER AVERAGE RELEASE RATE WAS 3000 MICRO-CI/SEC. THIS EXCEEDS TWICE THE ANNUAL OBJECTIVE OF 1200 MICRO-CI/SEC. THIS RESULTED FROM REACTOR SYSTEM GASEOUS LEAKAGE ACCOMPANIED BY FREQUENT PURGING OF THE CONTAINMENT, DURING A RECENT OUTAGE. ALL NUCLEAR LEAKS WERE REPAIRED. THIS IS EXPECTED TO LOWER RELEASE LEVELS. A TOTAL OF 26550 CI OF NOBLE GAS WAS VENTED TO ATMOSPHERE DURING THE QUARTER.

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AIRBORNE RELEASE * CONTAINMENT PURGE * NOBLE GAS * RELEASE RATE * MAIN COOLING SYSTEM * LEAK * ZION 2 (PWR)

111767

CHARGING PUMP ISOLATION VALVE FAILS TO CLOSE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR W/RO 50-304/76-8 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 4, 1976, DCKET 50-304, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - PROBABLY DIRTY CONTACT. DURING TESTING WHILE THE REACTOR WAS SHUT DOWN, THE CHARGING PUMP DISCHARGE ISOLATION VALVE FAILED TO CLOSE. IT FUNCTIONED SATISFACTORILY FOR MANUAL ACTIVATION. IT APPARENTLY FAILED FROM A STUCK OR DIRTY AUXILIARY CONTACT IN THE NRC BREAKER.

111767 *CONTINUED*
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT ISOLATION * TEST, SYSTEM OPERABILITY * MAIN COOLING SYSTEM * ACTUATION * ZION 2 (PWR) * FAILURE, INHERENT * FEEDBACK * ROTORS * VALVES * RELAYS

111768
 ROOST SUCTION VALVE FAILS TO OPEN AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR DPMO 50-10476-7 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MARCH 5, 1976, UCCKET 50-304, TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - AUXILIARY CONTACTS PLUNG UP. DURING TESTING WITH THE REACTOR SHUT DOWN, ROOST SUCTION VALVE TO SAFETY INJECTION PUMP #2 FAILED TO OPEN ON SIGNAL. THIS IS A NORMALLY OPEN VALVE. THE AUXILIARY RELAY CONTACTS ON THE CIRCUIT BREAKER TO THE MOTOR OPERATOR OF THE VALVE HAD PLUNG UP. THE CONTACTS WERE CLEANED AND ADJUSTED. SPARE AUXILIARY CONTACTS ON THE CIRCUIT BREAKER WILL BE REQUIRED TO REDUCE THE PROBABILITY OF FAILURE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * REACTOR COOLANT * STORAGE CONTAINER * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE * ZION 2 (PWR) * VALVE OPERATORS * VALVES * RELAYS

112735
 CONTAINMENT MONITORING MONITOR FOUND READING LOW AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS, LTR DPMO 50-10476-22-2-75-20 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, APRIL 8, 1976, UCCKET 50-304, TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - FAILED CAPACITOR. WHILE OPERATING AT 92% POWER, A CONTAINMENT AIR PARTICULATE RADIATION MONITOR WAS FOUND READING BELOW SCALE. GRAB SAMPLES WERE INITIATED AT ONCE. A CAPACITOR HAD FAILED IN THE HIGH VOLTAGE POWER SUPPLY. THE CAUSE OF FAILURE IS UNKNOWN. REPAIRS WERE MADE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * CONTAINMENT * ELECTRIC POWER * MONITORING SYSTEM, RADIATION * ZION 2 (PWR) * FAILURE, INHERENT * OPERATION MONITORS

114021
 PENETRATION PRESSURIZATION SYSTEM FOUND DEPRESSURIZED AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR DPMO 50-10476-13 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MAY 11, 1976, UCCKET 50-304, TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - RUPTURE DISC BLEW WHILE IN HOT SHUTDOWN. ZONE 1 OF THE PENETRATION PRESSURIZATION SYSTEM WAS FOUND DEPRESSURIZED. THE ES AND B SAFETY SYSTEMS, MODEL NO. HB-90 RUPTURE DISC HAD BLOWN. THE RUPTURE DISC WAS SET TO BLOW AT 60 PSIG. THE RUPTURE DISC WAS REPLACED AND THE ZONE DEPRESSURIZED TO 47.0 PSIG. AFTER REPLACING THE RUPTURE DISC, IT WAS NOTED THAT THE CONTROLLER FOR THE NITROGEN PRESSURE CONTROL VALVE ON ZONE 1 WAS SET HIGH. THIS PROBABLY WAS THE CAUSE OF THE RUPTURE DISC BLOWING. THE CONTROLLER WAS RESET.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATION ERROR * INSTANTANT, PROTECTIVE * CONTROL * OPERATOR, INTERNAL * SET POINT * PNEUMATIC SYSTEM * ZION 2 (PWR) * VALVES * CONTAINMENT PENETRATION

114357
 UPDATE REPORT ON BOWEN INJECTION TANK VALVE FAILURE AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS, LTR DPMO 50-10476-13 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, MAY 20, 1976, UCCKET 50-304, TYPE--PWR, RFG--BEST., AE--SGT & LUNDY

CAUSE - PACKING TOO TIGHT. ON 10/22/76 DURING A REACTOR TRIP AND SAFETY INJECTION, BOWEN INJECTION TANK INLET ISOLATION VALVE FAILED TO STROKE OPEN. THE VALVE HAD FAILED BEFORE. THE ONLY OFF-NORMAL CONDITION FOUND WAS A SLIGHT DEPOSITION OF MATERIAL ON THE STEM. CHEMICAL ANALYSIS OF THIS DEPOSIT INDICATED THAT IT PROBABLY WAS POLYBIPHENYL DISULFIDE WHICH IS IN THE STEM LUBRICANT. OVERHEATING MAY HAVE AGGRAVATED THE LUBRICANT CAUSING ADDITIONAL TUNNAGE TO BE REQUIRED. TUNNAGE LIMITS WERE INCREASED TO OVERCOME POSSIBLE STEM BINDING. PACKING WAS CHANGED. RC VALVE FAILURES HAVE OCCURRED SINCE THESE CHANGES.

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FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * POISON, SOLUBLE * CRUD * INSTRUMENT, SWITCH * STORAGE CONTAINER * FAILURE, MAINTENANCE ERROR * LUBRICATION * OPERATING EXPERIENCE * ZION 2 (PWR) * VALVES

11436
 CIRCULATING WATER DIFFERENTIAL TEMPERATURE EXCEEDS LIMIT AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/NO 50-304/76-1 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, MAY 20, 1976. DOCKET 50-304. TYPE--FOR. RFG--
 -BEST.. AE--SGT & LUNDY

CAUSE - FISH PLUGGED INTAKE SCREENS. WHILE OPERATIONS AT 85% POWER, CIRCULATING WATER PUMP # 2 TRIPPED CAUSING THE CIRCULATING WATER TEMPERATURE TO INCREASE TO 21.75 F. WHILE REDUCING POWER. THE PUMP WAS RESTARTED RETURNING THE DIFFERENTIAL TEMPERATURE TO 17.5 F. THE 20 F LIMIT WAS EXCEEDED FOR 10 MINUTES. NUMEROUS FISH PLUGGED THE INTAKE SCREENS. FISH NETS, WHICH HAD BEEN INSTALLED AT THE INTAKE, WERE DAMAGED DURING A STORM AND WERE IN THE PROCESS OF BEING REPAIRED. REPAIRS HAVE BEEN COMPLETED.

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TEMPERATURE GRADIENT * FILTER, SCREEN * FLOW BLOCKAGE * ZION 2 (PWR) * ANIMAL, FISH * CONDENSED COOLING SYSTEM * FAILURE, INHERENT * PUMPS

115141
 SET POINT DRIFT IN PRESSURIZER LEVEL TRANSMITTER AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/NO 50-304/76-1 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUNE 7, 1976. DOCKET 50-304. TYPE--FOR. RFG--BEST.. AE--SGT & LUNDY

CAUSE - ZERO SHIFT. WHILE AT HOT STANDBY, THE OPERATOR FOUND THAT A PRESSURIZER LEVEL TRANSMITTER WAS INDICATING 6% HIGHER THAN THE 2 OTHER TRANSMITTERS. SHIFT WAS DUE TO A ZERO SHIFT IN THE BARTON MODEL 300-351 LEVEL TRANSMITTER. THE TRANSMITTER WAS REZEROED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURIZER * SET POINT * ZION 2 (PWR) * DRIFT * SENSORS, LEVEL

115142
 PRESSURIZER SAMPLE VALVE FAILS TO CLOSE AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/NO 50-304/76-1 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUNE 10, 1976. DOCKET 50-304. TYPE--FOR. RFG--BEST.. AE--SGT & LUNDY

CAUSE - STEM BINDING. ON 3 SEPARATE OCCASIONS, A PRESSURIZER LIQUID SAMPLE ISOLATION VALVE FAILED TO CLOSE. THE WASCHELAN, MODEL NO. 30-20571, AIR-TO-OPEN, SPRING-TO-CLOSE, VALVE WOULD NOT CLOSE BECAUSE IT WAS MECHANICALLY BOUND. THE VALVE WAS PHYSICALLY WORKED LOOSE. THE MANUFACTURER STATED THAT THIS VALVE SHOULD HAVE ITS STEM LUBRICATED PERIODICALLY WITH A GRAPHITE LUBRICANT. IT HAS BEEN ADDED TO THE LUBRICATION SCHEDULE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * SAMPLING * PRESSURIZER * TEST, SYSTEM OPERABILITY * FAILURE, MAINTENANCE ERROR * LUBRICATION * ZION 2 (PWR) * VALVES

115475
 REACTOR TRIP LEVEL TRANSMITTER FOUND OUT OF TOLERANCE AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR W/NO 50-304/76-17 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUNE 21, 1976. DOCKET 50-304. TYPE--FOR. RFG--BEST.. AE--SGT & LUNDY

CAUSE - UNKNOWN. FOLLOWING A REACTOR TRIP, A LEVEL TRANSMITTER WOULD NOT GO BELOW 20% MAKING THE LO-LO LEVEL REACTOR TRIP NONCONSERVATIVE. FAILURE COULD NOT BE REPEATED IN THE BENCH. THE UNIT WAS REPLACED BY A SPARE. NO CAUSE COULD BE DETERMINED. THIS IS A FISCHER POTTER MODEL 1102459BNS S/N 7403A5825A15.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM * INSTRUMENT CALIBRATION * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * ZION 2 (PWR) * SENSORS, LEVEL

115927
 MSIV FAILS TO CLOSE AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 3 PGS. LTR W/NO 50-304/76-19 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUNE 30, 1976. DOCKET 50-304. TYPE--FOR. RFG--BEST.. AE--SGT & LUNDY

CAUSE - STUCK SOLENOID VALVE. DURING A COLD SHUTDOWN, THE MAIN STEAM ISOLATION VALVE ON LOOP B FAILED TO CLOSE DURING SAFEGUARD LOGIC TRAIN A TESTING. IT CLOSED ON MANUAL ACTUATION AND DURING TRAIN B TESTING. A DC SOLENOID VALVE (TELEDYNE-REPUBLIC MODEL 2110-1202-5200) ON THE MSIV 20

115627 PLANT:ANE00

HYDRAULIC UNIT WAS STUCK IN THE CLOSED POSITION DUE TO CORROSION ON THE SOLENOID END PLATE INTERFERING WITH PLUNGER OPERATION. CORROSION WAS DUE TO HUMIDITY INSIDE THE END PLATE CAP COVERING THE PLUNGER. END PLATES WILL BE PAINTED TO PREVENT CORROSION.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CONTAINMENT ISOLATION * STEAM * CORROSION * TEST, SYSTEM OPERABILITY * ZONE 2 (PWR) * SOLENOID * COOLING SYSTEM, SECONDARY * VALVES

115628

URIC ACID FILTER BYPASS VALVE LEAKS AT ZONE 2
COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR DATED 50-306/76-21 TO AEC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 12, 1976, DUKRET 50-306, TYPE--PWR, RFG--WEST, AE--SGT & LUNDY

CAUSE - DIAPHRAM FAILS FROM HEAT EFFECTS. WHILE THE UNIT WAS OPERATING AT 95% POWER, THE URIC ACID FILTER BYPASS VALVE WAS FOUND LEAKING DUE TO A FAILED DIAPHRAM. THE HOT SOLUTION IN THE LINE ADVERSELY POLARIZED THE DIAPHRAM TO THE BEIN IN THE VALVE BODY WHEN IN THE CLOSED POSITION. UPON OPENING THE VALVE, THE DIAPHRAM WAS WEAKENED AROUND THE THREADED STUD BUTTIN. FURTHER OPERATION RESULTED IN FAILURE. UPON THE STUCK OF ETHYLENE PROPYLENE TERPOLYMER DIAPHRAM IS DEVELOPED. THEY WILL BE RESTRUCTURED WITH ZITON DIAPHRAMS WHICH APPEAR BETTER FOR HOT APPLICATION.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT * CHEMICAL SHIP * OSEAL * LEAK * ZONE 2 (PWR) * TEMPERATURE * FAILURE, IMMERENT * VALVES

115625

STEAM GENERATOR LEVEL TRANSMITTER FAILS HIGH AT ZONE 2
COMMONWEALTH EDISON CO., ZION, IL

2 PGS, LTR DATED 50-306/76-22 TO AEC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 14, 1976, DUKRET 50-306, TYPE--PWR, RFG--WEST, AE--SGT & LUNDY

CAUSE - INTERNAL COMPONENTS STICKING. WHILE THE UNIT WAS OPERATING AT 90% POWER, STEAM GENERATOR LEVEL TRANSMITTER FAILED HIGH. INTERNAL COMPONENTS WERE STICKING. AFTER THE FISHER-PORTER MODEL 13020V5K8800-0-NS TRANSMITTER WAS EXERCISED OVER ITS RANGE, IT FUNCTIONED PROPERLY.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * INSTRUMENT, ANOMAL INDICATION * STEAM GENERATOR * ZONE 2 (PWR) * FAILURE, IMMERENT * SENSORS, LEVEL

115626

TEMPERATURE GRADIENT OF CIRCULATING WATER EXCEEDS THE LIMIT AT ZONE 2
COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR DATED ENVIRONMENTAL RPT TO AEC OFFICE OF NUCLEAR REACTOR REGULATION, JULY 22, 1976, DUKRET 50-306, TYPE--PWR, RFG--WEST, AE--SGT & LUNDY

CAUSE - TRASH ON CONDENSER TUBES. WHILE OPERATING AT 100% POWER, THE OPERATOR NOTED THAT THE CIRCULATING WATER DELTA T WAS GREATER THAN THE 20 F LIMIT BY 0.7 F. THE LOAD WAS REDUCED UNTIL THE DIFFERENTIAL WAS WITHIN THE LIMIT. THE LIMIT WAS EXCEEDED FOR 12.5 MINS. THE APPARENT CAUSE WAS A BUILDUP ON THE CONDENSER TUBES AS A RESULT OF A STORM ON THE PREVIOUS DAY INDICATED BY A PRESSURE DIFFERENTIAL ACROSS THE CONDENSER. THE INSTALLED INSTRUMENTATION HAD BEEN HEADING LOW 20 F BECAUSE OF POORLY LOCATED OUTLET TEMPERATURE DETECTOR. A CORRECTION TEAM WAS APPLIED TO THE HEADING BUT THE ALARM WAS ALREADY ON. THE SENSORS WILL BE RELOCATED.

AVAILABILITY - AEC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, OPERATOR ERROR * TEMPERATURE GRADIENT * CRUD * FLOW BLOCKAGE * CONDENSER * DEATHEN, SEVERE * ZONE 2 (PWR) * CONDENSER COOLING SYSTEM

116422

LEAKAGE THROUGH CONTAINMENT PURGE VALVES EXCESSIVE AT ZONE 2
COMMONWEALTH EDISON CO., ZION, IL

3 PGS, LTR DATED 50-306/76-23 TO AEC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JULY 22, 1976, DUKRET 50-306, TYPE--PWR, RFG--WEST, AE--SGT & LUNDY

CAUSE - SMALL GULGES IN SEAT. UPON TERMINATION OF THE CONTAINMENT PURGE, ZONE 2 OF THE REACTOR PRESSURIZATION SYSTEM CONTINUED TO HAVE A HIGH FLOW FOR 3 HOURS INDICATING EXCESSIVE LEAKAGE THROUGH THE CONTAINMENT PURGE ISOLATION VALVES. MOST OF THE LEAKAGE WAS FROM THE VALVE ON THE OUTSIDE OF THE CONTAINMENT. RESTRUCTURING THE VALVE REDUCED THE LEAK RATE TO WITHIN LIMITS. THE LEAK WAS CAUSED BY SMALL GULGES IN THE SEAT DUE TO INADEQUATE TURNING OF THE SEAT. THE SEATS WERE LATER ADJUSTED ON BOTH VALVES IN SERIES. THIS REDUCED LEAKAGE TO 80 SCFH. THE REACTOR WAS 95% POWER AT THIS TIME.

116222 (CONTINUED)
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CONTAINMENT PLUGS • CONTAINMENT ISOLATION • FAILURE, MAINTENANCE ERROR • LEAK RATE • ZION 2 (PWR) • 09/01/76

116304
 CIRCULATING WATER PUMP TRIPS AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR W/REP 50-300-76-E-3 TO NRC OFFICE OF NUCLEAR REACTOR REGULATION, AUG. 10, 1976, Docket 50-300, TYPE--
 -PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - TRAVELING SCREENS PLUGGED WITH MOSS. WHILE OPERATING AT 100% POWER, CIRCULATING WATER PUMP 2C TRIPPED DUE TO HIGH PRESSURE DIFFERENTIAL ACROSS THE TRAVELING SCREENS. THE TEMPERATURE DIFFERENTIAL EXCEEDED THE LIMIT BY 3.0 F. POWER WAS REDUCED AND IN 30 MINUTES THE TEMPERATURE DIFFERENTIAL WAS BELOW LIMITS. DUE TO HIGH WINDS AND ROUGH LAKE CONDITIONS, ABNORMAL AMOUNTS OF MOSS WERE PRECIPITATED AND WASHED THROUGH THE PIPES INTO THE CIRCULATING WATER INTAKE. MOSS RAPIDLY FOLDED THE TRAVELING SCREENS EVEN THOUGH EFFORTS WERE BEING MADE TO CLEAN THEM.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

CRUD • FILTER, SCREEN • FLOW BLOCKAGE • DEATHEN, SEVERE • ZION 2 (PWR) • PLANT, MOSS/PEAN • CONDENSED COOLING SYSTEM • FAILURE, INHERENT • 09/01/76

117001
 SAFETY INJECTION OCCURS AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR W/REP TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, AUG. 10, 1976, Docket 50-300, TYPE--
 -PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - PROCEDURAL DEFICIENCY. ON 9-21-76, UNIT 2 WAS OPERATING AT 3250 MW WHEN A REACTOR TRIP AND SAFETY INJECTION OCCURRED DUE TO PRESSURIZER PRESSURE LOW AND PRESSURIZER LEVEL LOW. AT THE TIME OF THE EVENT, A BISTABLE ASSOCIATED WITH PRESSURIZER LEVEL WAS IN THE TRIPPED MODE DUE TO A FAULTY TRANSMITTER. THEN, DURING A TEST ON PRESSURIZER PRESSURE LOOP ACCORDING TO PROCEDURES, A BISTABLE ASSOCIATED WITH PRESSURIZER PRESSURE WAS PLACED IN THE TRIPPED MODE. THIS COMPLETED THE SAFETY INJECTION LOGIC. NITRIC ACID WAS INJECTED FOR 30 SECONDS. VISUAL INSPECTION SHOWS NO DAMAGE. PROCEDURES ARE BEING REVISED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

PROCEDURES AND MANUALS • SCRAM, REAL • TESTING • SAFETY INJECTION • INSTRUMENT, SWITCH • TEST, SYSTEM OPERABILITY • FAILURE, ADMINISTRATIVE CONTROL • ZION 2 (PWR) • REACTOR SHUTDOWN

117090
 SET POINT DRIFT IN STEAM GENERATOR LEVEL TRANSMITTER AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR W/REP 50-300/76-25 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 17, 1976, Docket 50-300, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - ZERO SHIFT. WHILE THE UNIT WAS AT 100% POWER, THE FISCHER-PORTER LEVEL TRANSMITTER, MODEL 12C2495K2BANDAS FOR STEAM GENERATOR 3 WAS FOUND TO BE OUT OF TOLERANCE HIGH BY 2.025%. THE CAUSE WAS ZERO SHIFT OF THE TRANSMITTER. THE BISTABLE FOR THIS CHANNEL WAS TRIPPED WHILE THE TRANSMITTER WAS RECALIBRATED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

REACTOR PROTECTION SYSTEM • FAILURE, INSTRUMENT • INSTRUMENT, SWITCH • STEAM GENERATOR • SET POINT • ZION 2 (PWR) • DRIFT • SENSORS, LEVEL

117080
 SAFETY INJECTION OCCURS AT ZION 2
 COMMONWEALTH EDISON CO., ZION, IL
 2 PGS. LTR W/REP TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 12, 1976, Docket 50-300, TYPE--
 -PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - WATER HAMMER IN STEAM GENERATOR. ON 9-25-76, UNIT 2 WAS OPERATING AT 2700 MW WHEN A REACTOR TRIP OCCURRED DUE TO FEEDWATER PUMP 2B TRIP. FOLLOWING THE TRIP, AUXILIARY FEEDWATER WAS BEING ADDED AT 100 GPM PER STEAM GENERATOR. ABOUT 30 MINUTES LATER WITH THE UNIT IN HOT SHUTDOWN, A SAFETY INJECTION OCCURRED DUE TO HIGH S. LINE DELTA P ON 2 LINES. THE SHOCK OF A WATER HAMMER ON A THIRD LOOP CAUSED THE 2 STEAMLINE TRANSMITTERS TO GIVE A FALSE READING BY SPIRING HIGH. SAFETY INJECTION PROCEEDED FOR 90 SECONDS. AUXILIARY FEEDWATER FLOW WILL BE LIMITED TO 50 GPM WHEN POSSIBLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

117006 CONTINUED

HYDRAULIC EFFECT * SAFETY INJECTION * INSTRUMENT, SWITCH * INSTRUMENT, ANNUNCIATOR INDICATION * STEAM GENERATOR * PLOG * ZION 2 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, PRESSURE

117076

SAFETY INJECTION OCCURS AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/NU 50-306/76-20 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 13, 1976. DUCRET 50-295. TYPE--
PWR. PFC--BEST.. AE--SGT & LUNDY

CASE - STEAM GENERATOR WATER PAPER. ON 6-10-76, UNIT 2 EXPERIENCED A PLANNED TURNING TRIP FROM 100% POWER. THEN, WITH THE UNIT IN HOT STANDBY, A SAFETY INJECTION OCCURRED DUE TO HIGH STEAMPLINE DELTA P CAZ LOCKS. THE SNICK OF A WATER HAMMER IN A TRIP LOOP CAUSED THE 2 STEAMPLINE TRANSMITTERS TO SPIKE HIGH. EXPERIMENTS HAVE SHOWN THAT A SNICK WILL CAUSE THIS. SAFETY INJECTION PROCEEDED FOR ABOUT 15 SECONDS. NO DAMAGE OCCURRED. AUXILIARY FEEDWATER FLOW WILL BE LIMITED TO 50 GPM PER STEAM GENERATOR WHERE POSSIBLE.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HYDRAULIC EFFECT * SAFETY INJECTION * INSTRUMENT, SWITCH * INSTRUMENT, ANNUNCIATOR INDICATION * STEAM GENERATOR * PLOG * ZION 2 (PWR) * AUXILIARY * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, PRESSURE

117091

SET POINT DRIFT IN FEEDWATER FLOW TRANSMITTER AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/NU 50-306/76-20 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 25, 1976. DUCRET 50-306. TYPE--PWR. PFC--BEST.. AE--SGT & LUNDY

CASE - ZERO SHIFT. WHILE THE UNIT WAS OPERATING AT 100% POWER, A FISHER POINT, MODEL 100240000000, FLOW TRANSMITTER FOR STEAM GENERATOR C WAS FOUND TO BE HIGH BY 2.025%. THE CAUSE WAS A ZERO SHIFT. THE TRANSMITTER WAS RECALIBRATED AND RETURNED TO SERVICE. THE COMPONENT SUPPLIER HAS SUGGESTED AN ADDITIONAL SPRING WASHER IN THE ZERO ADJUSTMENT. THE WASHER WILL BE INSTALLED IN A FEW INSTANCES. THE ERROR WAS NOTED BECAUSE OF A DISPARITY BETWEEN CHANNELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HEALTH PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * MODIFICATION * FAILURE, DESIGN ERROR * SET POINT * ZION 2 (PWR) * EQUIP * COOLING SYSTEM, SECONDARY * FEEDWATER * SENSORS, FLOW

117092

SET POINT DRIFT IN STEAM FLOW TRANSMITTER AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/NU 50-306/76-27 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 25, 1976. DUCRET 50-306. TYPE--PWR. PFC--BEST.. AE--SGT & LUNDY

CASE - ZERO SHIFT. WHILE THE UNIT WAS AT 89% POWER, A FISHER POINT, MODEL 100240000000, FLOW TRANSMITTER FOR STEAM GENERATOR C WAS FOUND TO BE LOW BY 0.47%. THE CAUSE WAS A ZERO SHIFT. THE TRANSMITTER WAS RECALIBRATED. THE COMPONENT SUPPLIER HAS SUGGESTED INSTALLING AN ADDITIONAL SPRING WASHER IN THE ZERO ADJUSTMENT. WASHERS WILL BE INSTALLED ON A FEW TRANSMITTERS. THE ERROR WAS NOTED BECAUSE OF A DISPARITY BETWEEN CHANNELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HEALTH PROTECTION SYSTEM * STEAM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * MODIFICATION * FAILURE, DESIGN ERROR * SET POINT * ZION 2 (PWR) * EQUIP * COOLING SYSTEM, SECONDARY * SENSORS, FLOW

117093

SET POINT DRIFT IN FLOW TRANSMITTER AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/NU 50-306/76-28 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 25, 1976. DUCRET 50-306. TYPE--PWR. PFC--BEST.. AE--SGT & LUNDY

CASE - ZERO SHIFT. WHILE THE UNIT WAS AT 89% POWER, A FISHER POINT, MODEL 100240000000, STEAM FLOW TRANSMITTER FOR STEAM GENERATOR B WAS FOUND TO BE LOW BY 1.05%. THE CAUSE WAS A ZERO SHIFT. THE TRANSMITTER WAS RECALIBRATED. THE COMPONENT SUPPLIER HAS SUGGESTED INSTALLING AN ADDITIONAL SPRING WASHER IN THE ZERO ADJUSTMENT. WASHERS WILL BE INSTALLED ON A FEW TRANSMITTERS. THE ERROR WAS FOUND BECAUSE OF A DISPARITY BETWEEN CHANNELS.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

HEALTH PROTECTION SYSTEM * STEAM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * MODIFICATION * FAILURE, DESIGN ERROR * SET POINT * ZION 2 (PWR) * EQUIP * COOLING SYSTEM, SECONDARY * SENSORS, FLOW

110230

ATOMS RELEASE OCCURS AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RD 50-306/76-29 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, AUG. 27, 1976, DOCKET 50-306, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - RUPTURED DIAPHRAM IN VALVE. WHILE OPERATING AT 90% POWER, SEVERAL RADIATION MONITORS ALARMED IN THE AUXILIARY BUILDING. THE DIAPHRAM IN A URINELL 4-INCH DIAPHRAM VALVE ON HOLDUP TANK 0 HAD RUPTURED. THE TANK WAS ISOLATED AND THE DIAPHRAM REPLACED. THE TOTAL RELEASE WAS 21.0 CURIES.

AVAILABILITY - NRC PUBLIC DOCUMENT #40P, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ATOMS RELEASE + FAILURE, EQUIPMENT + WASTE TREATMENT, GAS + STORAGE CONTAINER + SEAL + ZION 2 (PWR) + FAILURE, IMMINENT + VALVES

110239

SET POINT DRIFT IN PRESSURIZER LEVEL CHANNEL AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR D/RD 50-306/76-32 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 3, 1976, DOCKET 50-306, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - LEAK IN ROOT VALVE BONNET. DURING SYSTEM OPERATION, A PRESSURIZER LEVEL CHANNEL WAS READING HIGHER THAN THE OTHER 2. THE HIGH READING WAS DUE TO ITS UPPER ROOT VALVE LEAKING THROUGH THE BODY TO BONNET THREAD. A WEEK LATER THE UNIT WAS BROUGHT TO HOT SHUTDOWN. TWO TRANSMITTERS WERE FOUND TO HAVE EXPERIENCED A ZERO SHIFT. THE THIRD ALSO HAD ZERO SHIFT AND A LOGOSE ZERO POT. THESE ARE BARTCO MODEL 300-351 TRANSMITTERS. THEY WERE RECALIBRATED. THE LEAK WAS REPAIRED.

AVAILABILITY - NRC PUBLIC DOCUMENT #3GN, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + PRESSURIZER + FAILURE, DESIGN ERROR + LEAK + SET POINT + ZION 2 (PWR) + PURITY + FAILURE, COPPER MODE + VALVES + SENSORS, LEVEL

119218

CONTAINMENT PRESSURE SWITCH FAILS TO TRIP AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR D/RD 50-306/76-33 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 20, 1976, DOCKET 50-306, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - UNKNOWN. DURING TESTING WITH THE REACTOR AT 100% POWER, THE CONTAINMENT HIGH PRESSURE SWITCH WOULD NOT TRIP. THE PROBLEM MODULE WAS REPLACED WITH A SPARE AND THE SYSTEM RETURNED TO NORMAL. THE CAUSE OF FAILURE IS UNKNOWN AT THIS TIME. THE MODULE IS A MAGAN MODEL 110, 5/8" LO-115.

AVAILABILITY - NRC PUBLIC DOCUMENT #00R, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

CONTAINMENT + REACTOR PROTECTION SYSTEM + INSTRUMENT CALIBRATION + FAILURE, INSTRUMENT + INSTRUMENT, SWITCH + TEST, SYSTEM OPERABILITY + ZION 2 (PWR) + SENSORS, PRESSURE + ELECTRONIC FUNCTION UNITS

119400

FIELD BINDING ON DIESEL GENERATOR BURN OPEN AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RD 50-306/76-30 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, SEPT. 29, 1976, DOCKET 50-306, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - SWITCHING ERROR. WHILE TAKING BATTERY 211 OFF EQUALIZING CHARGE, A SWITCHING ERROR RESULTED IN BUS 211 BEING REENERGIZED. LOSS OF D. RESULTED IN A REACTOR TRIP. SAFETY INJECTION OCCURRED FROM A SPURIOUS SIGNAL. AT THE TIME, DIESEL GENERATOR 2A HAD BEEN PARALLELED TO THE GRID. LOSS OF UC PREVENTED THE 4KV BREAKERS IN THE DIESEL CIRCUIT FROM OPERATING, RESULTING IN THE DIESEL BEING OVERLOADED. THE DG SUPPLIED THE UNIT AUXILIARY TRANSFORMER AFTER THE 345 KV TARD BREAKERS HAD BEEN MANUALLY OPENED. COMPLETE DESTRUCTION OF THE DG BINDINGS RESULTED FROM THE OVER LOAD.

AVAILABILITY - NRC PUBLIC DOCUMENT #00R, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, EQUIPMENT + FAILURE, OPERATOR ERROR + SCRAM, REAR + SAFETY INJECTION + INSTRUMENT, SWITCH + FAILURE, SEQUENTIAL + DAMAGE + ZION 2 (PWR) + REACTOR SHUTDOWN + BREAKER + ENGINES, INTERNAL COMBUSTION + GENERATOR, DIESEL

119219

LOOP 0 COMPARTMENT FOUND TO BE HIGH AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR D/RD 50-306/76-35 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 5, 1976, DOCKET 50-

119310 CONTINUED
300. TYPE--PWR. NRC--WEST.. AE--SGT & LUNDY

CAUSE - DEFECTIVE OPERATIONAL AMPLIFIER. WHILE OPERATING AT 90% POWER, LOOP 4 COMPARATOR 2PC-5418 WAS FOUND HIGH BY 2.02 AND 2PC-5418 WAS FOUND HIGH BY 0.15. THE COMPARATOR WAS REPLACED WITH A SPARE AND THE SYSTEM RETURNED TO NORMAL. A DEFECTIVE OPERATIONAL AMPLIFIER A-1, TYPE 709, MODEL 411002-002, WAS REPLACED AND THE MODULE RETURNED TO SERVICE AS A SPARE. THIS CHANNEL PROVIDES A STEAM FLOW/PEED FLOW MISMATCH REACTOR TRIP SIGNAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

FAILURE, COMPONENT * REACTOR PROTECTION SYSTEM * INSTRUMENT, SWITCH * INSTRUMENT, ABNORMAL INDICATION * ZION 2 (PWR) * FAILURE, IMMINENT * INSTRUMENTS, MISC.

119320
COMPARATOR FOR PRESSURIZED HIGH TRIP FOUND HIGH AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS. LTR D/RD 50-304/70-36 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, JUL. 7, 1970, DCKET 50-304. TYPE--PWR. NRC--WEST.. AE--SGT & LUNDY

CAUSE - UNKNOWN AT THIS TIME. DURING SURVEILLANCE WITH THE REACTOR AT 90% POWER, COMPARATOR 2PC-426A, FOR PRESSURIZED HIGH REACTOR TRIP WAS FOUND HIGH BY 2.428. IT WAS REPLACED BY A SPARE. THE CAUSE WILL BE DOCUMENTED AT THE STATION FOLLOWING REPAIR.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

REACTOR PROTECTION SYSTEM * FAILURE, INSTRUMENT * INSTRUMENT, SWITCH * PRESSURE/A TEST, SYSTEM OPERABILITY * INSTRUMENT, ABNORMAL INDICATION * ZION 2 (PWR) * FAILURE, IMMINENT * OPERATIONS, LEVEL

119730
SET POINT DRIFT IN RC FLOW TRANSMITTERS AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/RD 50-304/70-40 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, OCT. 22, 1970, DCKET 50-304. TYPE--PWR. NRC--WEST.. AE--SGT & LUNDY

CAUSE - ZERO POINT DRIFT/RANGE DRIFT. DURING THE 20 MONTH SURVEILLANCE WITH THE REACTOR IN COLD SHUTDOWN, 6 REACTOR CIRCULANT FLOW TRANSMITTERS WERE FOUND OUT OF TOLERANCE BY 2.32 TO 6.9%. THESE FISHER & PORTER CO. MODEL 100400P80000-NS FLOW TRANSMITTERS HAD ZERO POINT DRIFT AND RANGE DRIFT IN EXCESS OF THE 2B CHANNEL ACCURACY. THEY WERE CALIBRATED TO WITHIN 1/2% POINT TO UNIT OPERATION.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * INSTRUMENT, SWITCH * INSTRUMENT CALIBRATION * SENSORS, FLOW * TEST, SYSTEM OPERABILITY * FAILURE, INSTRUMENT * SET POINT * DRIFT * FAILURE, IMMINENT * REACTOR PROTECTION SYSTEM

120200
BORON CONCENTRATION IN SI ACCUMULATOR BELOW LIMIT AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
4 PGS. LTR D/RD 50-304/70-01 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, NOV. 10, 1970, DCKET 50-304. TYPE--PWR. NRC--WEST.. AE--SGT & LUNDY

CAUSE - SAMPLE VALVES LABELED INCORRECTLY. AN INVESTIGATION WAS UNDERTAKEN TO DETERMINE WHY SAFETY INJECTION ACCUMULATOR 20 BORON SAMPLES WERE FOUND LOW WHEN TAKING SAMPLES FROM THE NORMAL SAMPLING POINT BUT ACCEPTABLE WHEN TAKEN LOCALLY AT THE ACCUMULATOR. IT WAS FOUND THAT THE SAMPLE VALVES WERE LABELED INCORRECTLY. SAMPLES WHICH WERE SUPPOSEDLY COMING FROM 20, 20, 2C, AND 2A, THUS ACCUMULATOR 20 CONCENTRATION WAS LOW. THIS SAMPLE CAME FROM VALVE MARKED 2A. THE ACCUMULATOR WAS DRAINED AND REFILLED WITH WATER FROM THE HOST TO BRING THE CONCENTRATION WITHIN LIMITS. VALVE LABELS WERE CORRECTED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 N STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * CONCENTRATION * PRECISION, SOLUBLE * ACCUMULATORS * SAFETY INJECTION * FAILURE, INSTALLATION ERROR * VALVES * SAMPLING * IDENTIFICATION

120220
LEAK IN BORIC ACID FLOW ELEMENT FLANGE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS. LTR D/RD 50-304/70-02 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 3, 1970, DCKET 50-304. TYPE--PWR. NRC--WEST.. AE--SGT & LUNDY

CAUSE - NUT MISSING ON STUD. WHILE OPERATING AT 90% POWER, A 2 GPM LEAK DEVELOPED ON THE LOWER FLANGE OF BORIC ACID FLOW TRANSMITTER 2FI-110. ONE OF THE 6 STUDS IN THE FLANGE HAD A NUT MISSING. BORIC ACID FLOW WAS ISOLATED FOR 12 MINUTES WHILE THE FLANGE SURFACE WAS CLEANED BY BORIC ACID CRYSTALS AND A NEW FLUOROPOLYMER GASKET INSTALLED. IT IS UNKNOWN WHY THE NUT WAS

120222 *CONTINUED*
MISSING.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * * FLANGE * * SENSORS, FLUID * * CHEMICAL SHIM * * LEAK * * FAILURE, PIPE * * FAILURE, INSTALLATION ERROR * * FASTENER

120019
SAFETY INJECTION OCCURS AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR D/RO 50-300/70-00 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 6, 1976, DUCRET 50-300, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - SWITCHING ERROR. ON 9/10/76 WHILE OPERATING AT 90% POWER, A SWITCHING ERROR OCCURRED WHILE TAKING BATTERY 211 COP EQUALIZING CHARGE RESULTING IN BUS 211 BEING DE-ENERGIZED. THIS CAUSED 2 REACTOR COOLANT PUMPS TO TRIP RESULTING IN A REACTOR TRIP/TURBINE TRIP. DUE TO THE LOSS OF BUS 211, THE TURBINE DRIVEN RECIRCULATOR PUMP DID NOT TRIP. THE RAPID ADDITION OF FLEEDWATER CAUSED A PRESSURE DROP IN 2 STEAM GENERATORS AND A SAFETY INJECTION. THIS COULD NOT BE VERIFIED FROM FIRST OUT ANNUNCIATORS SINCE THEY ARE FED FROM BUS 211. WHEN POWER WAS RESTORED TO BUS 211 30 MINUTES LATER, IT WAS DETERMINED THAT AN SI INCIDENT HAD NOT OCCURRED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * * SAFETY INJECTION * * PRESSURE TRANSIENT * * SCRAM, REAR * * FAILURE, OPERATION ERROR

120204
STEAM GENERATOR FLOW INDICATOR FAILS TO ZERO AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
2 PGS, LTR D/RO 50-300/70-00 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 9, 1976, DUCRET 50-300, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - DEFECTIVE MULTIPLIER/DIVIDER MODULE. DURING 97% POWER OPERATION, LOOP D STEAM GENERATOR FLOW INDICATOR FAILED TO ZERO AND THEN RETURNED TO NORMAL 6 TIMES. THE MAIN MULTIPLIER/DIVIDER MODULE 2FR-533B, MODEL 127-112, S/N FU-219, WAS DEFECTIVE. IT WAS REPLACED WITH A SPARE AND THE SYSTEM RETURNED TO NORMAL.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * * INSTRUMENT, SWITCH * * INSTRUMENT CALIBRATION * * SENSORS, FLUID * * TEST, SYSTEM OPERABILITY * * FAILURE, INSTRUMENT * * ELECTRONIC FUNCTION UNITS * * FAILURE, INHERENT * * HEATUP PROTECTION SYSTEM * * STEAM

120408
CIRCULATING WATER TEMPERATURE GRADIENT EXCEEDS LIMIT AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-300/70-00 TO NRC OFFICE OF NUCLEAR REACTION REGULATION, DEC. 10, 1976, DUCRET 50-300, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - LAKE STRATIFICATION PROBLEMS. DURING ROUTINE SURVEILLANCE OF THE CIRCULATING WATER SYSTEM WHILE OPERATING AT 90% POWER, IT WAS NOTED, WHILE TAKING LOCAL TEMPERATURE READINGS, THAT THE TEMPERATURE DIFFERENTIAL EXCEEDED TECH SPECS BY 1.2 F. THE CHART RECORDER INDICATED 20.0 F. LAKE TEMPERATURE CHANGES AND STRATIFICATION PROBLEMS CHANGED THE ACCURACY OF THE CHART RECORDER. POWER WAS IMMEDIATELY REDUCED TO RETURN THE DELTA T TO NORMAL. LOCAL READINGS ARE NOW BEING TAKEN REGULARLY SO THAT A CORRECTION FACTOR CAN BE APPLIED.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

ZION 2 (PWR) * * TEMPERATURE GRADIENT * * CONDENSER COOLING SYSTEM * * INSTRUMENT, ABNORMAL INDICATION * * FAILURE, INHERENT * * TEST, SYSTEM OPERABILITY

120703
BORON INJECTION TANK OUTLET VALVE FAILS TO OPERATE AT ZION 2
COMMONWEALTH EDISON CO., ZION, IL
3 PGS, LTR D/RO 50-300/70-00 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION III, DEC. 21, 1976, DUCRET 50-300, TYPE--PWR, NRC--WEST., AE--SGT & LUNDY

CAUSE - PACKING GLAND MISALIGNED. DURING TESTING WITH THE REACTOR AT 90% POWER, BORON INJECTION TANK OUTLET ISOLATION VALVE 2PDV-510010 STROKED OPEN BUT THEN FORWARDED OFF WHILE ATTEMPTING TO CLOSE. AFTER INCREASING THE TORQUE SWITCH SETTING TO 2.75, THE VALVE LOOSED. HOWEVER, IT COULD NOT THEN BE OPENED EITHER BY HAND OR ELECTRICALLY. THE VALVE FAILED EITHER BECAUSE THE PACKING GLAND WAS MISALIGNED OR BECAUSE THE VALVE STEM NEEDED LUBRICATION OR BOTH. THE PACKING GLAND WAS POLY MISALIGNED. IT WAS LOOSENEED, ALIGNED PROPERLY, AND THEN TIGHTENED. THE VALVE STEM WAS CLEANED AND LUBRICATED. THE VALVE WAS STROKED 3 TIMES.

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 M STREET, WASHINGTON, D. C. 20545 100 CENTS/PAGE -- MINIMUM CHARGE \$2.00

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CHANGE 82-651
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SWELL MECHANISM PRESSURE VALVES	HAVE AT ILLINOIS 10	114276 P 2
SWELL MECHANISM PRESSURE VALVES	HAVE AT ILLINOIS 10	114277 P 1
SWELL MECHANISM PRESSURE VALVES	HAVE AT ILLINOIS 20	114278 P 0
SWELL MECHANISM PRESSURE VALVES	HAVE AT ILLINOIS 20	114279 P 0
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REACTOR CONCENTRATION IN REACTOR EXCEEDS LIMIT AT	INDIAN POINT 20	110760	00
LEVEL OF WATER IN CONDENSATE STORAGE TANK LOW AT	INDIAN POINT 20	110770	01
OUTLET VALVE IN CONDENSATE STORAGE TANK LOW AGAIN AT	INDIAN POINT 20	110771	01
DOWN VALVE LEAKS EXCESSIVELY AT	INDIAN POINT 20	110780	01
OPERATING WATER STORAGE TANK LEVEL BELOW LIMITS AT	INDIAN POINT 20	110781	01
MULTI-T SET POINT FOUND NONCONSERVATIVE FOR ONE LOOP AT	INDIAN POINT 20	110782	01
SET POINT SHIFT IN POWER RANGE CHANNEL AT	INDIAN POINT 20	110783	01
FLOW OF AUXILIARY COOLER FLOW PUMP COULD NOT BE MEASURED AT	INDIAN POINT 20	110784	01
LEAK OCCURS IN THE FLOW HEAD OF AUXILIARY COOLING PUMP AT	INDIAN POINT 20	110785	01
STOP ACROSS CRACKS AND WELDS FILTER SOCKET LEAKS AT	INDIAN POINT 20	110786	01
ADDITIONAL FLOW DIFFERENCE OUTSIDE TANKS AND YOU LEAKS AT	INDIAN POINT 20	110787	01
VALVE EXHAUSTION FAILS TO MEET SIMULATED FAILURE CRITERIA AT	INDIAN POINT 20	110788	01
STEAM GENERATION BLOCKS VALVE FAILS TO CLOSE AT	INDIAN POINT 20	110789	01
STEAM LINE SOCKET WELD LEAKS AT	INDIAN POINT 20	110790	01
STEAM GENERATION BLOCKS VALVE FAILS TO CLOSE AT	INDIAN POINT 20	110791	01
BLEED FOUND IN VALVE SOCKET WELD AT	INDIAN POINT 20	110792	01
DOWN PISTON INDICATOR SHOWS A HOP TO BE OUT OF LINE AT	INDIAN POINT 20	110793	01
LEAN FLOW IN PRESSURIZER LIQUID SAMPLE LINE AT	INDIAN POINT 20	110794	01
CONTAMINANT SPENT THROUGH VALVE AT	INDIAN POINT 20	110795	01
STOP FLOW PUMPING UNEXPECTEDLY AT	INDIAN POINT 20	110796	01
CRACKING CHANNEL BECOMES IMPROBABLE AT	INDIAN POINT 20	110797	01
ALSO VOLTAGE POWER CIRCUIT BECOMES TRIPS AT	INDIAN POINT 20	110798	01
SET POINT SHIFT IN PRESSURIZER PRESSURE DISTABLE AT	INDIAN POINT 20	110799	01
STOP MOTOR CONTROL CENTER TRIP AT	INDIAN POINT 20	110800	01
STOP MOTOR CONTROL CENTER TRIP A SECOND TIME AT	INDIAN POINT 20	110801	01
STOP DIESEL GENERATOR IMPROBABLE AT	INDIAN POINT 20	110802	01
POWER RANGE CHANNEL INDICATION CRIPTS OPERATING AT	INDIAN POINT 20	110803	01
SELECTOR CONTROL FLOW TRANSMITTER CRIPTS AT	INDIAN POINT 20	110804	01
REACTOR ROD GROUPS AT	INDIAN POINT 20	110805	01
REACTOR ROD GROUPS AT	INDIAN POINT 20	110806	01
REACTOR CONTROL SAMPLE VALVE FAILS TO CLOSE AT	INDIAN POINT 20	110807	01
REACTOR CONTROL CENTER TRIPS AT	INDIAN POINT 20	110808	01
STEAM GENERATION FLOW TRANSMITTERS FAIL LOW AT	INDIAN POINT 20	110809	01
REACTOR LEAKAGE EXCESSIVE AT	INDIAN POINT 20	110810	01
PEELS AND STOP PROBLEMS IDENTIFIED AT	INDIAN POINT 20	110811	01
DOWN IN STEAM FLOW INDICATION LOW AT	INDIAN POINT 20	110812	01
REACTOR CONTROL LEAKS TO CONTAINMENT AT	INDIAN POINT 20	110813	01
REACTOR HEAD VENTILATION SYSTEM SAMPLE FAILS TO OPERATE AT	INDIAN POINT 20	110814	01
DEFICIENCY DIESEL GENERATOR CYCLES AT	INDIAN POINT 20	110815	01
ALARM FOUND IN SEAL INJECTION HEADS FOR A COOLING PUMP AT	INDIAN POINT 20	110816	01
MULTIPLE POWER RANGE TESTS NOT PERFORMED ON TIME AT	INDIAN POINT 20	110817	01
OPERATION CONTROL SYSTEM PRESSURE TRANSIENT OCCURS AT	INDIAN POINT 20	110818	01
SUPPLY REPORT ON REACTOR CONTROL LEAK TO CONTAINMENT AT	INDIAN POINT 20	110819	01
OPERATING OF DIESEL GENERATOR INCREASES TO BE HEAVY AT	INDIAN POINT 20	110820	01
OUTSIDE CONCENTRATION IN REACTOR CONTROL EXCEEDS LIMIT AT	INDIAN POINT 20	110821	01
REACTOR OF DIESEL GENERATOR SPEED UNSUCCESSFUL AT	INDIAN POINT 20	110822	01
POWER RANGE CHANNEL FOUND TO BE NONCONSERVATIVE AT	INDIAN POINT 20	110823	01
REACTOR ROD GROUPS AT	INDIAN POINT 20	110824	01
REACTOR ROD GROUPS AT	INDIAN POINT 20	110825	01
STOPPING OVERSPEED PROTECTION CHANNEL INDICATES LOW AT	INDIAN POINT 20	110826	01
DOWN PRESSURE RELIEF VALVE LEAKS TO BE PRESSURE AT	INDIAN POINT 20	110827	01
DOWN FLOW BEING MEASURED OCCURS AT	INDIAN POINT 20	110828	01
ON CONTROL ROD FOUND TO BE MISALIGNED AT	INDIAN POINT 20	110829	01
DOWN STEAM ISOLATION VALVES FAIL TO CLOSE AT	INDIAN POINT 20	110830	01
STOP POINT SHIFT IN NUCLEAR POWER RANGE CHANNEL AT	INDIAN POINT 20	110831	01
STOP FLOW IN OUTLET MUFFLE OF STEAM INJECTION TANK LEAKS AT	INDIAN POINT 20	110832	01
IN JUMP/STOP DELTA I SET POINT NONCONSERVATIVE AT	INDIAN POINT 20	110833	01
LOW AT INDIAN POINT 20			
STOPPING OVERSPEED PROTECTION CHANNEL			
REACTOR ROD GROUPS			
REPORT IN PRESSURIZER LEVEL			
REACTOR ROD GROUPS INDICATING BELOW NORMAL			
OPERATION LEVEL			
POWER RANGE CHANNEL			
STEAM GENERATION STEAM FLOW			
MC LOOP TEMPERATURE			
OPERATING WATER STORAGE TANK LEVEL			
INDICATION REPORT ON REACTOR HEAD MUFFLE			
STEAM GENERATION PREHEATER FLOW			
DOWN AUTOMATIC CONTROL PANEL TEMPERATURE			
BACKUP CEA POSITION			
BACKUP CEA POSITION			
BACKUP CONTROL ELEMENT ASSEMBLY POSITION			
DIGITAL AND POSITION			
DOWN STEAM FLOW			
DOWN DIRECTION			
DIGITAL AND POSITION			
DOWN SPEED			
DOWN SURFACE			
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INDICATED AREA FLOW DIFFERENCE OUTSIDE TARGET BANG YOU	INDIAN POINT 20	110835	01
INDICATED UNUSUAL POWER FLOW PUMP AT CURR 10	INDIAN POINT 20	110836	01
INDICATES LOW AT INDIAN POINT 20	INDIAN POINT 20	110837	01
INDICATES LOW AT REACTOR	INDIAN POINT 20	110838	01
INDICATES BELOW NORMAL INDICATION AT CURR 10	INDIAN POINT 20	110839	01
INDICATION AT CURR 10	INDIAN POINT 20	110840	01
INDICATION AT CURR 10	INDIAN POINT 20	110841	01
INDICATION SHIFT HIGH AT CURR 10	INDIAN POINT 20	110842	01
INDICATION CRIPTS DOWNWARD AT INDIAN POINT 20	INDIAN POINT 20	110843	01
INDICATION CRIPTS DOWNWARD AT SEA CHANNEL 10	INDIAN POINT 20	110844	01
INDICATION CRIPTS AT ST. LUCIE 10	INDIAN POINT 20	110845	01
INDICATION FAILS AT UCURVE 10	INDIAN POINT 20	110846	01
INDICATION FOUND AT MOUNTAIN 10	INDIAN POINT 20	110847	01
INDICATION FOUND IN STEAM GENERATION HEAD CLADDING AT MOUNTAIN	INDIAN POINT 20	110848	01
INDICATION HIGH AT CURR 10	INDIAN POINT 20	110849	01
INDICATION IN CURR AT ST. LUCIE 10	INDIAN POINT 20	110850	01
INDICATION LOST AT ST. LUCIE 10	INDIAN POINT 20	110851	01
INDICATION LOST AT ST. LUCIE 10	INDIAN POINT 20	110852	01
INDICATION LOST AT ST. LUCIE 10	INDIAN POINT 20	110853	01
INDICATION LOST FOR ONE ROD AT TRUSSARD	INDIAN POINT 20	110854	01
INDICATION LOW AT INDIAN POINT 20	INDIAN POINT 20	110855	01
INDICATION MALFUNCTION AT CURR 10	INDIAN POINT 20	110856	01
INDICATION SYSTEM FAILS AT TRUSSARD	INDIAN POINT 20	110857	01
INDICATION SYSTEM FAILS LOW AT CURR 10	INDIAN POINT 20	110858	01
INDICATIONS FOUND IN STEAM GENERATION HEAD CLADDING AT	INDIAN POINT 20	110859	01
INDICATIONS FOUND IN STEAM GENERATION HEAD CLADDING AT	INDIAN POINT 20	110860	01
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		INDICATORS IDENTIFIED IN THE REACTOR VESSEL AT CALLAWAY 20	110000 P 10
		INDICATORS IN SPENT FUEL POOL LINED PLATE 0600 AT	110000 P201
		INDICATOR AT ZION 20	110000 P203
		INDICATOR FAILS AT ZION 10	110013 P201
		INDICATOR FAILS HIGH AT ZION 10	110004 P 60
		INDICATOR FAILS HIGH AT SURETY 20	110027 P22
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		INDICATOR FAILS TO ZERO AT ZION 20	120004 P202
		INDICATOR SINGS A HUB TO BE OUT OF LINE AT INDIAN POINT 30	113776 P 00
		INDICATORS MAY NOT BE MECHANICALLY QUALIFIED AT THREE HILL	111000 P223
		INDICATOR RECEIVES UNRESPONSIVE AT ZION 10	110000 P271
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		INJECTION ACCUMULATION DELAY LIMIT AT ZION 10	110000 P270
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		INJECTION ACCUMULATOR LEVEL INCREASES AT ZION 10	110230 P270
		INJECTION ACCUMULATOR PRESSURE DELAY LIMIT AT SURETY 10	110732 P221
		INJECTION ACCUMULATOR NOT SAMPLED AT BEAVER VALLEY 10	110000 P 12
		INJECTION ACTUATION AT ZION 10	110012 P 00
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		INJECTION OCCURS AT ZION 20	110000 P200
		INJECTION OCCURS AT ZION 20	110070 P200
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		INJECTION TANK LEAKS AT INDIAN POINT 30	110070 P 00
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		INJECTION TANK LOW AT TUREY POINT 00	110012 P200
		INJECTION TANK WELLET VALVE FAILS TO OPERATE AT ZION 20	120733 P202
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DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
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DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
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DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
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DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
DEFICIENCY FOUND IN	INSTRUMENT CHANNELS AT MELLSTONE 20	110000	P111
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PHOSPHOR CONCENTRATION IN EFFLUENT EXCEEDS	LIMITS AT SARASOTA NUCLEAR 10	109601 P 1
RESET POINT SHIFT IN APD	LIMITS AT FT. CALHOUN 10	113195 P 01
OPERATOR RELIEF VALVE SET POINTS PUMP TO BE OUT OF	LIMITS AT FT. CALHOUN 20	119700 P 04
OPERATING WATER STORAGE TANK LEVEL BELOW	LIMITS AT INDIAN POINT 20	119512 P 02
AVAILABLE PUMP POWER TRIP DOES NOT ALWAYS RESET	LIMITS AT INDIAN POINT 20	119702 P100
PHOSPHOR ACID STORAGE TANK LEVEL BELOW	LIMITS AT HILLSTONE 20	112223 P115
SALINITY RELEASE EXCEEDS TSP SPEC	LIMITS AT HILLSTONE 20	113704 P110
REACTOR WADSWORTH TILT EXCEEDS	LIMITS AT OCOEE 10	113300 P130
RPM OF TANK DRAIN SAMPLER EXCEEDS	LIMITS AT OCOEE 20	112370 P141
SILICA CONCENTRATION IN SI ACCUMULATOR BELOW	LIMITS AT OCOEE 1, 2, AND 30	112370 P130
SPURSER DISTRIBUTION OUT OF	LIMITS AT ROBINSON 20	110309 P103
CRITICALITY OCCURS WITH CONTROL RODS INSERTED BEYOND	LIMITS AT ROBINSON 20	117004 P106
PLANT DISCHARGES EXCEED STATE	LIMITS AT ROBINSON 20	117000 P105
PHOSPHOR CONCENTRATION IN LACKS OF ACCIDENT ANALYSIS	LIMITS AT TRIJANN	117770 P253
LEVELS ON SIX ACCUMULATORS FOUND OUT OF	LIMITS AT THREE POINT 30	115741 P200
OF FISH IMPEDIMENT REPORT	LIMITS AT ZION 10	120000 P200
SPURSER DEPENDENT INSERTION	LIMITS EXCEEDED AT HILLSTONE 1 AND 20	110657 P107
BUCKET WELD LEAK FOUND IN PRIMARY MAKEUP PUMP	LIMITS EXCEEDED AT PALISADES	110006 P153
LEAK FOUND IN EMERGENCY FLOWMETER	LINE AT ARANSAS NUCLEAR 10	115697 P 4
LEAK FOUND IN DELAY HEAT COOLER DISCHARGE	LINE AT ARANSAS NUCLEAR 10	115699 P 4
SPINBLE LEAK FOUND IN PRIMARY MAKEUP PUMP SUCTION RELIEF	LINE AT ARANSAS NUCLEAR 10	114204 P 7
LEAK FOUND IN STEAM GENERATOR BLOWDOWN	LINE AT ARANSAS NUCLEAR 10	110743 P 6
CRACKED WELD FOUND IN BOP UPPER SEAL VENT	LINE AT CALVERT CLIFFS 10	111004 P 17
SPINBLE LEAK OBSERVED IN CHARGING PUMP SUCTION	LINE AT CALVERT CLIFFS 10	112231 P 14
SPINBLE LEAK FOUND IN EMERGENCY PUMP DISCHARGE DRAIN	LINE AT CALVERT CLIFFS 20	120767 P 30
DRUM POSITION INDICATOR SHOWS A ROD TO BE OUT OF	LINE AT GUNPOW	109605 P 70
PLANT FOUND IN PRESSURIZER LIQUID SAMPLE	LINE AT INDIAN POINT 30	113776 P 04
DRUM RINGING BUCKET WELD LEAKS FOUND ON CHARGING PUMP	LINE AT INDIAN POINT 30	113750 P 04
LEAK FOUND IN BUNIC ACID PUMP DISCHARGE	LINE AT HILLSTONE 20	112156 P112
WELD LEAK FOUND IN CHARGING PUMP DISCHARGE RELIEF VALVE	LINE AT HILLSTONE 20	114002 P117
REACTOR HYDRO STATION INADVERTENTLY OFF	LINE AT HILLSTONE 20	117062 P121
ALARM 1 UNAVAILABLE TO OVERHEAD	LINE AT OCOEE 10	115400 P135
RESET TRIPS OFF THE	LINE AT OLNEY 10	115673 P136
REACTOR OPERATED WITH STEAM FLOW SIGNALS ISOLATED ON ONE	LINE AT SAN ONOFRE 10	115670 P136
PHOSPHOR ACID TRANSPORT PUMP DISCHARGE	LINE AT TRIJANN	111621 P205
DRYDOWN	LINE LOCKED AT SAN ONOFRE 10	117154 P107
DRYDOWN	LINE BREAK LOW FLOW ALARM RECEIVED AT CONNECTICUT TANKS	113540 P 1
DRYDOWN	LINE BREAKER MISTAKENLY TRIPPED AT CALVERT CLIFFS 10	120005 P 26
DRYDOWN	LINE CRACKS AT ARANSAS NUCLEAR 10	116228 P 5
DRYDOWN	LINE FAILS AT DEVER VALLEY 10	115067 P 13
DRYDOWN	LINE FAILS AT CALVERT CLIFFS 10	111612 P 17
DRYDOWN	LINE FLOW INDICATOR FAILS LOW AT CONNECTICUT TANKS	116274 P 35
DRYDOWN	LINE FOUND TO BE DAMAGED AT CURK 20	110275 P 37
DRYDOWN	LINE FOUND TO BE PARTIALLY FROZEN AT HILLSTONE 20	110260 P107
DRYDOWN	LINE HEADER WELD FAILS AT SAKER 10	112159 P100
DRYDOWN	LINE IMPERMEABLE AT SURRY 20	115665 P220
DRYDOWN	LINE LEAK AT FT. CALHOUN 10	110752 P 07
DRYDOWN	LINE LEAK AT ARANSAS NUCLEAR 10	119540 P 0

00C PUMP CATHODED BLEED OFF	LINE LEAKS TO CONTAINMENT AT FT. CALHOUN	110290 P 09
0500 KV TRANSMISSION	LINE PLACED OUT OF SERVICE AT CALVERT CLIFFS 10	110290 P 07
0500N STEAM	LINE SAFETY VALVES WOUND AT ST. LUCIE 10	110705 P000
0500N STEAM	LINE SPALL SUPPRESSOR LEAKS AT HAINE YAMNEE0	110450 P100
BLEAK FOUND IN INSTRUMENT	LINE SOCKET WELD AT HILLSTONE 20	110209 P121
0600T	LINE SOCKET WELD LEAKS AT INDIAN POINT 30	110400 P 03
BLEAK FOUND IN INLET	LINE TO CHAMBER PUMP HEATER VALVE AT CALVERT CLIFFS 10	110223 P 07
0600EC ACID WALEMP	LINE TO VOLUME CONTROL TANK PUMPS AT SHURT 10	110077 P221
0600SUPPLEMENTAL INFORMATION	LINE TRIPS AT OGDUNEE 10	117000 P100
0600AL WATER RETURN	LINE VALVE FAILS TO CLOSE AT SHURT 10	110200 P210
0600PRESSURIZED SAMPLE	LINE VALVE FAILS TO CLOSE AT SHURT 20	110205 P210
0600C SAMPLE	LINE VALVE FAILS TO CLOSE AT SHURT 20	110207 P203
0600TURBINE MON @ SHUT C	LINE WALL FOOTINGS SETTLE AT NORTH ANNA 1 AND 20	110501 P120
0600PUMP SEAL LEAK JPP	LINE WELD CRACKS AT PRAIRIE ISLAND 20	110270 P170
0600INTERIM REPORT ON STEAM	LINE WELD DEFECT AT DAVIS-BESSA 10	117770 P 00
0600PLURILING PUMP PLACED DRAIN	LINE WELD LEAKS AT YAMNEE NURE0	110031 P007
10	LINE-UP IMPROVEN ON RADIATION MONITOR AT THREE HILL ISLAND	110293 P200
0600RANDOM FOUND IN STEAKIN II COMPUTER CODE FOR	LINE-UP HEAT RATE AT FT. CALHOUN 10	110000 P 00
0600NUJUTAN 10	0 LINEAR INDICATIONS FOUND ON HEATER VESSEL NOZZLES AT	110200 P100
0600LUCIE 10	0 LINEAR SURFACE INDICATIONS FOUND IN HV NOZZLE SAFE ENDS AT	110210 P100
0600LUCIE 10	0 LINEAR SURFACE INDICATIONS FOUND IN HV NOZZLE SAFE ENDS AT	110200 P100
0600FOLLOW-UP REPORT ON GULFEE AREAS IN THE CONTAINMENT	LINEAR AT HUNTINGTON 20	110001 P100
0600CONDENSATE STORAGE TANK	LINEAR DEFECTIVE AT NORTH ANNA 1 AND 20	110200 P120
0600UNACCEPTABLE INDICATIONS IN SPENT FUEL POOL	LINEAR PLATE WELDS AT NUJUTAN 1 AND 20	110000 P201
0600WELD DEFECTS FOUND IN SPENT FUEL POOL	LINEAR PLATED AT NUJUTAN 1 AND 20	110270 P001
0600RFID UNIONS IMPROPERLY WELDED INTO	LINEAR AT ST. LUCIE 10	110000 P200
0600AT PRAIRIE ISLAND 1 AND 20	0 LINEAR FOR POST-LOCAL HYDROGEN CONTROL SYSTEM FOUND CAPPED	110207 P100
0600YAMNEE0	0 LINEAR FOUND TO BE FRACTURE AT HILLSTONE 20	110005 P100
10	0 LINEAR ON THE STEAM FLOW SENSORS PANEL AT CONNECTICUT	110000 P 10
0600AT SHURT00	0 LIQUID RADIOACTIVE WASTE EXCEEDS LIMIT AT OHMAHASA NUCLEAR	117050 P 07
0600AT FT. CALHOUN 10	0 LIQUID RADIOACTIVITY RELEASED WITHOUT CONTINUOUS MONITOR	110200 P 00
0600OHMAHASA NUCLEAR 10	0 LIQUID RELEASE CONDUCTED WITH RADIATION MONITOR IMPROPERLY	110511 P 05
0600PRAIRIE ISLAND 10	0 LIQUID RELEASE MADE WITHOUT GAMMA SPECTRUM ANALYSIS AT	117107 P 05
0600	0 LIQUID RELEASED WITH CUMULATIVE WATER PUMPS ON AT	110200 P 00
0600	0 LIQUID SAMPLER LINE AT INDIAN POINT 30	110200 P 00
0600	0 LIQUID WASTE DISPOSAL MONITORING DEFICIENT AT OGDUNEE 10	110200 P100
0600	0 LO HEAD SI TO REACTOR VESSEL VALVE FAILS TO OPEN AT	110200 P100
0600	0 LO STEAM PRESSURE SWITCH AT PRAIRIE ISLAND 20	110200 P170
0600	0 LO-LO STEAM PRESSURE SWITCH AT PRAIRIE ISLAND 20	110200 P170
0600	0 LOAD AT SHURT 10	110000 P220
0600	0 LOAD PASTE OVER OPEN REACTOR VESSEL AT HANCOCK BECC0	110200 P170
0600	0 LOADS FOR PIPE TUNNELS DEFICIENT AT GATTS BAR 1 AND 20	110000 P200
0600	0 LOCAL ANALYSIS AT YAMNEE0	110000 P 10
0600	0 LOCAL AT BEAVER VALLEY 10	110000 P 10
0600	0 LOCAL AT CALVERT CLIFFS 10	110000 P 10
0600	0 LOCAL AT HUNTINGTON 20	110000 P107
0600	0 LOCAL AT SHURT 10	110000 P110
0600	0 LOCAL HYDROGEN CONTROL SYSTEM FOUND CAPPED AT PRAIRIE	110207 P100
0600	0 LOCAL HOT SHUTDOWN PANEL BEHIND PUMPS DEFLECTIVE AT FARMLEY 1	117770 P 00
0600	0 LOCAL PUMP JERKETT ALARM SET POINT BELOW LIMIT AT ST.	110000 P110
0600	0 LOCAL SENSOR FAILS TO OPERATE PROPERLY AT CALVERT CLIFFS	110000 P 17
0600	0 LOCAL AT DAVIS-BESSA 10	117777 P 00
0600	0 LOCAL OUTER OGDUN FAILS TO OPEN AT ST. LUCIE 10	110200 P210
0600	0 LOCAL LEAK EXCESSIVELY AT PALISADES0	110200 P100
0600	0 LOCAL NUCLEAR INSTRUMENTATION PANELS AT HAINE YAMNEE0	110000 P100
0600	0 LOCAL NUCLEAR INSTRUMENTATION CHANNEL FAILS AT HAINE YAMNEE0	110000 P100
0600	0 LOCAL PANELS OPERATE SPURIOUSLY AT GATTS BAR 1 AND 20	110000 P100
0600	0 LOGIC MELT PUMPS IMPROPERLY AT THREE HILL ISLAND 10	110000 P200
0600	0 LOGIC AT INDIAN POINT 20	110000 P 00
0600	0 LOGIC AT INDIAN POINT 20	110221 P 00
0600	0 LOGIC COMPARISON PUMPS TO BE HIGH AT SHURT 20	110000 P200
0600	0 LOGIC ISOLATION VALVE AND TO BE IMPROPERLY AT CALVERT	110215 P 10
0600	0 LOGIC ISOLATION VALVES CLOSED AT BEAVER VALLEY 10	110000 P 11
0600	0 LOGIC OF COOLING WATER IMPROPERLY AT PRAIRIE ISLAND 20	110000 P170
0600	0 LOGIC TEMPERATURE DIFFERENTIAL INDICATOR FAILS AT SHURT 10	110000 P201
0600	0 LOGIC TEMPERATURE INDICATION ERRATIC AT ST. LUCIE 10	110000 P205
0600	0 LOGIC TEMPERATURE SWITCH AT YAMNEE NURE0	110000 P200
0600	0 LOGIC VALVE FAILS TO OPEN AT CALVERT CLIFFS 10	110000 P 27
0600	0 LOGIC OCCURS AT SHURT 10	110200 P200
0600	0 LOSS EXCEEDS LIMIT AT HILLSTONE 20	110000 P100
0600	0 LOSS OF POWER AT ST. LUCIE 10	110000 P200
0600	0 LOSS OF POWER OCCURS TO 101 KV TRANSDUCERS AT FT. CALHOUN	110000 P 01
0600	0 LOSS OF VITAL BUS AT BEAVER VALLEY 10	110000 P 10
0600	0 LOSS OF VITAL BUS INVERTER AT BEAVER VALLEY 10	110000 P 10
0600	0 LOSS OF ITS KV STATION SERVICE PUMPS OCCURS AT CONNECTICUT	110000 P 10
0600	0 LOSS AT BEAVER VALLEY 10	110000 P 10
0600	0 LOSS AT CALVERT CLIFFS 10	110000 P 10
0600	0 LOSS AT HILLSTONE 20	110000 P100
0600	0 LOSS AT OGDUNEE 30	110000 P107
0600	0 LOSS AT PRAIRIE ISLAND 10	110000 P100
0600	0 LOSS AT SHURT 10	110000 P100
0600	0 LOSS AT ST. LUCIE 10	110000 P100
0600	0 LOSS AT ST. LUCIE 10	110000 P100
0600	0 LOSS AT ST. LUCIE 10	110000 P100
0600	0 LOSS AT ST. LUCIE 10	110000 P100
0600	0 LOSS AT SHURT 20	110000 P100

OVERFLOW CULMANT FLOW FROM THE MAIN SYSTEM	LOSS AT TULLAH	113200 P200
OVERFLOW CULMANT FLOW FROM MAIN SYSTEM	LOSS AT TULLAH	113204 P200
OUTLITIAL AND POSITION INDICATION	LOSS FOR ONE ROD AT TULLAH	113215 P251
SPUIV -	LOSS FROM MAIN VENT FLOW MANDREL AT CALVERT CLIFFS 10	113226 P 20
OF THE GUIDES	LOSS IN STEAM GENERATORS UNDER FABRICATION AT SAN JUAN	117700 P100
AND UNLOADING UNIT AND SPRAY TO IN	LOSS SIMULTANEOUSLY AT OCEOLE 20	117800 P103
NUMBER TO STEAM EXCLUSION SYSTEM	LOSS TEMPORARILY AT PHASOR 19 AND 20	112004 P174
SPUR	LOSS TO MAIN PUMP AT CONNECTICUT YANKEE	115050 P 33
SWITCH VALVE IN CONDENSATE STORAGE TANK	LOSS AGAIN AT INDIAN POINT 20	110971 P 08
STOP LINE FLOW INDICATOR FAILS	LOSS AT CONNECTICUT YANKEE	110272 P 35
SWITCHMENT AREA MONITOR FAILS	LOSS AT COOK 10	110280 P 37
SWING SPEAR INDICATION SYSTEM FAILS	LOSS AT COOK 10	112043 P 30
TEMPERATURE OF EMERGENCY DRAINAGE FLOW PATH	LOSS AT COOK 10	110010 P 00
TRIP POINT IN LEAK DISTANCE	LOSS AT INDIAN POINT 20	110945 P 70
TRIPPING UP WATER IN CONDENSATE STORAGE TANK	LOSS AT INDIAN POINT 20	110970 P 01
STEAM GENERATOR FLOW TRANSDUCERS FAIL	LOSS AT INDIAN POINT 20	112025 P 00
STEAM STEAM FLOW INDICATION	LOSS AT INDIAN POINT 20	117177 P 09
STRAINING W/STAINLESS PROTECTION CHANNEL INDICATES	LOSS AT INDIAN POINT 20	120007 P 02
SWITCH INDICATES	LOSS AT HERRING	110927 P 03
SWITCH CUMULATIVE INCREASED TEMPERATURE	LOSS AT HILLSTONE 20	112706 P110
TRIPPING WATER FLOW TO DIESEL GENERATOR	LOSS AT HILLSTONE 20	110900 P223
SWITCH SUPPLY TO SECURE AREA UPSSET SYSTEM HEADINGS	LOSS AT SAN JUAN 10	110534 P190
SWITCHED NAME CHANNEL OFFSETS	LOSS AT SAN JUAN 20	113009 P229
SWITCH CONCENTRATION IN DRAIN INJECTION TANK	LOSS AT TURKEY POINT 20	113011 P257
SWITCH GENERATOR CUMULATIVE WATER SURGE TANK LEVEL	LOSS AT TURKEY POINT 20	119900 P230
SWITCH IN REFILLING WATER STORAGE TANK	LOSS AT TURKEY POINT 20	11 003 P255
SWITCH CONCENTRATION IN DRAIN INJECTION TANK	LOSS AT TURKEY POINT 20	115510 P250
SWITCH CONCENTRATION IN DRAIN INJECTION TANK	LOSS AT TURKEY POINT 20	115512 P210
SWITCH TANK VENT STACK MONITOR FAILS	LOSS AT TULLAH 10	120410 P203
SWITCH GAS MONITOR FAILS	LOSS AT TULLAH 20	120730 P202
SWITCHMENT MONITOR MONITOR POINTS HEADING	LOSS AT TULLAH 20	112720 P202
SWITCH LINE BREAK	LOSS PLUM ALARM RECEIVED AT CONNECTICUT YANKEE	113940 P 33
SWITCH HYDRAULIC AIRSHOCK SHOCKERS MOVE	LOSS PLUM LEVEL AT ST. LUCIE 10	112194 P203
	LOSS HIGH SAFETY INJECTION PUMP VALVE FAILS TO OPERATE AT	110713 P220
	LOSS LEVEL MANUFACTURE WATER TO THE GIVEN AT SAN JUAN 10	109200 P210
	LOSS LEVEL TRIP FAILS TO ACTIVATE AT ST. CALHOUN 10	111905 P 00
	LOSS PRESSURE BLOCK RESTABLE INPUT AT CALVERT CLIFFS 10	115000 P 21
	LOSS PRESSURE PIPING LEAKS EXCESSIVELY AT GEMMA	110350 P 70
	LOSS PRESSURE SERVICE WATER VALVE FOUND IMPERMEABLE AT	120233 P164
	LOSS PRESSURE SYSTEM AT HERRING YANKEE	117007 P103
	LOSS PRESSURE SYSTEM DEVELOPS TRIP AT HERRING YANKEE	117173 P103
	LOSS PRESSURE TRIP CHANNEL AT CALVERT CLIFFS 10	120412 P 25
	LOSS SPEED AT SALEN 10	115710 P100
	LOSS TEMPERATURE IN SULFIC ACID HEAT TRACING SYSTEM AT	112375 P100
	LOSS VOLTAGE AT HILLSTONE 20	110212 P120
	LOSS VOLTAGE POWER CIRCUIT BREAKER TRIPS AT INDIAN POINT 20	110010 P 00
	LOSS LOWER INTERVALS FOUND AT SANDYVALE 10	120092 P200
	LOSS LPI TRAIN A TAKEN OUT OF SERVICE WITHOUT TESTING TRAIN B	117049 P103
	LOSS LPI VALVES FOUND TO BE MANUALLY IMPERMEABLE AT OCEOLE 20	110300 P101
	LOSS LUBE OIL PUMP TRIPS MAKING DG IMPERMEABLE AT HILLSTONE 20	115025 P120
	LUCIE 10	110245 P203
	LUCIE 10	111030 P203
	LUCIE 10	114190 P203
	LUCIE 10	111915 P204
	LUCIE 10	112371 P204
	LUCIE 10	112370 P204
	LUCIE 10	112705 P204
	LUCIE 10	112074 P205
	LUCIE 10	113493 P205
	LUCIE 10	113492 P205
	LUCIE 10	113491 P206
	LUCIE 10	113705 P206
	LUCIE 10	113700 P206
	LUCIE 10	114009 P207
	LUCIE 10	114001 P207
	LUCIE 10	114005 P207
	LUCIE 10	114754 P208
	LUCIE 10	114753 P208
	LUCIE 10	114755 P208
	LUCIE 10	115030 P208
	LUCIE 10	115035 P209
	LUCIE 10	115032 P209
	LUCIE 10	115031 P210
	LUCIE 10	115006 P210
	LUCIE 10	115003 P210
	LUCIE 10	115005 P210
	LUCIE 10	115002 P211
	LUCIE 10	115937 P2
	LUCIE 10	115936 P211
	LUCIE 10	110219 P211
	LUCIE 10	110215 P212
	LUCIE 10	110490 P212
	LUCIE 10	117000 P213
	LUCIE 10	117004 P213
	LUCIE 10	117491 P213
	LUCIE 10	117492 P214

ONCEAT HEAT REMOVAL SYSTEM VALVE CLOSURE WHEN OPEN AT THREE	WELL	ISLAND	10	110007	1100
ONCEAT RECOVERY OF SPARE RECOVERY PUMP COMPLETION AT THREE	WELL	ISLAND	10	110008	1100
ACCUMULATION IN THE BOST LESS THAN LIMIT AT THREE	WELL	ISLAND	10	110009	1100
LOW PUMP RANGE INSTRUMENT CHANNELS OUT OF SERVICE AT THREE	WELL	ISLAND	10	110010	1100
WIND SHIFT IN THE HIGH AC TEMPERATURE DISTABLE AT THREE	WELL	ISLAND	10	110011	1100
PUMP IN DECAT HEAT HIGH WATER TEMPERATURE PIPE AT THREE	WELL	ISLAND	10	110012	1100
REPORT IN SERIAL MANIPULATION OF THE INSTRUMENTS AT THREE	WELL	ISLAND	10	110013	1100
STEP PLACED IN OPERATION PRIOR TO RELEASE PUMP USE AT THREE	WELL	ISLAND	10	110014	1100
GENERATION BREAKER FAILS TO CLOSE AUTOMATICALLY AT THREE	WELL	ISLAND	10	110015	1100
AND MANIPULATION SYSTEM RETURNING CUREN LEANS AT THREE	WELL	ISLAND	10	110016	1100
DEFICES HIGH WATER PUMP VALVE FAILS TO OPEN AT THREE	WELL	ISLAND	10	110017	1100
DEFICEN LUNALE REG GROUP 0 AND 7 EXCEEDS LIMIT AT THREE	WELL	ISLAND	10	110018	1100
MONITOR DELAY TIME EXCEEDS VALUE ASSUMED IN PLAN AT THREE	WELL	ISLAND	10	110019	1100
INCLUDING PERMEATION PIPING DESIGN SUSPECTED AT THREE	WELL	ISLAND	10	110020	1100
INCLUDING ISOLATION VALVE FAILS TO FULLY OPEN AT THREE	WELL	ISLAND	10	110021	1100
OF SUBMER PRESSURE IN TANK LESS THAN LIMIT AT THREE	WELL	ISLAND	10	110022	1100
MONITOR REMOVAL FROM SERVICE FOR MAINTENANCE AT THREE	WELL	ISLAND	10	110023	1100
RATE DISCHARGE DISCHARGE VALVE EXCEEDS LIMIT AT THREE	WELL	ISLAND	10	110024	1100
LEVEL IN DISCHARGE VESSEL TO THREE CONTAIN LEVEL AT THREE	WELL	ISLAND	10	110025	1100
CAPABLE PUMPED TIME PUMP TO BE CAPABLE AT THREE	WELL	ISLAND	10	110026	1100
LEVEL INDICATORS MAY NOT BE SERIOUSLY MALFUNCTIONING AT THREE	WELL	ISLAND	10	110027	1100
IN RIVER SAMPLE NUMBER FROM CONTAIN STATION AT THREE	WELL	ISLAND	10	110028	1100
BETWEEN EFFLUENT MONITOR AND DISCHARGE VALVE FAILS AT THREE	WELL	ISLAND	10	110029	1100
PENALTY IMPROPERLY INCORPORATED INTO TECH SPEC AT THREE	WELL	ISLAND	10	110030	1100
PENALTY IMPROPERLY INCORPORATED INTO TECH SPEC AT THREE	WELL	ISLAND	10	110031	1100
IN SURFACE WATER EXCEEDS TEN TIMES CONTAIN LEVEL AT THREE	WELL	ISLAND	10	110032	1100
ONLINE MATERIAL PUMP UNDER LOADS TENDENTIAL LOSS AT THREE	WELL	ISLAND	20	110033	1100
PROOF PUMP IN FULL HEAD AND INCLUDING BALL AT THREE	WELL	ISLAND	20	110034	1100
QUALITY RECORD ON SAFETY RELATED WITH ADJUSTMENT AT THREE	WELL	ISLAND	20	110035	1100
SHUT OFF SPACES ON SOUTH-EAST FACE AT THREE	WELL	ISLAND	20	110036	1100
SHUT OFF PUMP PRESSURE SWITCH MODIFICATION AT THREE	WELL	ISLAND	20	110037	1100
SPINE DISCOVERED IN NORTH CHANNEL CENTER AT THREE	WELL	ISLAND	20	110038	1100
SWAPPING SPINS USED FOR REACTION INTERNALS MISSING AT THREE	WELL	ISLAND	20	110039	1100
PUMP IN COMPLETE BALL WHEN FULL TRANSPORT TUBES AT THREE	WELL	ISLAND	20	110040	1100
EXP RESPONSE TIMES IN EXCESS OF ASSUMED TIMES AT THREE	WELL	ISLAND	20	110041	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110042	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110043	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110044	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110045	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110046	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110047	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110048	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110049	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110050	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110051	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110052	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110053	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110054	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110055	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110056	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110057	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110058	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110059	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110060	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110061	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110062	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110063	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110064	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110065	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110066	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110067	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110068	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110069	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110070	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110071	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110072	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110073	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110074	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110075	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110076	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110077	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110078	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110079	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110080	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110081	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110082	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110083	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110084	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110085	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110086	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110087	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110088	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110089	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110090	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110091	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110092	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110093	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110094	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110095	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110096	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110097	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110098	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110099	1100
DIAGNOSTIC GENERATION SWELLING VERIFICATION INADVERTENT AT THREE	WELL	ISLAND	20	110100	1100

ISLAND 10	CONTAINMENT RADIATION MONITOR PUMP FAILS AT LUMA 10	123759 P 21
	CONTAINMENT RADIATION MONITOR REMOVED FROM SERVICE FOR MAINTENANCE AT THREE HILL	123759 P 21
	RADIATION DEFUELANT MONITOR SAMPLE FLOW INTERRUPTED AT MAINLINE ISLAND 10	114105 P100
	CONTAINMENT RADIATION MONITOR SET POINTS CALCULATED INCORRECTLY AT SALEM 10	114027 P101
	SPINEL MIXED BEHIND RADIATION MONITOR HAS IMPERABLE AT ZION 10	112710 P270
REBAJNEE	STEAM GENERATOR HOLDDOWN ACTIVITY MUT MONITORED CONTINUOUSLY AT REBAJNEE	114030 P100
	STEAM RADIATION MONITORS CHANNELS IMPERABLE AT ST. LUCIE 10	112705 P200
	MISSED WASTE DISPOSAL MONITORS BE FILLED AT UGUMEL 10	112303 P100
	MANUAL MONITORING OF ARIAL FLOW USED NON-UPDATED VALUES AT	123195 P100
	AREA WATER TEMPERATURE MONITORING SYSTEM IMPERABLE AT SAN UNJANG 10	112077 P100
	OVERSIC MONITORING SYSTEM TIME STICKS AT LUMA 10	123200 P 03
	OVERSIC MONITORS ANNUAL LIMIT AT FT. CALHOUN 10	117084 P 00
	CONTAINMENT AIR PARTICULATE AND RADIIUS MONITORS FAIL AT LUMA 10	111011 P 30
	CONTAINMENT RADIATION MONITORS FOUND IMPERABLE AT ZION 10	112303 P277
	SET POINT ON AREA RADIATION MONITORS HIGH AT LUMA 10	112205 P 20
	GASEOUS AND PARTICULATE RADIATION MONITORS IMPERABLE AT SUNNY 1 AND 20	112302 P223
	CONTAINMENT RADIATION MONITORS IMPERABLE AT ZION 10	112302 P273
	DISCHARGE OF MAIN STEAM GENERATOR TUBES MORE THAN EXPECTED AT PALISADES	114042 P103
NUCLEAR 10	MEASURED RADIATION LEVEL EXCEEDS CONTROL LEVEL BY 25% AT	120732 P101
	NUCLEAR 10 SPIRE DISCOVERED IN	114103 P 4
	OPEN TO 25,000 V	122091 P203
	STW	114014 P120
	STW	114010 P107
	STW	114054 P 07
	STW	114094 P 00
	STW	114091 P 05
	STW	117087 P 00
	STW	110980 P100
	STW	123759 P103
	STW	117029 P 00
	STW	113777 P 03
	STW	115710 P103
	STW	114026 P107
	STW	110271 P120
	STW	110209 P120
	STW	110207 P 00
	STW	117082 P100
	STW	110227 P 00
	STW	112710 P273
CLIFFS 20	NUCLEAR INSTRUMENT FAILS AT MAINE TANKS	111041 P102
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117954 P 27
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	114007 P207
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	115927 P200
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	113 33 P 31
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	110974 P 10
MILE ISLAND 20	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	111037 P201
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	111041 P102
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112009 P270
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112020 P100
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112027 P 00
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117172 P 20
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117172 P 20
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	123002 P107
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	120273 P107
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	120050 P201
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	110980 P200
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112100 P270
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112305 P 14
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112007 P103
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	114104 P 03
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	113000 P110
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	113526 P 07
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117777 P 00
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112732 P200
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	110203 P203
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	120192 P100
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	113204 P101
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117176 P 00
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	120270 P 01
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117072 P202
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	114721 P 04
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	120045 P200
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	111010 P200
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117060 P230
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	111070 P100
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112000 P127
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112231 P127
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	112214 P127
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	113223 P127
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	110709 P120
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	114061 P125
	NUCLEAR INSTRUMENT BACKSEAT AREA FOUND TO BE DEFURMED AT CALVERT	117707 P120

DESCRIPTION	STATUS	DATE	TIME	LOCATION	STATUS	DATE	TIME	LOCATION	STATUS
BUFFER FOUND IN ACCIDENT ANALYSIS AT NORTH ANNA 1 AND 20									117941 P128
OTRAIN ORIENTED CABLES MOUNTED TO INPUT CABINETS AT NORTH ANNA 1 AND 20									118262 P129
COND PUMP MOTOR UPPER BEARING LEAKS AT NORTH ANNA 1 AND 20									118271 P129
SPINAL REPORT ON TERMINATIONS CONTAINING CRACKS AT NORTH ANNA 1 AND 20									118278 P129
REACTION COOLANT PUMP MOTOR LEAKS FOUND AT NORTH ANNA 1 AND 20									118287 P129
ON TEST HORIZONTAL MAIN SHIELDS INTO RESENRVIR JACK AT NORTH ANNA 1 AND 20									118330 P130
DRIVE MANDREL INSTALLATION PUMP DEFICIENT AT NORTH ANNA 1 AND 20									118349 P130
DRIVE MANDREL INSTALLATION PUMP DEFICIENT AT NORTH ANNA 1 AND 20									118356 P130
NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES AT NORTH ANNA 1 AND 20									118364 P131
CRACKS DETECTED IN SERVICE WATER RESENRVIR SPRAY HEADERS AT NORTH ANNA 1 AND 20									118372 P131
LEAKAGE ON MUSTANG UP STAINLESS STEEL PIPE ASSEMBLY AT NORTH ANNA 1 AND 20									118379 P131
DESIGN OF AUXILIARY PANELS MAY NOT BE CONSERVATIVE AT NORTH ANNA 1 AND 20									118386 P131
IN CONTACT PRESSURE IN SOIL GENERATE FLUORINATION AT NORTH ANNA 1 AND 20									118393 P131
OPOLAN CHANE LAW CONTACTS LEFT ON AT NORTH ANNA 10									118399 P131
DRYDOWN RESENRVIR WATER LEVELS PREDICTED DURING PMP AT NORTH ANNA 1, 2, 3, AND 20									118406 P131
POSSIBLE DEVIATION IN RADIOGRAPHIC COVERAGE OF CASTINGS AT NORTH ANNA 3 AND 20									118412 P131
MEASURE FOR CONTROL OF AMPLIFIER RESPONSE SPECTRA DATA AT NORTH ANNA 3 AND 20									118418 P131
GENERATOR PUMP OIL DRY TANK HAVE DEFECTIVE MOUNTS AT NORTH ANNA 3 AND 20									118424 P131
UP INTAKE AND CONTAINMENT AUXILIARY STRUCTURES AT NORTH ANNA 3 AND 20									118430 P131
DRYDOWN RESENRVIR DEFICIENCIES CORRECTED AT NORTH ANNA 3 AND 20									118436 P131
RESENRVIR PHOSPHORIZATION TREATMENT ON CORE FLOOD TANKS AT NORTH ANNA 1 AND 20									118442 P131
RESENRVIR PHOSPHORIZATION TREATMENT ON CORE FLOOD TANKS AT NORTH ANNA 10									118448 P131
NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES AT NORTH ANNA 10									118454 P131
NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES AT THREE									118460 P131
NOTICE OF PROPOSED IMPOSITION OF CIVIL PENALTIES ISSUED TO									118466 P131
NOTIFICATION OF NONCOMPLIANCE WITH SECURITY PROGRAM AT									118472 P131
MIDDLE INDICATION PUMP AT DELEVAN 10									118478 P131
MIDDLE OF WORK INJECTION TANK LEAKS AT INDIAN POINT 30									118484 P131
MIDDLE SAFE ENDS AT MCQUIRE 10									118490 P131
MIDDLE SAFE ENDS AT MCQUIRE 10									118496 P131
MIDILES AT NORTH ANNA 3 AND 20									118502 P131
MIDILES AT NORTH ANNA 3 AND 20									118508 P131
MIDILES AT NORTH ANNA 3 AND 20									118514 P131
MIDILES AT NORTH ANNA 3 AND 20									118520 P131
MIDILES AT NORTH ANNA 3 AND 20									118526 P131
MIDILES AT NORTH ANNA 3 AND 20									118532 P131
MIDILES AT NORTH ANNA 3 AND 20									118538 P131
MIDILES AT NORTH ANNA 3 AND 20									118544 P131
MIDILES AT NORTH ANNA 3 AND 20									118550 P131
MIDILES AT NORTH ANNA 3 AND 20									118556 P131
MIDILES AT NORTH ANNA 3 AND 20									118562 P131
MIDILES AT NORTH ANNA 3 AND 20									118568 P131
MIDILES AT NORTH ANNA 3 AND 20									118574 P131
MIDILES AT NORTH ANNA 3 AND 20									118580 P131
MIDILES AT NORTH ANNA 3 AND 20									118586 P131
MIDILES AT NORTH ANNA 3 AND 20									118592 P131
MIDILES AT NORTH ANNA 3 AND 20									118598 P131
MIDILES AT NORTH ANNA 3 AND 20									118604 P131
MIDILES AT NORTH ANNA 3 AND 20									118610 P131
MIDILES AT NORTH ANNA 3 AND 20									118616 P131
MIDILES AT NORTH ANNA 3 AND 20									118622 P131
MIDILES AT NORTH ANNA 3 AND 20									118628 P131
MIDILES AT NORTH ANNA 3 AND 20									118634 P131
MIDILES AT NORTH ANNA 3 AND 20									118640 P131
MIDILES AT NORTH ANNA 3 AND 20									118646 P131
MIDILES AT NORTH ANNA 3 AND 20									118652 P131
MIDILES AT NORTH ANNA 3 AND 20									118658 P131
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MIDILES AT NORTH ANNA 3 AND 20									118670 P131
MIDILES AT NORTH ANNA 3 AND 20									118676 P131
MIDILES AT NORTH ANNA 3 AND 20									118682 P131
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MIDILES AT NORTH ANNA 3 AND 20									118694 P131
MIDILES AT NORTH ANNA 3 AND 20									118700 P131
MIDILES AT NORTH ANNA 3 AND 20									118706 P131
MIDILES AT NORTH ANNA 3 AND 20									118712 P131
MIDILES AT NORTH ANNA 3 AND 20									118718 P131
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MIDILES AT NORTH ANNA 3 AND 20									118742 P131
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MIDILES AT NORTH ANNA 3 AND 20									118754 P131
MIDILES AT NORTH ANNA 3 AND 20									118760 P131
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MIDILES AT NORTH ANNA 3 AND 20									118772 P131
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MIDILES AT NORTH ANNA 3 AND 20									118802 P131
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MIDILES AT NORTH ANNA 3 AND 20									118820 P131
MIDILES AT NORTH ANNA 3 AND 20									118826 P131
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MIDILES AT NORTH ANNA 3 AND 20									118970 P131
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MIDILES AT NORTH ANNA 3 AND 20									118982 P131
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MIDILES AT NORTH ANNA 3 AND 20									119132 P131
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MIDILES AT NORTH ANNA 3 AND 20									119180 P131
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MIDILES AT NORTH ANNA 3 AND 20									119198 P131
MIDILES AT NORTH ANNA 3 AND 20									

05URFACE FLUD FOUND ON CONTAINMENT ANCHOR BOLT 1985 AT BAIT'S DAM 1 AND 20

111429 P261

ADJUSTMENT GASOLINE RELEASE RATE EXCEEDS FORCE ANNUAL	OBJECTIVE AT 2100 20	111706 P104
PARADOXIC ACTIVITY	OBSERVED IN EFFLUENT FLOW AT HILLSTONE 20	120434 P104
SMALL LEAK	OBSERVED IN CHANGING PUMP SECTION LINE AT CALVERT CLIFFS 20	121967 P 30
05MAY 10	OBSERVED TO BE UNIFORM FROM DISCAL METERING CYLINDER AT	110487 P210
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REACHING WATER DISCHARGE TEMPERATURE EXCEEDS LIMIT ON FLOW	OCCASIONS AT PALISADES	110475 P127
PRIMARY RELEASE	RECORDED FROM VALVE CONTROL TANK AT ST. LOUIS 10	110413 P211
DISPATCH CONTROL AND WADON UP/CLAP	OCCURS AT MAWASA, MCKEAN 10	110220 P 1
TOTAL LOSS OF 112 BY STATION SERVICE PUMPS	OCCURS AT LAMMATICUT TANKS	110075 P 30
UNWANTED RELEASE FROM WASTE GAS SYSTEM	OCCURS AT LAMM 10	110001 P 40
REACTOR LEAKAGE AND SAFETY INJECTION	OCCURS AT FT. CALMOUN 10	110247 P 40
INADVERTENT MABLE AND RELEASE	OCCURS AT INDIAN 10	110214 P 01
STEAM GENERATOR TUBE DEGRADATION	OCCURS AT INDIAN POINT 20	110216 P 73
REACTOR COOLANT SYSTEM PRESSURE TRANSIENT	OCCURS AT INDIAN POINT 20	110216 P 73
HIGH FLOW MARCH HEADLINE	OCCURS AT INDIAN POINT 20	110216 P 73
PRIMARY-TO-SECONDARY SYSTEM LEAKAGE	OCCURS AT INDIAN 10	110216 P 73
BRADIAL FLOW TILT	OCCURS AT ROBINSON 20	110216 P 73
UNPLANNED DILUTION OF THE PRIMARY COOLANT	OCCURS AT INDIAN 20	110216 P 73
UNCOMPARATIVE SCALING UP DELTA T LUMP	OCCURS AT INDIAN 10	110216 P 73
UNSCHEDULED RELEASE OF RADIOACTIVE GAS	OCCURS AT INDIAN 10	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 10	110216 P 73
UNPLANNED DILUTION	OCCURS AT INDIAN 10	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 10	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 20	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 20	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 20	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 20	110216 P 73
PRIMARY RELEASE	OCCURS AT INDIAN 20	110216 P 73
SAFETY INJECTION	OCCURS AT INDIAN 20	110216 P 73
REACTOR COOLANT SYSTEM PRESSURE TRANSIENT	OCCURS APRIL TEST AT LAMM 10	110216 P 73
SPINNALE LEAK	OCCURS IN BOWIE ALTO PUMP RELIEF VALVE AT CALVERT CLIFFS 10	110216 P 73
05FIRE	OCCURS IN CHANGING PUMP CONTROLLER AT HILLSTONE 20	110216 P 73
05LOSS	OCCURS IN CONTAINMENT INTEGRITY AT PRAIRIE ISLAND 20	110216 P 73
05PERFUSION AND FIRE	OCCURS IN LAKE BOX AT FT. CALMOUN 10	110216 P 73
05PRESSURE TRANSIENT	OCCURS IN MAIN COOLING SYSTEM AT INDIAN POINT 20	110216 P 73
05PLATE	OCCURS IN SECONDARY CONTAINMENT INTEGRITY AT PRAIRIE	110216 P 73
05PRIMARY TO SECONDARY SYSTEM LEAK	OCCURS IN STEAM GENERATOR AT LAMM 10	110216 P 73
05SPINNALE LEAK	OCCURS IN THE FLUID HEAD OF ANOTHER CHANGING PUMP AT	110216 P 73
05SPINNALE LEAK	OCCURS IN THE FLUID HEAD OF CHANGING PUMPS AT INDIAN POINT	110216 P 73
05BLANK	OCCURS INSIDE CONTAINMENT AT INDIAN POINT 20	110216 P 73
05LOSS OF POWER	OCCURS ON USEFUL GENERATION EXHAUST MANIFOLD AT HILLSTONE 20	110216 P 73
05REACTOR CRITICALITY	OCCURS TO 101 BY TRANSFORMERS AT FT. CALMOUN 10	110216 P 73
05WOOD	OCCURS WITH CONTROL RODS INSERTED BEYOND LIMITS AT	110216 P 73
05REACTOR BUILDING ISOLATION VALVE FAILS TO CLOSE AT	OCEAN TEMPERATURE SENSORS FAIL AT SAN ONDRE 10	110216 P 73
05PURGED WATER STORAGE TANK LEVEL INDICATION FAILS AT	OCCURS 10	110216 P 73
05PUMPS INOPERABLE DUE TO SPARE BREAKER FAILURE AT	OCCURS 10	110216 P 73
05RADIO WASTE DISPOSAL MONITORING DEFICIENT AT	OCCURS 10	110216 P 73
05RADIATION RELEASE EXCEEDS TECH SPEC LIMITS AT	OCCURS 10	110216 P 73
05REACTOR FLUID TANK CYCLOPRESSURIZED AT	OCCURS 10	110216 P 73
05SAMPLE VALVE IN AN PURGE SYSTEM FAILS AT	OCCURS 10	110216 P 73
05SLOWER HYDRO STATION INADVERTENTLY OFF LINE AT	OCCURS 10	110216 P 73
05REACTIVITY BALANCE PROCEDURE DOES NOT CORFORM WITH PSM AT	OCCURS 10	110216 P 73
05REACTOR UNAVAILABLE TO OVERHEAD LINE AT	OCCURS 10	110216 P 73
05RADIOACTIVITY IN COMPONENT COOLING SYSTEM INCREASES AT	OCCURS 10	110216 P 73
05SUPPLEMENTAL INFORMATION ON TRANSMISSION LINE TRIPS AT	OCCURS 10	110216 P 73
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05RIVER LEVEL INADVERTENTLY INCREASES ABOVE CUTOFF LIMIT AT	OCCURS 10	110216 P 73
05PRIMARY-TO-SECONDARY SYSTEM LEAKAGE OCCURS AT	OCCURS 10	110216 P 73
05AT YELLOR AND ISOLATED DURING ELECTRICAL BREAKER TESTING AT	OCCURS 10	110216 P 73
05REMOVED FROM SERVICE DUE TO CLOGGED GEL STRAINER AT	OCCURS 10	110216 P 73
05TO SECONDARY SYSTEM LEAK OCCURS IN STEAM GENERATOR AT	OCCURS 10	110216 P 73
05MEASUREMENT ERROR, NOT INCLUDED IN SET POINT ANALYSIS AT	OCCURS 10	110216 P 73
05MONITOR INOPERABLE DURING GASOLINE WASTE RELEASE AT	OCCURS 10	110216 P 73
05RELEASED GARGA ADJUSTED REACTION PUMPS IMBALANCE LIMIT AT	OCCURS 10	110216 P 73
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05DUSE OF SOLID LAUNDRY DEFURGENT EXCEEDS LIMIT AT	OCCURS 1 2 2 AND 20	110216 P 73
05EFFLUENT RADIOACTIVITY LEVEL EXCEEDS CENTRAL LEVEL AT	OCCURS 1 2 2 AND 20	110216 P 73
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05CONTROL ROD 3 UP UNLAP A MISALIGN AT	OCCURS 20	110216 P 73
05REACTOR GUARDRAIL TILT EXCEEDS LIMITS AT	OCCURS 20	110216 P 73
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05POLAR CRANE OPERATED WITHOUT APPROVED PROCEDURE AT	OCCURS 20	110216 P 73

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#AUXILIARY HIGH PRESSURE LOOP VALVE FAILS TO	OPEN AT CALVERT CLIFFS 10	113070 P 47
#STEAM GENERATOR DILUVENT BYPASS VALVE	OPEN AT CALVERT CLIFFS 10	113131 P 10
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#SERVICE WATER VALVE FOR CONTAINMENT COOL FAILS TO	OPEN AT KEAUNUELO	113004 P 70
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#AUXILIARY DECONTAMINATING STREAM VALVE FAILS TO	OPEN AT MILLSTONE 20	112004 P110
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#CONTAINMENT SPRAY VALVE FAILS TO	OPEN AT POINT BEACH 20	112007 P101
#AUXILIARY PERU PUMP VALVE FAILS TO	OPEN AT POINT BEACH 20	113000 P102
#LOW HEAD 30 TO REACTOR VESSEL VALVE FAILS TO	OPEN AT PRAIRIE ISLAND 10	110022 P100
#DRAINAGE LOGS IN ABOVE PUMPS	OPEN AT PRAIRIE ISLAND 10	110227 P107
#DRAINAGE SUMP VALVE FAILS TO	OPEN AT RANCHO SECOP	111003 P101
#SOLUTION VALVE TO DECAT HEAT PUMPS FAILS TO	OPEN AT RANCHO SECOP	113000 P101
#AUXILIARY DECONTAMINATING VALVE FAILS TO	OPEN AT WASHINGTON 10	117055 P100
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#REFUELING WATER CHEMICAL ADDITION VALVE FAILS TO	OPEN AT SUNNY 20	115715 P110
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#NUCLEAR SERVICES RIVER WATER PUMP VALVE FAILS TO	OPEN AT THREE HILL ISLAND 10	113294 P112
#REACTION BUILDING ISOLATION VALVE FAILS TO PULL	OPEN AT THREE HILL ISLAND 10	110002 P110
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#DRAIN COOLANT PUMP BREAKER FAILS TO	OPEN AT YANKEE NUCLEO	110200 P107
#CONTAINMENT SPRAY VALVE FAILS TO	OPEN AT ZION 10	113003 P107
#HOT SUCTION VALVE FAILS TO	OPEN AT ZION 20	111704 P100
#FIELD WINDING ON DIESEL GENERATOR BURN	OPEN AT ZION 20	110000 P100
#CONTAINMENT AIR COOLER VALVE FAILS TO	OPEN FULLY AT TRUJANO	110200 P100
#CONTAINMENT SPRAY VALVE FAILS TO	OPEN FULLY AT ZION 10	110200 P100
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	OPERATE AT INDIAN POINT 30	117000 P 00
	OPERATE AT KEAUNUELO	110000 P 00
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	TEMPERATURE PREDICTION AT SURRY 1 AND 20	112377	P223
	TEMPERATURE READING MISSED FOR ONE HOUR AT REARHILL	119311	P 90
	TEMPERATURE RISE ACROSS CONDENSER EXCEEDS LIMIT AT CALVERT	117074	P 23
	TEMPERATURE SENSOR FAILS AT SAN ONOFRE 10	110359	P194
	TEMPERATURE SENSOR FAILS AT SAN ONOFRE 10	111001	P190
	TEMPERATURE SWITCH AT YAMBE ROBE	107107	P204
	TEMPERATURE SWITCH FAILS AT ZION 10	111000	P209

10	DICE CONDENSER INLET MANIFOLD OPENING	TRIPPER EXCEEDS LIMIT AT COOL 10	110503 P 00
	DRIVE OPENING	TRIPPER OF ICE CONDENSER MANIFOLD NOT REPORTED ON TIME AT COOL 10	112204 P 00
		TORQUE UP ICE CONDENSER INLET MANIFOLD EXCEEDS LIMIT AT COOL 10	110201 P 27
0		TOTAL CALUMINE DISCHARGE TO LAKE EXCEEDS LIMIT AT	120000 P30
0		TOTAL CALUMINE DISCHARGE NOT DETERMINED IN LAKE DISCHARGE	115222 P 00
0		TOTAL LOSS OF 115 KV STATION SERVICE NUMBER OCCURS AT	115075 P 30
0		TOTAL RESIDUAL CALUMINE CONCENTRATION EXCEEDS LIMIT AT	115057 P170
0		TOTAL RESIDUAL CALUMINE EXCEEDS LIMIT AT COOL 10	120050 P 00
0		TOTAL RESIDUAL CALUMINE IN THE CIRCULATING WATER EXCEEDS	120702 P101
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113727 P100
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110704 P172
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115005 P 21
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	111775 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	119005 P220
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110005 P102
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112375 P100
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P103
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	111620 P205
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P103
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113523 P175
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110200 P
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117050 P
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110207 P29
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110770 P 07
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110075 P 73
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110002 P101
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110020 P100
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117250 P100
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	100751 P102
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113700 P 70
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110020 P137
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113752 P103
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120001 P107
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117001 P221
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110031 P252
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120005 P02
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P 05
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110070 P103
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113193 P 01
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113214 P105
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	122000 P217
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120055 P 50
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115003 P211
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112304 P 11
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110730 P 00
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113073 P 01
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110371 P 00
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113217 P205
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110212 P 17
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120750 P 21
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117004 P330
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117003 P121
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110000 P 07
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110000 P 07
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115005 P 03
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112317 P 04
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110304 P173
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110009 P204
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115101 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117001 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117002 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117003 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112710 P 06
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112733 P273
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115025 P207
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115070 P200
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120055 P190
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115117 P250
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110001 P 07
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	112730 P 03
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115007 P 11
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120000 P 20
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	117000 P 05
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	120007 P 53
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110732 P 00
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110004 P170
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110021 P217
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110012 P237
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113770 P174
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110730 P201
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110070 P 00
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	115055 P 00
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	113204 P207
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110703 P 35
0	0 CALUMINE	TOTAL RESIDUAL RATE EXCEEDS LIMIT AT MAHALE ISLAND 1 AND 2	110000 P110

MANUAL MONITORING OF ARIAL FLUX USED NON-UPDATED VALUES AT KERNAVILLE

120195 P100

	CONTAINMENT	VACUUM BREAKER TRIP INSUPERABLE AT PRAIRIE ISLAND 10	118200 P167
	CONTAINMENT	VACUUM RELIEF VALVES OPENS AT ST. LUCIE 10	117701 P216
		VALVE DISCHARGE PERMIT AT TROJAMP	118264 P263
	WASTE GAS DECAY TANK VENTED WITHOUT A	VALVE 10	116031 P 11
	DAILY GAS GRAB SAMPLES NOT TAKEN WHEN REQUIRED	VALVE 10	113704 P 11
	COMPRESSOR TRANSIENT IN MAIN COOLING SYSTEM	VALVE 10	112300 P 11
	FW ANNUNCIATION ON LOSS OF VITAL BUS INVERTER	VALVE 10	112300 P 12
	BOOTH CHANNELS OF SOURCE RANGE INSTRUMENTS LOST	VALVE 10	112300 P 12
	QUIESCENT GENERATOR FIELD LOST AT BEAVER	VALVE 10	113400 P 12
	SAFETY INJECTION ACCUMULATORS NOT SAMPLED AT BEAVER	VALVE 10	113400 P 12
	INVERTER FAILURE CAUSE LOSS OF VITAL BUS AT BEAVER	VALVE 10	114700 P 12
	COMPRESSOR TRANSMITTER SENSING LINE FAILS AT BEAVER	VALVE 10	115007 P 13
	CONTAINMENT PRESSURES FOLLOWING A LCCA AT BEAVER	VALVE 10	115030 P 13
	GENERIC DEFICIENCIES FOUND IN SAFETY ANALYSIS AT BEAVER	VALVE 10	117000 P 13
	STEAM CHILLED WATER CHILLER UNITS TRIP AT BEAVER	VALVE 10	118002 P 13
	CONTAINMENT AIR TEMPERATURE EXCEEDS LIMIT AT BEAVER	VALVE 10	118493 P 14
	REACTOR CONTAINMENT NOSE PROTECTIVE COATING FAILS AT BEAVER	VALVE 10	116530 P 10
	DESIGN DEFICIENCY FOUND IN PNEUMATION SYSTEM AT BEAVER	VALVE 10	GENERIC 114000 P 11
	REACTOR CONTAINMENT FOUNDATION NOISE AT BEAVER	VALVE 20	114000 P 14
	STRUCTURE FOUNDATION MATERIAL DEFICIENCY AT BEAVER	VALVE 20	114007 P 14
	REACTOR CONTAINMENT		
	ONC # 40 MONITOR CALVET FIRE SENSORS	VALVE ASSUMED IN PWR AT THREE HILL ISLAND 10	114020 P230
	OTHERMAL POWER BEST	VALUES FOUND TO BE INCORRECT AT OCONEE 30	116204 P140
	MANUAL MONITORING OF ARIAL FLUX USED NON-UPDATED	VALUES AT KERNAVILLE	120195 P100
	ONC PUMP SEAL INJECTION	VALVE ACTUATOR TOGGLE FAILS AT DAVIS-BESSE 10	120730 P 57
	MINI-SHAFT LEAK VOLUME IN SULFURIC ACID PUMP RELIEF	VALVE AT CALVERT CLIFFS 10	116227 P 22
	BLEED PUMPS IN INLET LINE TO CHANGING PUMP RELIEF	VALVE AT CALVERT CLIFFS 10	119523 P 25
	BLEAK DISCOVERED IN DECAY HEAT COOLER VENT	VALVE AT NANCY SECUP	117704 P160
	DRYING LINE CHACKS ON STEAM QUIMP	VALVE MOUNTS AT POINT BEACH 1 AND 20	115005 P199
INDIAN POINT 20	CONTAINMENT VENTILATION	VALVE CIRCUITRY FAILS TO MEET SINGLE FAILURE CRITERIA AT	120834 P 62
	ODG AIR START SOLENOID	VALVE CLOGGED WITH DIRT AT ST. LUCIE 10	115436 P209
	ALETHOBN	VALVE CLOSES AT SALEM 10	110727 P101
		VALVE CONTROL CENTER POWER FOUND OFF AT COOR 10	110920 P 46
	WELL DOWNSTREAM OF PRESSURE TRANSMITTER	VALVE CHACKS AT CALVERT CLIFFS 20	120694 P 29
	HYDRAULIC SHOCK SUPPRESSOR CONTROL	VALVE DEFICIENCY AT DAVIS-BESSE 10	117000 P 56
	COMPLEMENTARY REPORT ON MAIN STEAM	VALVE DEFICIENCY AT SURREY 20	109943 P228
	BLEAKAGE RATE OF PURGE AIR SUPPLY	VALVE EXCEEDS LIMIT AT PALISADES0	117001 P194
	BLEAKAGE OF PENETRATION ISOLATION CHECK	VALVE EXCESSIVE AT PALISADES0	113953 P151
	BLEAKAGE RATE OF CONTAINMENT ISOLATION CHECK	VALVE EXCESSIVE AT POINT BEACH 20	113315 P161
	BLEAK RATE OF CONTAINMENT PURGE	VALVE EXCESSIVE AT POINT BEACH 20	113524 P161
	BLEAKAGE THROUGH CONTAINMENT ISOLATION	VALVE EXCESSIVE AT PRAIRIE ISLAND 20	109402 P173
	BLEAKAGE OF CONTAINMENT ISOLATION	VALVE EXCESSIVE AT PRAIRIE ISLAND 20	117105 P176
	BYLINE ON AC PUMP SEAL INJECTION	VALVE FAILS AT DAVIS-BESSE 10	119709 P 55
	SULFURIC ACID TRANSFER PUMP	VALVE FAILS AT SURREY 10	117001 P221
INTERLOCK CIRCUIT BETWEEN EFFLUENT MONITOR AND DISCHARGE		VALVE FAILS AT THREE HILL ISLAND 10	115704 P236
	REACTOR BUILDING ISOLATION	VALVE FAILS TO CLOSE AT ARKANSAS NUCLEAR 10	109040 P 1
	CONTAINMENT SUMP	VALVE FAILS TO CLOSE AT CALVERT CLIFFS 10	120687 P 25
	SAFETY INJECTION SYSTEM	VALVE FAILS TO CLOSE AT ST. CALHOUN 10	113313 P 62
	SUMP DISCHARGE	VALVE FAILS TO CLOSE AT GINNAO	111705 P 71
	STEAM GENERATOR BLOWDOWN	VALVE FAILS TO CLOSE AT INDIAN POINT 30	112091 P 63
	STEAM GENERATOR BLOWDOWN	VALVE FAILS TO CLOSE AT INDIAN POINT 30	113314 P 63
	REACTOR COOLANT SAMPLE	VALVE FAILS TO CLOSE AT INDIAN POINT 30	115705 P 67
	REACTOR BUILDING ISOLATION	VALVE FAILS TO CLOSE AT OCONEE 10	109294 P133
	REACTOR TANK ISOLATION	VALVE FAILS TO CLOSE AT OCONEE 10	114652 P146
	REACTOR	VALVE FAILS TO CLOSE AT OCONEE 30	120721 P149
	AUXILIARY FEED PUMP	VALVE FAILS TO CLOSE AT POINT BEACH 10	110314 P157
	CONDENSATE HANDUP WATER	VALVE FAILS TO CLOSE AT ST. LUCIE 10	113432 P209
	CONDENSATE RETURN LINE	VALVE FAILS TO CLOSE AT SURREY 10	114390 P210
	CONDENSER OUTLET	VALVE FAILS TO CLOSE AT SURREY 10	119769 P222
	CONDENSATE TRIP	VALVE FAILS TO CLOSE AT SURREY 20	110372 P220
	COMPRESSOR SAMPLE LINE	VALVE FAILS TO CLOSE AT SURREY 20	113785 P220
	CONDENSATE WATER SYSTEM	VALVE FAILS TO CLOSE AT SURREY 20	114003 P247
	REACTOR BUILDING ISOLATION	VALVE FAILS TO CLOSE AT THREE HILL ISLAND 10	115407 P236
	REACTOR ISOLATION	VALVE FAILS TO CLOSE AT TROJAMP	116241 P244
	REACTOR BYPASS ISOLATION	VALVE FAILS TO CLOSE AT TROJAMP	113241 P246
	REACTOR BYPASS ISOLATION	VALVE FAILS TO CLOSE AT TROJAMP	113080 P248
	REACTOR BYPASS ISOLATION	VALVE FAILS TO CLOSE AT TROJAMP	120400 P256
	REACTOR ISOLATION	VALVE FAILS TO CLOSE AT TROJAMP	120740 P256
	NITROGEN SUPPLY ISOLATION	VALVE FAILS TO CLOSE AT ZION 10	115108 P276
	CONTAINMENT AIR SAMPLE	VALVE FAILS TO CLOSE AT ZION 10	110232 P277
	VENT HEADER ISOLATION	VALVE FAILS TO CLOSE AT ZION 10	110233 P277
	CONTAINMENT ISOLATION	VALVE FAILS TO CLOSE AT ZION 10	110771 P279
	CONTAINMENT ISOLATION	VALVE FAILS TO CLOSE AT ZION 10	120243 P280
	REACTOR COOLANT SAMPLE	VALVE FAILS TO CLOSE AT ZION 20	110206 P283
	ONC SAMPLE LINE	VALVE FAILS TO CLOSE AT ZION 20	110207 P283
	COMPRESSOR SAMPLE ISOLATION	VALVE FAILS TO CLOSE AT ZION 20	110976 P286
	CHANGING PUMP ISOLATION	VALVE FAILS TO CLOSE AT ZION 20	111707 P286
	COMPRESSOR SAMPLE	VALVE FAILS TO CLOSE AT ZION 20	115142 P286
	ONC INJECTION	VALVE FAILS TO CYCLE AT COOR 10	120204 P 50
	REACTOR BUILDING ISOLATION	VALVE FAILS TO FULLY OPEN AT THREE HILL ISLAND 10	115582 P236
	CONDENSATE WATER SYSTEM	VALVE FAILS TO OPEN AT ARKANSAS NUCLEAR 10	109547 P 1
	CONDENSATE UNIT SERVICE WATER	VALVE FAILS TO OPEN AT ARKANSAS NUCLEAR 10	115699 P 4
	BYLINE CONTROL TANK	VALVE FAILS TO OPEN AT CALVERT CLIFFS 10	115472 P 21

SAUXILIARY HIGH PRESSURE LOOP	VALVE FAILS TO OPEN AT CALVERT CLIFFS 10	123450 P 27
SEAL WATER/COMPONENT COOLING INTERFACE	VALVE FAILS TO OPEN AT FT. CALMOUNT 10	123461 P 69
SCONTAINMENT SPRAY	VALVE FAILS TO OPEN AT REBARNECO	111902 P 96
SAUXILIARY FEEDWATER TURBINE STEAM	VALVE FAILS TO OPEN AT HELLSTONE 20	112004 P 116
SAUXILIARY FEED PUMP INLET STEAM	VALVE FAILS TO OPEN AT HELLSTONE 20	117261 P 21
SCONTAINMENT PURGE SUPPLY	VALVE FAILS TO OPEN AT PALLASBURG 30	116266 P 153
PSERVICE WATER HEADER	VALVE FAILS TO OPEN AT POINT BEACH 10	115507 P 150
SCONTAINMENT SPRAY	VALVE FAILS TO OPEN AT POINT BEACH 20	112607 P 161
SAUXILIARY FEED PUMP	VALVE FAILS TO OPEN AT POINT BEACH 20	115046 P 162
BLU HEAD SE TO REACTOR VESSEL	VALVE FAILS TO OPEN AT PRAIRIE ISLAND 10	114622 P 168
SEMERGENCY SUMP	VALVE FAILS TO OPEN AT RANCHO SECUR	111093 P 174
SAUXILIARY FEEDWATER PUMP	VALVE FAILS TO OPEN AT RUBINSON 20	117655 P 176
SAUXILIARY FEEDPUMP	VALVE FAILS TO OPEN AT SURRY 10	112376 P 210
SPREFUELING WATER CHEMICAL ADDITION	VALVE FAILS TO OPEN AT SURRY 10	119507 P 222
SPREFUELING WATER CHEMICAL ADDITION	VALVE FAILS TO OPEN AT SURRY 20	113715 P 224
SPNUCLEAR SERVICES RIVER WATER PUMP	VALVE FAILS TO OPEN AT THREE MILE ISLAND 10	101.46 P 232
PSAFETY INJECTION SUPPLY	VALVE FAILS TO OPEN AT TROJANO	120100 P 255
SCONTAINMENT SPRAY	VALVE FAILS TO OPEN AT ZION 10	119305 P 277
PSUST SUCTION	VALVE FAILS TO OPEN AT ZION 20	111768 P 285
SCONTAINMENT AT CASKER	VALVE FAILS TO OPEN FULLY AT TROJANO	110265 P 290
SCONTAINMENT SPRAY	VALVE FAILS TO OPEN FULLY AT ZION 10	116237 P 275
SPREHEATER PENETRATION	VALVE FAILS TO OPERATE AT UGAREE 30	114970 P 143
SCONDENSER JETLET	VALVE FAILS TO OPERATE AT SURRY 20	113755 P 220
BLU HEAD SAFETY INJECTION PUMP	VALVE FAILS TO OPERATE AT SURRY 20	117713 P 220
MAIN STEAM ATMOSPHERIC RELIEF	VALVE FAILS TO OPERATE AT ZION 20	118075 P 296
ADSORB INJECTION TANK OUTLET	VALVE FAILS TO OPERATE AT ZION 20	120703 P 292
SCONDENSER OUTLET	VALVE FAILS TO OPERATE ELECTRICALLY AT SURRY 20	115716 P 220
ADDITIONAL INFORMATION ON SAUXILIARY FEED PUMP	VALVE FAILURE AT HELLSTONE 20	114954 P 123
SPURATE REPORT ON MGCIN INJECTION TANK	VALVE FAILURE AT ZION 20	114397 P 405
PSUPPLEMENTAL INFORMATION ON ROST	VALVE FAILURES AT TROJANO	120290 P 250
PSERVICE WATER	VALVE FOR CONTAINMENT COOL FAILS TO OPEN AT REBARNECO	119300 P 96
PREACTOR BUILDING PURGE	VALVE FOUND IMPROPER AT UGAREE 10	118204 P 136
PSUMM DRAIN	VALVE FOUND IMPROPER AT UGAREE 20	119013 P 144
PSUM PRESSURE SERVICE WATER	VALVE FOUND IMPROPER AT UGAREE 20	120233 P 144
PCOOLING WATER HEADER ISOLATION	VALVE FOUND IMPROPER AT PRAIRIE ISLAND 10	116623 P 160
PCOOLING WATER PUMP DISCHARGE	VALVE FOUND IMPROPER AT PRAIRIE ISLAND 10	116243 P 167
PSUNNALLY CLOSED ISOLATION	VALVE FOUND OPEN AT SURRY 20	117060 P 233
PSUMPLE LOOP ISOLATION	VALVE FOUND TO BE IMPROPER AT CALVERT CLIFFS 10	114715 P 10
SCONTAINMENT PENETRATION	VALVE FOUND TO BE OPEN AT RAINE FARMER	110461 P 103
PSYNE MATERIAL FUM AC PUMP SEAL INJECTION	VALVE IMPROPER AT JAVIS-BESSE 10	119742 P 56
PSAMPLE	VALVE IN NO PURGE SYSTEM FAILS AT UGAREE 10	114301 P 135
PSWATH LEAKS FROM	VALVE IN SPENT FUEL COOLING SYSTEM AT ARKANSAS NUCLEAR 10	120697 P 9
SAUXILIARY FEEDWATER REGULATING	VALVE INSTALLED IMPROPERLY AT COOK 10	113519 P 61
SCONTAINMENT ISOLATION	VALVE LEAK RATE'S EXCEED LIMIT AT COOK 10	114776 P 42
PSUPPLEMENTAL REPORT ON CONTAINMENT PURGE	VALVE LEAKAGE AT GINMAP	115062 P 70
PSWELD ON MAKEUP PUMP BYPASS	VALVE LEAKS AT RANCHO SECUR	112005 P 170
PSULFURIC ACID	VALVE LEAKS AT ZION 10	111770 P 269
SCONTAINMENT PURGE	VALVE LEAKS AT ZION 10	120112 P 282
PSULFURIC ACID FILTER B-PASS	VALVE LEAKS AT ZION 20	115026 P 267
SCONTAINMENT PURGE	VALVE LEAKS EXCESSIVELY AT GINMAP	112184 P 72
SCONTAINMENT PURGE	VALVE LEAKS EXCESSIVELY AT INDIAN POINT 20	111644 P 70
PSWMM	VALVE LEAKS EXCESSIVELY AT INDIAN POINT 20	119150 P 81
PSULFURIC ACID SYSTEM	VALVE LEAKS EXCESSIVELY AT SURRY 10	112373 P 217
PSWELL HEAT REMOVAL SYSTEM	VALVE LEAKS WHEN OPENED AT THREE MILE ISLAND 10	120047 P 239
PSWELL PRESSURE RELIEF	VALVE LIFTS BELOW SET PRESSURE AT INDIAN POINT 30	120722 P 92
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE LINE AT HELLSTONE 20	117062 P 231
ISLAND 10	VALVE LINE-UP IMPROPER ON RADIATION MONITOR AT THREE MILE	110293 P 232
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE MALFUNCTIONS AT ARKANSAS NUCLEAR 10	114775 P 9
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE MALFUNCTIONS AT ZION 10	110290 P 200
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE MALFUNCTIONS AT JAVIS-BESSE 10	119330 P 53
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE MARKER TAGS DEFICIENT AT SCHOONVAN 1 AND 20	120463 P 202
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE OPEN AT CALVERT CLIFFS 10	113232 P 19
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE OPERATION FAILS AT POINT BEACH 20	109003 P 100
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE RESPONSE TIME EXCEEDS LIMIT AT TROJANO	113030 P 201
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE SET POINTS FOUND TO BE OUT OF LIMITS AT FT. CALMOUNT 10	119790 P 60
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE SOCKET HELD AT INDIAN POINT 30	113525 P 84
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE STARTS TO LEAK AT ZION 10	119300 P 70
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PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE STEM PLACED IN OPERATION PRIOR TO RELEASE FOR USE AT	114392 P 35
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE STICKS IN INTERMEDIATE POSITION AT CALVERT CLIFFS 10	111892 P 16
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE TEST PERFORMED LATE AT PRAIRIE ISLAND 20	114000 P 175
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE TO ACCUMULATOR FAILS TO CLOSE AT ZION 10	110980 P 200
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVE TO UGAREE HEAT PUMPS FAILS TO OPEN AT RANCHO SECUR	120995 P 101
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVES AT CRYSTAL RIVER 30	110330 P 51
PSWELL LEAK FOUND IN CHANGING PUMP DISCHARGE RELIEF	VALVES AT FT. CALMOUNT 10	114019 P 64
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	CONTAINMENT PURGE	VALVES HAVE EXCESSIVE LEAKAGE AT FT. CALHOUN 10	119302 P 07
	CONTAINMENT PURGE	VALVES LEAK DURING THE NIGHT AT ZION 10	120450 P201
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	0 AINIONED	WASTE DISPOSAL MONITORING DEFICIENT AT OGDUNEE 10	112403 P130
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	0 EVENT PARTICULATE MONITOR IMPERMEABLE DURING CASEWORK	WASTE RELEASE AT OGDUNEE 10	120537 P137
	0 MAINTAINED	WASTE SHIPPING CASE RECEIVED AT WAINE TAMKEEP	110337 P101
	0 ALLOWABLE PH OF DISCHARGED	WASTE UNTIL EXCEEDS AT CALVERT CLIFFS 10	117072 P 22
	0 NEUTRALIZING TANK OVERFLOWS TO CIRCULATING	WATER AT CALVERT CLIFFS 10	110200 P 20
	0 CIRCULATING	WATER BUA TEMPERATURE NOT RECORDED AT REVAUNEE	120452 P 00
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	0 REFUELING	WATER CHEMICAL ADDITION VALVE FAILS TO OPEN AT SARRY 10	119507 P222
	0 FUEL CHILLED	WATER CHEMICAL ADDITION VALVE FAILS TO OPEN AT SARRY 20	119715 P220
	0 DIESEL GENERATOR SERVICE	WATER CHILLER UNITS TRIP AT BEAVER VALLEY 10	110992 P 13
	0 CIRCULATING	WATER COOLING PUMP BLOCKED AT HILLSTONE 20	120702 P125
	0 CIRCULATING	WATER DIFFERENTIAL TEMPERATURE EXCEEDS LIMIT AT ZION 10	120407 P202
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10		WATER EXCEEDS TEN TIMES CONTROL LEVEL AT THREE MILE ISLAND	120717 P200
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10		0 WATER FROM JEST INADVERTENTLY RELEASED AT ARKANSAS NUCLEAR	115075 P 6
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	0 CIRCULATING	WATER PUMP TRIPS AT ZION 10	110070 P275
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