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Radioactive Materials Released from Nuclear Power Plants

Annual Report 1984

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Prepared by J. Tichler, K. Norden, J. Congemi

Brookhaven National Laboratory

Prepared for
U.S. Nuclear Regulatory
Commission

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PREVIOUS REPORTS IN THIS SERIES

1. "Report on Releases of Radioactivity in Effluents and Solid Wastes from Nuclear Power Plants for 1972," Directorate of Regulatory Operations, August 1973.
2. "Summary of Radioactivity Releases in Effluents from Nuclear Power Plants During 1973," NUREG-75/001, January 1975.
3. "Radioactive Materials Released from Nuclear Power Plants, 1974," NUREG-0077, June 1976.
4. "Radioactive Materials Released from Nuclear Power Plants, 1975," NUREG-0218, March 1977.
5. "Radioactive Materials Released from Nuclear Power Plants, 1976," NUREG-0367, March 1978.
6. "Radioactive Materials Released from Nuclear Power Plants, 1977," NUREG-0521, January 1979.
7. "Radioactive Materials Released from Nuclear Power Plants, 1978," NUREG/CR-1497, BNL-NUREG-51192, March 1981.
8. "Radioactive Materials Released from Nuclear Power Plants, 1979," NUREG/CR-2227, BNL-NUREG-51416, November 1981.
9. "Radioactive Materials Released from Nuclear Power Plants, 1980," NUREG/CR-2907, BNL-NUREG-51581, Vol. 1, January 1983.
10. "Radioactive Materials Released from Nuclear Power Plants, 1981," NUREG/CR-2907, BNL-NUREG-51581, Vol. 2, June 1984.
11. "Radioactive Materials Released from Nuclear Power Plants, 1982," NUREG/CR-2907, BNL-NUREG-51581, Vol. 3, February 1986.
12. "Radioactive Materials Released from Nuclear Power Plants, 1983," NUREG/CR-2907, BNL-NUREG-51581, Vol. 4, August 1986.

ABSTRACT

Releases of radioactive materials in airborne and liquid effluents from commercial light water reactors during 1984 have been compiled and reported. Data on solid waste shipments as well as selected operating information have been included. This report supplements earlier annual reports issued by the former Atomic Energy Commission and the Nuclear Regulatory Commission. The 1984 release data are summarized in tabular form. Data covering specific radionuclides are summarized.

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1.0 Introduction

1.1 Purpose

This report, prepared annually for the staff of the U.S. Nuclear Regulatory Commission, presents measured data on radioactive materials in effluents released from licensed commercial reactor power plants. These data were reported by licensees for plant operations during 1984. This information supplements earlier annual reports issued by the former Atomic Energy Commission and Nuclear Regulatory Commission.¹

1.2 Scope

Releases of radioactive materials are governed by 10 CFR Part 20 and 50 and by limits established in the Technical Specifications for each facility. The requirement for reporting effluent releases by nuclear power plant operators is described in 10 CFR 50.36a. Through its Office of Nuclear Reactor Regulation, the Nuclear Regulatory Commission maintains a knowledge of radioactive releases from licensed nuclear reactors to ensure that they are within regulatory requirements. This report summarizes data from the licensed nuclear power plants that were declared by the utilities to be in commercial operation as of December 31, 1984. Data are included for several licensed facilities which are permanently or indefinitely shut down (Dresden 1, Humboldt Bay, Indian Point 1, Three Mile Island 2).

1.3 Source of Data

The information included in this report was obtained from data reported by the licensees. Individual licensee reports are available in the NRC Public Document Room, 1717 H Street, NW, Washington, D.C. 20555 and in local Public Document Rooms located near each licensed facility. Licensee reports varied in the format and extent of information provided. This variability will diminish as changes in the Technical Specification for each plant will require adoption of the reporting format of Regulatory Guide 1.21, "Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light Water Cooled Nuclear Power Plants," June 1974.

¹ "Report on Releases of Radioactivity in Effluents and Solid Wastes from Nuclear Power Plants for 1972," Directorate of Regulatory Operations, August 1973. "Summary of Radioactivity Releases in Effluents from Nuclear Power Plants During 1973," NUREG-75/001, January 1975. "Radioactive Materials Released from Nuclear Power Plants 1974," NUREG-0077, June 1976. "Radioactive Materials Released from Nuclear Power Plants 1975," NUREG-0218, March 1977. "Radioactive Materials Released from Nuclear Power Plants, 1976," NUREG-0367, March 1978. "Radioactive Materials Released from Nuclear Power Plants, 1977," NUREG-0521, January 1979. "Radioactive Materials Released from Nuclear Power Plants, 1978," NUREG/CR-1497, BNL-NUREG-51192, March, 1981. "Radioactive Materials Released from Nuclear Power Plants, 1979," NUREG/CR-2227, BNL-NUREG-51416, November 1981. "Radioactive Materials Released from Nuclear Power Plants, 1980," NUREG/CR-2907, BNL-NUREG-51581, Vol. 1, January 1983. "Radioactive Materials Released from Nuclear Power Plants, 1981" NUREG/CR-2907, BNL-NUREG-51581, Vol. 2, June 1984. "Radioactive Materials Released from Nuclear Power Plants, 1982," NUREG/CR-2907, BNL-NUREG-51581, Vol. 3, February 1986. "Radioactive Materials Released from Nuclear Power Plants, 1983," NUREG/CR-2907, BNL-NUREG-51581, Vol. 4, August 1986.

Data from prior years used in the comparison tables were obtained from the twelve previous annual summaries.

2.0 Tabulated Data

2.1 Airborne and Liquid Effluents

Table 1 through 4 list for each reactor, the measured quantities of total noble gases and of I-131 and particulates (with half lives greater than 8 days) released in effluents to the atmosphere during each of the years 1970 through 1984. Tables 5 through 8 list the total measured quantities of tritium and of mixed fission and activation products released in liquid effluents in each of the years.

2.2 Solid Waste

The total volumes, activity and the number of shipments of solid waste for each plant during 1984 are summarized in Tables 9 and 10. A comparison for the years 1972 through 1984 is made in Tables 11 and 12.

2.3 Energy Generation

Tables 15 and 16 present a summary of the thermal energy generated by each plant during 1984 and previous years from 1970. Tables 13 and 14 present a summary of net electrical energy generated by each plant during 1978-1984. The reader is cautioned against making simplistic comparisons of radioactive releases with the energy generated because of the many factors which affect the amount of radioactive materials released; factors such as the condition of the fuel, primary system integrity, effluent and radioactive waste treatment systems, and the extent to which these systems are used.

2.4 Individual Plant Summaries

Individual plant summaries are presented in alphabetical order. The summaries include general plant information, power production, effluent and solid waste data, and a summary of specific radionuclides measured in effluents. When the only type of solid waste reported is type "A", this may be because the plant did not break solid waste into different types but reported all types together. The activity released for each nuclide for the year for both airborne and liquid effluents is calculated by summing releases for each quarter. More detailed summaries in the format of Regulatory Guide 1.21 such as were used in the 1978 report² can be made available since all the data for 1978-1984 are stored in a computerized data base.

Copies of the summaries included in this report as well as the more detailed summaries maintained in the computer data base were submitted to the licensees for verification before publication. In most cases, the licensees responded either verifying the included data for their plants or providing corrections. Individuals interested in obtaining the more detailed summaries should contact the Office of Administration and Resources Management of the Nuclear Regulatory Commission.

²"Radioactive Materials Released from Nuclear Power Plants, 1978," NUREG/CR-1497, BNL-NUREG-51192, March, 1981.

2.5 Notation

The following notation is used:

$$1.86\text{E}+06 = 1.86 \times 10^6$$

$$1.86\text{E}-03 = 1.86 \times 10^{-3}$$

N/R = Not Reported

N/D = Not Detected

< may actually mean $\leq$

3.0 Summary

Nearly all of the radioactive material reported as being released in effluents are from planned releases. Planned releases result from normal operation or from anticipated operational occurrences. The latter include unplanned releases of radioactive materials from miscellaneous actions such as equipment failure, operator error or procedure error; these releases are not of such consequence as to be considered an accident.

At present, it is difficult to compare effluent releases with those of previous years due to, among other contributors, variability in reporting structure and release requirements. Comparisons with respect to power generation are similarly difficult due to factors which strongly affect the releases such as level of fuel cladding defects, design features of plant radioactive waste treatment systems, operational occurrences and equipment performance.

Though perhaps not identifiable as an important factor at any specific plant from the data in this report, the generic improvement in fuel performance over the last several years has either reduced or has had the potential to reduce the amount of radioactive material released in effluents from most plants. In addition, at Boiling Water Reactors (BWRs), the reduction in the amount of airborne radioactive materials being released at some plants since the early and mid-1970s is due in large part to the installation of augmented offgas (AOG) systems.

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ACKNOWLEDGMENTS

Carmen Benkovitz was responsible for the original design of the computer data base in which the effluent data, beginning with the 1978 data, is stored. She was involved in the redesign of the data base when, in 1982, the decision was made to transfer the data base from one computer to another and to change the data base management system being used. She presently functions in an advisory role in the annual preparation of this report.

TABLE 1

AIRBORNE EFFLUENTS COMPARISON BY YEAR

BOILING WATER REACTORS

FISSION AND ACTIVATION GASES (TOTAL CURIES)

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	2.80E+05	2.84E+05	2.58E+05	2.30E+05	1.88E+05	5.06E+04	1.52E+04	1.34E+04	1.89E+04	6.67E+03
BROWNS FERRY					6.40E+04	9.24E+04	<8.05E+04	<1.66E+05	1.57E+05	<2.71E+05
BRUNSWICK						1.90E+02	1.90E+04	2.46E+05	9.14E+04	1.16E+05
COOPER					2.00E+03	1.98E+04	3.80E+04	1.27E+03	4.09E+03	3.04E+04
DRESDEN 1	9.00E+05	7.53E+05	8.77E+05	8.40E+05	9.80E+04	5.20E+05	4.52E+05	5.20E+05	8.50E+05	1.83E+02
DRESDEN 2-3		5.80E+05	4.29E+05	8.80E+05	6.27E+05	3.69E+05	3.23E+04	3.13E+05	4.06E+04	6.91E+04
DUANE ARNOLD						1.58E+03	5.26E+03	3.87E+03	1.56E+03	8.71E+03
EDWIN I. HATCH 1						2.70E+02	2.80E+03	1.90E+03	1.62E+03	1.71E+03
EDWIN I. HATCH 2										
GRAND GULF										
HUMBOLDT BAY	5.40E+05	5.14E+05	4.30E+05	3.50E+05	5.72E+05	2.97E+05	9.30E+04	4.40E-05	4.40E-05	<4.40E-05
JAMES A. FITZPATRICK						4.08E+03	4.41E+04	2.33E+04	5.88E+03	3.38E+03
LACROSSE	1.00E+03	1.00E+03	3.10E+04	9.10E+04	4.90E+04	5.71E+04	1.24E+05	4.25E+04	8.45E+03	1.04E+04
LASALLE										
LIMERICK										
MILLSTONE 1		2.76E+05	7.26E+05	7.90E+04	9.12E+05	2.97E+06	5.07E+05	6.20E+05	5.66E+05	2.06E+04
MONTICELLO		7.60E+04	7.51E+05	8.70E+05	1.57E+06	1.55E+05	1.14E+04	6.87E+03	6.42E+03	4.03E+03
NINE MILE POINT	1.00E+04	2.53E+05	5.17E+05	8.72E+05	5.58E+05	1.30E+06	1.76E+05	3.53E+03	3.02E+03	1.04E+03
OYSTER CREEK	1.10E+05	5.16E+05	8.66E+05	8.10E+05	2.79E+05	2.06E+05	1.67E+05	1.77E+05	9.98E+05	1.01E+06
PEACH BOTTOM				<1.00E+03	<1.00E+00	1.30E+04	2.09E+05	7.11E+04	3.85E+04	1.90E+05
PILGRIM			1.80E+04	2.30E+05	5.46E+05	4.60E+04	1.83E+05	4.13E+05	3.27E+04	1.39E+04
QUAD-CITIES			1.32E+05	9.00E+05	9.50E+05	1.10E+05	3.36E+04	2.56E+04	3.24E+04	3.48E+04
SUSQUEHANNA										
VERMONT YANKEE			5.50E+04	1.80E+05	6.40E+04	4.08E+03	3.03E+03	3.35E+03	4.94E+03	<8.08E+03
WNP-2										
FORT ST. VRAIN*										9.30E+01

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 1

AIRBORNE EFFLUENTS COMPARISON BY YEAR

BOILING WATER REACTORS		FISSION AND ACTIVATION GASES (TOTAL CURIES)				
FACILITY	1980	1981	1982	1983	1984	
BIG ROCK POINT	2.15E+04	1.97E+04	1.29E+04	1.10E+04	1.41E+05	
BROWNS FERRY	<1.66E+05	4.52E+04	2.76E+05	4.79E+05	<6.64E+05	
BRUNSWICK	6.93E+04	5.22E+05	4.65E+05	4.87E+05	1.67E+05	
COOPER	5.03E+03	2.48E+03	1.42E+04	1.54E+03	<1.44E+03	
DRESDEN 1	7.03E+01	N/D	N/D	N/D	N/D	
DRESDEN 2-3	4.30E+04	3.74E+04	1.04E+04	8.43E+03	1.81E+03	
DUANE ARNOLD	2.70E+03	<4.87E+02	9.99E+01	4.81E+02	4.16E+02	
EDWIN I. HATCH 1	3.82E+04	2.77E+04	4.23E+03	1.96E+04	1.02E+04	
EDWIN I. HATCH 2	2.95E+02	2.06E+02	1.04E+03	1.28E+04	2.36E+03	
GRAND GULF				4.51E+01	1.14E+02	
HUMBOLDT BAY	<4.40E-05	<4.40E-05	0.00E+00+	0.00E+00+	0.00E+00+	
JAMES A. FITZPATRICK	7.68E+04	2.00E+05	2.11E+05	8.57E+04	3.41E+04	
LACROSSE	4.71E+03	5.03E+03	4.26E+03	7.08E+03	1.09E+04	
LASALLE			3.46E+00	1.17E+01	5.66E+02	
LIMERICK					0.00E+00	
MILLSTONE 1	1.19E+04	1.43E+04	8.33E+03	6.34E+03	2.80E+03	
MONTICELLO	3.83E+03	3.74E+03	7.22E+03	3.21E+03	5.15E+02	
NINE MILE POINT	5.87E+02	6.10E+02	5.11E+01	2.68E+02	1.02E+03	
OYSTER CREEK	3.12E+04	5.28E+04	2.29E+04	2.14E+03	3.93E+03	
PEACH BOTTOM	1.53E+04	1.58E+04	1.31E+04	3.48E+04	8.09E+04	
PILGRIM	2.62E+04	<5.30E+03	<1.94E+04	2.01E+04	<1.84E+01	
QUAD-CITIES	2.15E+04	3.20E+04	1.17E+04	1.20E+04	6.02E+03	
SUSQUEHANNA			<5.61E+02	1.03E+02	1.18E+02	
VERMONT YANKEE	1.63E+03	<3.17E+03	<3.07E+03	<3.13E+03	<3.18E+03	
WNP-2					2.28E+02	
FORT ST. VRAIN*	9.13E+01	4.34E+01	2.96E+02	1.51E+02	1.17E+02	

* HIGH TEMPERATURE GAS COOLED REACTOR

+ NO RELEASE DUE TO DECAY TIME SINCE UNIT WAS SHUTDOWN ON 7/2/76.

N/D = NOT DETECTABLE

TABLE 2

AIRBORNE EFFLUENTS COMPARISON BY YEAR

PRESSURIZED WATER REACTORS

FISSION AND ACTIVATION GASES (TOTAL CURIES)

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ARKANSAS ONE 1					1.96E+02	1.03E+03	5.69E+03	1.39E+04	7.50E+03	8.51E+03
ARKANSAS ONE 2										4.53E+03
BEAVER VALLEY							1.07E+00	4.73E+01	3.90E+02	1.75E+03
CALLAWAY										
CALVERT CLIFFS						7.72E+03	9.40E+03	2.23E+04	2.76E+04	1.02E+04
CRYSTAL RIVER								3.35E+03	6.86E+03	7.26E+04
DAVIS-BESSE								1.27E+03	2.10E+03	<1.68E+03
DIABLO CANYON										
DONALD C. COOK						2.64E+00	9.75E+02	3.80E+03	4.85E+04	1.09E+04
FORT CALHOUN				6.70E+01	3.03E+02	4.29E+02	1.94E+03	3.81E+03	1.36E+03	7.06E+02
H.B.ROBINSON		1.00E+00	<1.00E+00	3.10E+03	2.31E+03	1.17E+03	6.40E+02	4.76E+02	8.84E+02	1.52E+03
HADDAM NECK	1.00E+00	3.00E+00	1.00E+00	3.20E+01	7.00E+00	4.80E+02	4.52E+02	3.12E+03	2.14E+03	5.53E+03
INDIAN POINT 1-2				1.50E+01	5.58E+03	8.20E+03	1.16E+04	1.60E+04	1.41E+04	9.03E+03
INDIAN POINT 3							SHOWN W/OTHER UNIT		8.09E+02	2.47E+02
JOSEPH M. FARLEY 1									3.53E+03	3.18E+03
JOSEPH M. FARLEY 2										
KEWAUNEE					3.35E+03	2.45E+03	1.40E+03	2.43E+03	4.44E+02	1.52E+02
MAINE YANKEE			<1.00E+00	1.61E+02	6.36E+03	4.09E+03	1.30E+03	2.86E+02	1.43E+03	1.98E+03
MCGUIRE 1										
MCGUIRE 2										
MCGUIRE										
MILLSTONE 2							1.57E+03	2.28E+03	7.64E+02	3.59E+02
NORTH ANNA									1.51E+04	6.28E+03
OCONEE				9.30E+03	1.94E+04	1.51E+04	4.39E+04	3.56E+04	4.33E+04	4.79E+04
PALISADES			1.00E+00	4.54E+02	<1.00E+00	2.61E+03	2.99E+01	5.99E+01	3.23E+02	6.84E+01
POINT BEACH		<1.00E+00	3.00E+00	5.75E+03	9.74E+03	4.45E+04	1.91E+03	1.13E+03	5.16E+02	9.68E+02
PRAIRIE ISLAND				8.72E+00	3.62E+02	2.17E+03	1.74E+03	6.73E+02	1.26E+03	6.97E+02
R. E. GINNA	1.00E+01	3.20E+01	1.20E+01	5.76E+02	7.57E+02	1.04E+04	5.52E+03	3.20E+03	9.72E+02	7.62E+02
RANCHO SECO						1.18E+02	1.27E+02	2.00E+03	7.10E+03	8.81E+03
SALEM 1							<1.00E-02	1.96E+01	1.02E+01	2.49E+02
SALEM 2										
SAN ONOFRE 1	<1.00E+00	8.00E+00	1.90E+01	1.10E+04	1.78E+03	1.11E+03	4.16E+02	1.54E+02	1.81E+03	6.37E+02
SAN ONOFRE 2-3										
SEQUOYAH										
ST. LUCIE 1							1.72E+03	2.54E+04	2.93E+04	1.54E+04
ST. LUCIE 2										
SUMMER										
SURRY			<1.00E+00	8.66E+02	6.86E+03	8.04E+03	1.91E+04	1.90E+04	4.36E+03	1.78E+03
THREE MILE ISLAND 1					9.16E+02	3.63E+03	2.76E+03	1.66E+04	1.57E+04	2.24E+03
THREE MILE ISLAND 2									8.73E+00	9.97E+06
TMI 2/EPICOR										
TROJAN							6.66E+02	3.07E+03	3.05E+02	9.27E+02
TURKEY POINT				5.30E+02	4.66E+03	1.34E+04	1.56E+04	2.33E+04	2.35E+04	1.06E+04
YANKEE ROWE	<1.00E+00	<1.00E+00	<1.00E+00	3.50E+01	4.00E+01	2.24E+01	2.57E+01	1.25E+02	6.56E+02	1.82E+02
ZION				4.00E+00	2.99E+03	4.88E+04	1.14E+05	3.22E+04	6.77E+04	3.41E+04

TABLE 2

AIRBORNE EFFLUENTS COMPARISON BY YEAR

PRESSURIZED WATER REACTORS		FISSION AND ACTIVATION GASES (TOTAL CURIES)			
FACILITY	1980	1981	1982	1983	1984
ARKANSAS ONE 1	3.80E+04	3.73E+03	2.10E+03	9.83E+02	2.90E+03
ARKANSAS ONE 2	9.37E+03	4.35E+03	9.78E+03	1.34E+03	3.26E+03
BEAVER VALLEY	8.64E+01	8.06E+02	1.31E+02	1.98E+02	1.16E+03
CALLAWAY					2.00E+02
CALVERT CLIFFS	2.96E+03	2.18E+03	8.00E+03	9.75E+03	3.83E+03
CRYSTAL RIVER	3.65E+04	3.96E+04	6.85E+03	3.38E+03	1.96E+03
DAVIS-BESSE	<3.35E+03	1.01E+03	5.35E+02	9.15E+02	5.02E+02
DIABLO CANYON					5.86E-02
DONALD C. COOK	3.76E+03	5.42E+03	3.88E+03	3.28E+02	3.50E+03
FORT CALHOUN	2.97E+02	1.22E+03	3.46E+02	8.79E+02	1.52E+03
H.B.ROBINSON	5.82E+02	5.13E+02	1.75E+02	2.93E+02	4.90E+01
HADDAM NECK	2.68E+03	1.83E+03	7.54E+02	2.76E+03	7.52E+03
INDIAN POINT 1-2	9.38E+03	9.13E+03	7.27E+03	9.58E+03	3.78E+03
INDIAN POINT 3	1.11E+03	6.57E+03	2.58E+03	5.60E+02	1.88E+03
JOSEPH M. FARLEY 1	1.92E+04	2.21E+02	3.81E+04	2.20E+04	3.73E+03
JOSEPH M. FARLEY 2		2.60E+00	3.54E+03	8.47E+02	3.99E+03
KEWAUNEE	1.22E+02	1.18E+02	1.66E+02	<2.25E+02	<4.04E+01
MAINE YANKEE	3.87E+03	3.28E+02	1.53E+02	3.92E+01	1.23E+02
MCGUIRE 1		1.58E-01	1.65E-03	1.60E+03	
MCGUIRE 2				1.60E+03	
MCGUIRE					4.56E+03
MILLSTONE 2	1.33E+03	2.24E+03	9.09E+03	9.06E+03	4.19E+03
NORTH ANNA	3.50E+03	5.30E+03	4.34E+03	2.22E+04	1.76E+04
OCONEE	1.92E+04	1.63E+04	2.41E+04	2.40E+04	2.28E+04
PALISADES	1.40E+02	3.00E+03	7.38E+03	3.00E+03	2.84E+01
POINT BEACH	6.41E+02	6.11E+02	9.93E+02	7.68E+02	9.30E+01
PRAIRIE ISLAND	2.60E+02	4.65E+01	5.47E+02	2.76E+02	7.58E+01
R. E. GINNA	8.61E+02	5.46E+02	1.95E+03	7.12E+02	2.96E+02
RANCHO SECO	1.58E+03	1.37E+03	1.48E+03	6.89E+02	3.83E+03
SALEM 1	7.82E+01	1.06E+03	2.34E+02	1.25E+02	1.95E+02
SALEM 2	7.74E+00	6.09E+02	1.11E+03	7.44E+02	1.81E+03
SAN ONOFRE 1	1.05E+03	4.17E+02	8.61E+01	1.06E+01	8.62E+01
SAN ONOFRE 2-3			6.40E+00	7.43E+03	4.00E+04
SEQUOYAH	3.01E+03	9.03E+03	5.74E+03	3.92E+03	6.68E+03
ST. LUCIE 1	8.97E+03	2.30E+04	2.33E+04	2.16E+04	3.53E+04
ST. LUCIE 2				1.25E+03	7.68E+03
SUMMER			1.40E+02	3.88E+02	1.64E+01
SURRY	6.17E+03	1.41E+04	2.11E+04	5.49E+03	6.95E+03
THREE MILE ISLAND 1	4.64E-03	5.81E-02	7.56E-03	2.01E+01	3.62E-01
THREE MILE ISLAND 2	4.72E+04	2.88E+02	4.89E+02	1.73E+02	2.07E+02
TMI 2/EPICOR	2.16E+00	1.84E+02	4.26E+02	3.61E+01	3.99E+01
TROJAN	3.91E+02	1.16E+03	8.64E+02	2.29E+02	8.37E+02
TURKEY POINT	4.24E+03	4.33E+03	2.00E+04	1.61E+04	1.16E+04
YANKEE ROWE	7.07E+01	1.72E+02	1.55E+02	7.51E+02	1.74E+03
ZION	5.78E+03	6.91E+03	1.61E+04	6.34E+03	3.61E+03

TABLE 3

AIRBORNE EFFLUENTS COMPARISON BY YEAR (CURIES)

I-131 AND PARTICULATES

BOILING WATER REACTORS

(HALF-LIFE EQUAL TO OR GREATER THAN 8 DAYS)

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	1.30E-01	6.10E-01	1.50E-01	4.60E+00	1.60E-01	1.20E-01	5.00E-02	1.00E-02	8.91E-03	1.90E-03
BROWNS FERRY					1.20E-01	2.70E-01	<7.00E-02	1.04E-01	2.27E-01	5.03E-02
BRUNSWICK						<1.00E-02	4.60E-01	9.32E-01	4.07E-01	9.52E-01
COOPER					2.40E-01	5.00E-02	<4.00E-02	<1.91E-02	5.41E-03	<1.79E-01
DRESDEN 1	3.30E+00	6.70E-01	2.75E+00	4.00E-02	6.80E-01	9.60E-01	8.40E-01	4.93E+00	2.28E+00	2.38E-02
DRESDEN 2-3	1.60E+00	8.68E+00	5.89E+00	6.70E+00	6.50E+00	4.31E+00	5.49E+00	6.86E+00	3.13E+00	6.97E+00
DUANE ARNOLD						1.10E-03	8.18E-02	2.29E-02	3.65E-02	3.35E-02
EDWIN I. HATCH 1						<1.00E-02	<1.00E-02	5.67E-03	4.13E-03	2.59E-02
EDWIN I. HATCH 2										
GRAND GULF										
HUMBOLDT BAY	3.50E-01	3.00E-01	4.80E-01	2.90E-01	8.40E-01	1.06E+00	8.36E-02	4.04E-03	7.26E-04	1.07E-04
JAMES A. FITZPATRICK						<4.00E-02	6.80E-01	1.73E-01	2.79E-01	1.42E-02
LACROSSE	<6.00E-02	<1.00E-02	7.10E-01	2.00E-01	4.00E-02	1.00E-01	<7.06E-02	1.67E-01	2.79E-02	2.53E-02
LASALLE										
LIMERICK										
MILLSTONE 1		4.00E+00	1.32E+00	2.00E-01	3.26E+00	9.98E+00	2.33E+00	4.86E+00	4.55E+00	5.90E-01
MONTICELLO		3.60E-02	5.78E-01	1.20E+00	5.70E+00	3.71E+00	1.71E-01	8.51E-02	5.49E-02	3.39E-02
NINE MILE POINT	<1.00E-02	6.00E-02	9.70E-01	1.98E+00	8.90E-01	2.78E+00	2.20E+00	1.99E-01	1.35E-01	4.71E-02
OYSTER CREEK	3.20E-01	2.14E+00	6.48E+00	7.02E+00	3.51E+00	5.64E+00	6.39E+00	9.05E+00	1.81E+01	9.32E+00
PEACH BOTTOM				<1.00E-02	1.00E-02	4.00E-02	9.75E-01	2.73E-01	9.62E-02	2.58E-01
PILGRIM			3.00E-02	4.70E-01	1.45E+00	2.58E+00	6.74E-01	6.90E-01	1.81E-01	1.45E-01
QUAD-CITIES			7.50E-01	5.50E+00	8.88E+00	1.31E+00	1.33E+00	1.69E+00	2.15E+00	1.57E+00
SUSQUEHANNA										
VERMONT YANKEE			1.70E-01	7.00E-02	3.60E-01	1.00E-02	<1.00E-02	1.44E-02	2.18E-01	4.43E-01
WNP-2										
FORT ST. VRAIN*										6.89E-07

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 3

AIRBORNE EFFLUENTS COMPARISON BY YEAR (CURIES)

I-131 AND PARTICULATES

BOILING WATER REACTORS

(HALF-LIFE EQUAL TO OR GREATER THAN 8 DAYS)

FACILITY	1980	1981	1982	1983	1984
BIG ROCK POINT	2.94E-02	6.10E-03	4.71E-03	3.35E-03	1.32E-01
BROWNS FERRY	1.05E-01	0.00E+00	1.89E-01	2.83E-01	<1.72E-01
BRUNSWICK	2.12E+00	8.89E-01	1.99E+00	6.25E+00	3.49E-01
COOPER	<1.52E-01	<1.09E-02	<1.55E-01	<2.30E-02	<1.15E-02
DRESDEN 1	1.46E-02	9.94E-03	3.36E-04	7.56E-04	1.69E-03
DRESDEN 2-3	1.10E+01	9.87E+00	9.50E-01	6.32E-01	1.30E-01
DUANE ARNOLD	8.50E-02	3.25E-02	1.03E-02	1.50E-02	1.53E-02
EDWIN I. HATCH 1	4.29E-01	2.12E-01	1.84E-01	6.96E-02	6.57E-02
EDWIN I. HATCH 2	1.33E-02	9.42E-03	6.83E-02	1.95E-02	1.15E-02
GRAND GULF				4.50E-05	1.86E-04
HUMBOLDT BAY	5.11E-04	<3.82E-04	1.09E-04	2.68E-04	2.68E-04
JAMES A. FITZPATRICK	1.25E-01	2.80E-01	7.71E-01	3.80E-01	2.10E-01
LACROSSE	1.32E-02	1.69E-02	8.35E-03	1.08E-02	6.90E-03
LASALLE			4.16E-03	1.80E-02	2.92E+00
LIMERICK					0.00E+00
MILLSTONE 1	3.32E-01	1.48E-01	2.09E-01	6.25E-02	6.24E-02
MONTICELLO	2.83E-02	3.45E-02	8.85E-02	4.10E-02	2.93E-02
NINE MILE POINT	2.55E-02	1.49E-02	2.71E-02	1.07E-02	1.75E-02
OYSTER CREEK	1.25E+00	2.24E+00	1.04E+00	1.90E-02	4.37E-01
PEACH BOTTOM	2.94E-02	<4.19E-02	3.90E-02	4.60E-02	1.02E-01
PILGRIM	1.04E-01	<6.87E-02	<4.44E-02	<4.69E-02	<5.17E-03
QUAD-CITIES	5.90E-01	1.27E+00	4.12E-01	4.36E-01	8.86E-02
SUSQUEHANNA			<8.70E-04	9.43E-04	1.48E-02
VERMONT YANKEE	1.70E-02	4.53E-03	1.45E-03	4.14E-03	6.87E-03
WNP-2					3.77E-01
FORT ST. VRAIN*	1.25E-06	1.40E-06	2.61E-01	7.40E-07	2.78E-06

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 4

AIRBORNE EFFLUENTS COMPARISON BY YEAR (CURIES)

I-131 AND PARTICULATES

PRESSURIZED WATER REACTORS

(HALF-LIFE EQUAL TO OR GREATER THAN 8 DAYS)

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ARKANSAS ONE 1					5.00E-02	7.40E-01	5.73E-02	9.04E-03	3.19E-03	4.47E-03
ARKANSAS ONE 2										4.65E-03
BEAVER VALLEY							<1.00E-02	1.52E-04	7.21E-02	4.07E-04
CALLAWAY										
CALVERT CLIFFS						7.00E-02	1.38E-01	3.07E-01	1.35E-01	2.05E+00
CRYSTAL RIVER								2.53E-03	1.05E-03	1.88E-02
DAVIS-BESSE								2.57E-04	4.30E-04	5.69E-03
DIABLO CANYON										
DONALD C. COOK						<1.00E-02	<1.00E-02	7.45E-02	1.10E-01	7.36E-02
FORT CALHOUN				<1.00E-02	<1.00E-02	<1.00E-02	<2.04E-02	1.34E-02	8.30E-03	1.58E-03
H. B. ROBINSON			3.00E-02	3.00E-01	5.00E-02	2.00E-02	9.96E-02	3.88E-03	9.26E-04	4.10E-04
HADDAM NECK	<1.00E-02		2.00E-02	5.00E-02	<1.00E-02	<1.00E-02	1.74E-03	5.21E-03	4.77E-02	4.77E-02
INDIAN POINT 1-2				<1.00E-02	4.30E-01	1.62E+00	2.42E-01	5.59E-02	2.05E-01	4.50E-01
INDIAN POINT 3							SHOWN W/OTHER UNIT		1.29E-02	3.89E-03
JOSEPH M. FARLEY 1									4.11E-02	2.20E-02
JOSEPH M. FARLEY 2										
KEWAUNEE					2.00E-02	6.60E-01	<1.00E-02	2.40E-02	5.48E-03	6.18E-04
MAINE YANKEE			<1.00E-02	9.40E-01	5.00E-02	<1.00E-02	<1.00E-02	5.05E-03	2.07E-03	5.52E-02
MCGUIRE 1										
MCGUIRE 2										
MCGUIRE										
MILLSTONE 2						1.00E-02	1.25E-02	4.47E-03	2.97E-03	9.79E-03
NORTH ANNA									3.19E-02	5.71E-02
OCONEE				1.00E-02	3.00E-02	1.00E-02	2.72E-01	5.35E-01	2.22E-01	2.28E-01
PALISADES			<1.00E-02	3.10E-01	1.00E-02	3.80E-01	4.16E-02	1.63E-02	2.07E-02	2.46E-02
POINT BEACH		<1.00E-02	3.00E-02	5.50E-01	1.60E-01	7.00E-02	1.85E-02	5.02E-03	2.88E-02	1.35E-02
PRAIRIE ISLAND				<1.00E-02	<1.00E-02	2.12E-02	1.14E-02	7.56E-03	8.96E-04	3.86E-03
R. E. GINNA	5.00E-02	1.70E-01	4.00E-02	<1.00E-02	<1.00E-02	2.00E-02	3.17E-02	2.55E-02	1.04E-02	1.88E-02
RANCHO SECO						<1.00E-02	<1.00E-02	5.02E-03	3.21E-02	5.75E-03
SALEM 1							N/D	2.34E-07	4.01E-02	7.68E-03
SALEM 2										
SAN ONOFRE 1	<1.00E-02	<1.00E-02	<1.00E-02	1.61E+00	<1.00E-02	4.00E-02	<1.00E-02	1.86E-04	2.71E-03	1.43E-04
SAN ONOFRE 2-3										
SEQUOYAH										
ST. LUCIE 1							<1.00E-02	1.48E-01	5.17E-01	2.02E-01
ST. LUCIE 2										
SUMMER										
SURRY			<1.00E-02	4.00E-02	1.40E-01	5.00E-02	3.46E-01	1.20E-01	6.49E-02	7.61E-03
THREE MILE ISLAND 1					<1.00E-02	<1.00E-02	1.07E-02	3.39E-02	1.35E-01	1.24E-02
THREE MILE ISLAND 2									2.30E-03	1.42E+01
TMI 2/EPICOR										
TROJAN							1.64E-02	5.05E-02	1.03E-02	3.39E-02
TURKEY POINT				6.00E-02	3.63E+00	4.30E-01	4.22E-01	1.04E+00	4.59E-01	7.91E-02
YANKEE ROWE	<1.00E-02	<1.00E-02	<1.00E-02	1.90E-01	5.30E-01	1.00E-02	<1.00E-02	8.70E-05	2.25E-04	2.49E-04
ZION				<1.00E-02	1.00E-02	1.40E-01	9.00E-02	5.38E-02	8.91E-02	6.74E-02

N/D = NOT DETECTABLE

TABLE 4

AIRBORNE EFFLUENTS COMPARISON BY YEAR (CURIES)

I-131 AND PARTICULATES

PRESSURIZED WATER REACTORS (HALF-LIFE EQUAL TO OR GREATER THAN 8 DAYS)

FACILITY	1980	1981	1982	1983	1984
ARKANSAS ONE 1	1.66E-01	5.58E-03	9.07E-04	1.15E-03	1.14E-03
ARKANSAS ONE 2	6.90E-03	1.41E-02	4.92E-03	5.78E-03	2.54E-04
BEAVER VALLEY	1.91E-03	6.85E-03	4.56E-03	5.25E-02	6.21E-03
CALLAWAY					9.41E-07
CALVERT CLIFFS	7.44E-02	4.69E-02	1.84E-01	1.02E-01	6.02E-02
CRYSTAL RIVER	6.77E-03	1.78E-02	3.22E-03	1.58E-03	2.07E-04
DAVIS-BESSE	2.01E-03	5.79E-02	5.28E-03	7.37E-03	1.66E-03
DIABLO CANYON					1.20E-05
DONALD C. COOK	6.88E-02	3.55E-01	1.28E-01	5.75E-02	2.09E-02
FORT CALHOUN	2.42E-03	3.59E-03	1.56E-03	1.59E-03	1.25E-02
H. B. ROBINSON	1.13E-03	3.32E-04	5.70E-04	1.31E-02	2.47E-04
HADDAM NECK	8.01E-03	<1.28E-02	<5.41E-04	<1.02E-02	5.72E-02
INDIAN POINT 1-2	6.42E-02	4.42E-02	4.17E-02	2.06E-02	<1.51E-01
INDIAN POINT 3	2.53E-02	3.63E-03	<4.28E-03	<1.53E-04	3.43E-02
JOSEPH M. FARLEY 1	2.37E-03	6.24E-01	9.09E-02	4.60E-02	5.87E-03
JOSEPH M. FARLEY 2		3.22E-03	6.51E-05	5.06E-05	1.54E-03
KEWAUNEE	2.61E-04	1.21E-04	5.97E-05	<2.16E-04	<4.05E-03
MAINE YANKEE	1.88E-03	6.13E-04	1.26E-04	7.22E-05	2.44E-02
MCGUIRE 1		1.21E-11	9.51E-04	1.89E-03	
MCGUIRE 2				1.89E-03	
MCGUIRE					2.49E-02
MILLSTONE 2	1.94E-02	1.06E-01	3.19E-01	5.73E-02	3.71E-02
NORTH ANNA	1.26E-02	4.81E-01	3.49E-02	3.28E-01	8.65E-02
OCONEE	1.33E-01	3.24E-01	2.55E-01	1.13E-01	1.07E-01
PALISADES	2.76E-02	4.15E-02	2.30E-02	3.44E-02	9.92E-04
POINT BEACH	1.28E-03	2.03E-01	8.46E-03	1.82E-02	1.25E-03
PRAIRIE ISLAND	1.83E-03	4.49E-04	3.74E-03	1.40E-02	1.44E-03
R. E. GINNA	9.00E-03	5.88E-03	1.36E-02	1.53E-02	1.62E-03
RANCHO SECO	9.96E-03	4.65E-03	2.62E-02	2.26E-03	2.37E-02
SALEM 1	2.17E-01	4.84E-01	7.85E-03	6.25E-02	5.16E-04
SALEM 2	5.44E-05	6.31E-03	4.54E-03	3.53E-02	5.41E-03
SAN ONOFRE 1	8.41E-01	1.18E-02	4.66E-07	5.44E-06	9.49E-06
SAN ONOFRE 2-3			3.35E-05	1.56E-01	4.12E-01
SEQUOYAH	2.57E-03	1.30E-02	1.23E-01	2.22E-03	2.12E-02
ST. LUCIE 1	6.20E-02	7.69E-02	4.15E-01	2.13E-01	2.60E-01
ST. LUCIE 2				1.27E-02	2.84E-01
SUMMER			0.00E+00	4.74E-05	9.00E-06
SURRY	1.85E-02	6.53E-02	5.96E-02	8.34E-02	5.87E-02
THREE MILE ISLAND 1	2.93E-04	5.05E-04	1.65E-04	6.55E-05	1.27E-09
THREE MILE ISLAND 2	5.67E-04	3.69E-05	6.46E-05	2.79E-05	1.61E-05
TMI 2/EPICOR	6.83E-06	2.63E-06	3.71E-06	1.80E-06	7.93E-07
TROJAN	2.51E-02	7.67E-02	1.45E-02	6.12E-03	9.31E-03
TURKEY POINT	7.05E-02	2.94E-02	2.20E-01	1.44E-01	2.77E-02
YANKEE ROWE	9.56E-05	2.13E-04	<5.75E-04	3.11E-03	<6.49E-03
ZION	3.00E-03	1.25E-02	8.57E-02	2.28E-02	4.27E-02

TABLE 5
LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)
TRITIUM

BOILING WATER REACTORS

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	5.40E+01	1.03E+01	1.04E+01	1.97E+01	5.10E+00	5.73E+00	2.41E+00	8.83E+00	4.05E+00	5.45E+00
BROWNS FERRY					2.80E+00	1.04E+01	<4.02E+00	2.40E+01	3.08E+01	1.32E+01
BRUNSWICK						3.20E+00	5.90E+00	8.93E+00	1.41E+01	3.09E+01
COOPER					1.70E+00	8.25E+00	8.43E+00	9.04E+00	7.51E+00	6.63E+00
DRESDEN 1	5.00E+00	8.70E+00	4.33E+01	1.85E+01	1.88E+01	2.70E-01	2.00E-02	8.90E-02	1.31E+01	1.50E+00
DRESDEN 2-3	3.10E+01	3.85E+01	2.59E+01	2.58E+01	2.26E+01	5.40E+01	1.97E+01	5.00E+00	1.92E+01	1.93E+01
DUANE ARNOLD						3.30E-01	3.40E-01	2.13E-01	1.19E+02	2.90E-01
EDWIN I. HATCH 1						6.12E+00	8.98E+00	1.20E+01	9.00E+00	1.23E+01
EDWIN I. HATCH 2										
GRAND GULF										
HUMBOLDT BAY	7.00E+00	7.50E+00	1.30E+01	5.13E+01	3.17E+01	2.01E+01	1.30E+01	5.26E-01	3.63E-02	3.91E-02
JAMES A. FITZPATRICK						5.03E+00	4.20E+00	3.35E+00	1.90E+00	1.52E+00
LACROSSE	2.00E+01	9.14E+01	1.20E+02	1.03E+02	1.15E+02	1.27E+02	4.10E+01	4.86E+01	4.72E+01	3.54E+01
LASALLE										
LIMERICK										
MILLSTONE 1		1.27E+01	2.09E+01	3.70E+00	2.41E+01	8.03E+01	2.01E+01	4.41E+00	3.20E+00	7.92E+00
MONTICELLO		5.92E-01	<1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NINE MILE POINT	2.00E+01	1.24E+01	2.78E+01	4.65E+01	1.87E+01	2.81E+01	2.46E+00	2.49E+00	N/R	6.78E+00
OYSTER CREEK	2.20E+01	2.15E+01	6.16E+01	3.59E+01	1.41E+01	1.79E+01	3.86E+01	1.88E+01	1.96E+01	1.40E+00
PEACH BOTTOM				<1.00E-01	1.00E+01	3.08E+01	7.37E+01	7.09E+01	3.24E+01	4.28E+01
PILGRIM			4.20E+00	4.00E-01	1.05E+01	1.82E+01	4.67E+01	3.27E+01	2.98E+00	1.34E+01
QUAD-CITIES			4.70E+00	2.45E+01	3.40E+01	5.37E+01	4.98E+01	2.64E+01	1.72E+01	1.76E+01
SUSQUEHANNA										
VERMONT YANKEE				1.00E-01	0.00E+00	0.00E+00	1.60E+00	8.44E-01	N/R	4.04E+00
WNP-2										
FORT ST. VRAIN*										1.23E+02

* HIGH TEMPERATURE GAS COOLED REACTOR
N/R = NOT REPORTED

TABLE 5
LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

TRITIUM

BOILING WATER REACTORS

FACILITY	1980	1981	1982	1983	1984
BIG ROCK POINT	6.18E+00	3.13E+00	2.98E+00	2.22E+01	1.11E+00
BROWNS FERRY	2.18E+01	2.42E+01	2.39E+01	3.20E+01	3.18E+01
BRUNSWICK	1.28E+01	2.26E+01	4.88E+01	1.04E+02	3.37E+01
COOPER	8.77E+00	<8.37E+00	<9.08E+00	<7.60E+00	<7.20E+00
DRESDEN 1	N/R	0.00E+00	0.00E+00	N/R	N/R
DRESDEN 2-3	6.20E+01	6.05E+00	1.36E+00	1.45E-03	3.93E+01
DUANE ARNOLD	N/R	0.00E+00	2.25E-05	N/R	1.41E-06
EDWIN I. HATCH 1	1.42E+01	1.16E+01	1.03E+02	9.47E+01	8.02E+01
EDWIN I. HATCH 2	1.07E+01	9.28E+00	3.68E+01	3.40E+01	2.13E+01
GRAND GULF				3.89E-03	7.27E-01
HUMBOLDT BAY	9.70E-02	<1.62E-01	5.99E-02	5.38E-02	2.93E-02
JAMES A. FITZPATRICK	2.81E+00	4.11E+00	6.55E-01	2.72E+00	4.77E+00
LACROSSE	7.20E+01	7.74E+01	5.92E+01	1.24E+02	1.25E+02
LASALLE			9.26E-01	4.25E+00	1.10E+00
LIMERICK					0.00E+00
MILLSTONE 1	2.73E+01	2.62E+00	6.21E+00	8.38E+00	8.58E+00
MONTICELLO	0.00E+00	4.17E-03	2.70E-05	0.00E+00	0.00E+00
NINE MILE POINT	N/R	5.05E+00	5.82E+00	7.89E+00	N/R
OYSTER CREEK	1.54E+02	2.67E+01	4.95E+00	8.76E+00	1.03E+01
PEACH BOTTOM	3.73E+01	3.68E+01	2.37E+01	2.02E+01	3.58E+01
PILGRIM	4.00E+01	3.41E+01	5.91E+00	1.56E+01	1.47E+01
QUAD-CITIES	1.03E+01	1.19E+01	7.80E+00	3.88E+00	5.42E+00
SUSQUEHANNA			<8.55E-01	8.98E+00	1.12E+01
VERMONT YANKEE	N/R	3.70E-01	0.00E+00	N/R	N/R
WNP-2					5.40E-01
FORT ST. VRAIN*	2.06E+02	2.19E+02	2.62E+02	3.69E+02	1.24E+02

* HIGH TEMPERATURE GAS COOLED REACTOR
N/R = NOT REPORTED

TABLE 6
LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

TRITIUM

PRESSURIZED WATER REACTORS

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ARKANSAS ONE 1					2.56E+01	4.60E+02	2.12E+02	2.45E+02	2.94E+02	1.68E+02
ARKANSAS ONE 2										5.27E+01
BEAVER VALLEY							8.60E+00	1.08E+02	3.49E+02	9.59E+01
CALLAWAY										
CALVERT CLIFFS						2.63E+02	2.74E+02	5.75E+02	4.56E+02	5.14E+02
CRYSTAL RIVER								1.66E+02	1.54E+02	1.66E+02
DAVIS-BESSE								9.01E+00	2.15E+02	2.45E+02
DIABLO CANYON										
DONALD C. COOK						5.64E+01	1.92E+02	2.86E+02	6.24E+02	1.22E+03
FORT CALHOUN				1.58E+01	1.24E+02	1.11E+02	1.22E+02	1.57E+02	1.50E+02	2.58E+02
H. B. ROBINSON		1.18E+02	4.05E+02	4.32E+02	4.49E+02	6.24E+02	9.80E+02	6.85E+02	4.73E+02	4.29E+02
HADDAM NECK	7.40E+03	5.83E+03	5.89E+03	3.90E+03	2.24E+03	5.67E+03	4.85E+03	6.67E+03	3.94E+03	3.55E+03
INDIAN POINT 1-2				2.75E+01	4.79E+01	7.94E+01	3.32E+02	3.71E+02	5.12E+02	3.75E+02
INDIAN POINT 3							SHOWN W/OTHER UNIT		2.56E+02	1.15E+02
JOSEPH M. FARLEY 1									5.91E+01	9.40E+01
JOSEPH M. FARLEY 2										
KEWAUNEE					9.24E+01	2.77E+02	1.80E+02	2.95E+02	2.96E+02	2.49E+02
MAINE YANKEE			9.20E+00	1.54E+02	2.19E+02	1.77E+02	3.67E+02	1.53E+02	3.15E+02	2.02E+02
MCGUIRE 1										
MCGUIRE 2										
MCGUIRE										
MILLSTONE 2						7.60E+00	2.77E+02	2.11E+02	2.01E+02	2.54E+02
NORTH ANNA									2.82E+02	3.13E+02
OCONEE				7.07E+01	3.50E+02	3.55E+03	2.19E+03	1.92E+03	1.17E+03	8.94E+02
PALISADES			2.08E+02	1.85E+02	8.10E+00	4.16E+01	9.63E+00	5.58E+01	1.01E+02	1.26E+02
POINT BEACH		2.66E+02	5.63E+02	5.56E+02	8.33E+02	8.85E+02	6.94E+02	9.99E+02	1.29E+03	8.92E+02
PRAIRIE ISLAND				<1.00E-01	1.42E+02	4.54E-01	1.00E-01	1.35E+03	5.51E+02	6.25E+02
R. E. GINNA	1.10E+02	1.54E+02	1.19E+02	2.86E+02	1.95E+02	2.60E+02	2.42E+02	1.19E+02	2.42E+02	2.40E+02
RANCHO SECO						1.32E+02	0.00E+00	8.55E-02	N/R	N/R
SALEM 1							4.00E-02	2.96E+02	4.46E+02	7.26E+02
SALEM 2										
SAN ONOFRE 1	4.80E+03	4.57E+03	3.48E+03	4.07E+03	3.81E+03	4.00E+03	3.39E+03	1.79E+03	2.50E+03	2.32E+03
SAN ONOFRE 2-3										
SEQUOYAH										
ST. LUCIE 1							1.33E+01	2.42E+02	1.28E+02	1.28E+02
ST. LUCIE 2										
SUMMER										
SURRY			5.00E+00	4.88E+02	2.45E+02	4.42E+02	7.82E+02	4.08E+02	7.47E+02	3.57E+02
THREE MILE ISLAND 1					1.30E+02	4.63E+02	1.89E+02	1.92E+02	1.55E+02	5.59E+01
THREE MILE ISLAND 2									3.83E+01	7.81E+01
TMI 2/EPICOR										
TROJAN							3.60E+01	3.11E+02	1.59E+02	6.80E+01
TURKEY POINT				3.29E+02	5.80E+02	7.97E+02	7.71E+02	9.24E+02	1.17E+03	9.40E+02
YANKEE ROWE	1.50E+03	1.68E+03	8.03E+02	6.94E+02	3.14E+02	2.47E+02	1.56E+02	1.39E+02	1.96E+02	1.75E+02
ZION 1				1.00E-01	2.74E+02	1.03E+03	7.47E+02	7.24E+02	7.25E+02	6.01E+02
ZION 2										

N/R = NOT REPORTED

TABLE 6

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

TRITIUM

PRESSURIZED WATER REACTORS

FACILITY	1980	1981	1982	1983	1984
ARKANSAS ONE 1	2.12E+02	4.42E+02	2.06E+02	1.09E+02	3.05E+02
ARKANSAS ONE 2	2.89E+02	2.44E+02	1.39E+02	2.38E+02	3.09E+02
BEAVER VALLEY	3.98E+01	1.40E+02	1.84E+02	4.60E+02	4.12E+02
CALLAWAY					2.90E+01
CALVERT CLIFFS	4.91E+02	1.00E+03	4.35E+02	7.56E+02	7.87E+02
CRYSTAL RIVER	1.95E+02	2.71E+02	1.82E+02	1.99E+02	4.20E+02
DAVIS-BESSE	1.08E+02	1.57E+02	5.68E+01	1.14E+02	1.22E+02
DIABLO CANYON					1.07E+00
DONALD C. COOK	7.82E+02	9.15E+02	1.23E+03	8.85E+02	1.37E+03
FORT CALHOUN	5.44E+01	2.42E+02	3.08E+02	1.53E+02	2.35E+02
H. B. ROBINSON	1.89E+02	1.86E+02	9.51E+01	2.40E+02	1.34E+01
HADDAM NECK	3.29E+03	5.29E+03	4.05E+03	3.90E+03	3.66E+03
INDIAN POINT 1-2	2.76E+02	2.41E+02	1.72E+02	3.43E+02	2.22E+02
INDIAN POINT 3	4.27E+02	6.42E+02	1.94E+02	3.19E+01	5.87E+02
JOSEPH M. FARLEY 1	5.70E+02	1.65E+02	3.37E+02	4.12E+02	4.23E+02
JOSEPH M. FARLEY 2		6.34E+02	3.59E+02	3.17E+02	3.56E+02
KEWAUNEE	2.33E+02	2.51E+02	3.18E+02	2.92E+02	4.40E+02
MAINE YANKEE	2.18E+02	2.16E+02	1.85E+02	2.87E+02	1.72E+02
MCGUIRE 1		6.25E+00	1.60E+02	1.49E+02	
MCGUIRE 2				1.49E+02	
MCGUIRE					6.47E+02
MILLSTONE 2	2.68E+02	3.71E+02	2.91E+02	1.21E+02	3.97E+02
NORTH ANNA	4.03E+02	1.28E+03	5.71E+02	1.61E+03	6.20E+02
OCONEE	7.12E+02	5.07E+02	3.54E+02	1.28E+03	1.28E+03
PALISADES	7.47E+01	2.78E+02	1.79E+02	2.35E+02	6.95E+01
POINT BEACH	7.61E+02	6.52E+02	5.03E+02	5.39E+02	2.10E+03
PRAIRIE ISLAND	5.43E+02	5.62E+02	6.00E+02	5.20E+02	6.41E+02
R. E. GINNA	1.60E+02	2.40E+02	3.08E+02	3.50E+02	4.59E+02
RANCHO SECO	1.47E-02	8.35E+01	6.46E+01	7.43E+01	2.97E+02
SALEM 1	0.00E+00	4.93E+02	7.22E+02	2.08E+02	3.30E+02
SALEM 2	N/R	8.42E+02	5.25E+02	2.23E+02	3.08E+02
SAN ONOFRE 1	1.03E+03	2.97E+02	5.45E+02	1.57E+01	3.39E+01
SAN ONOFRE 2-3			8.92E+00	2.38E+02	4.55E+02
SEQUOYAH	3.23E-01	7.65E+01	9.34E+02	7.35E+02	1.82E+03
ST. LUCIE 1	2.72E+02	3.25E+02	3.21E+02	3.46E+02	2.21E+02
ST. LUCIE 2				3.77E+01	2.21E+02
SUMMER			3.19E-01	2.27E+02	2.25E+02
SURRY	3.85E+02	5.31E+02	9.10E+02	7.17E+02	8.12E+02
THREE MILE ISLAND 1	3.26E+01	7.11E+00	3.91E+00	3.09E+00	1.72E+00
THREE MILE ISLAND 2	6.10E-04	5.06E-02	7.20E-02	3.75E-04	1.56E-04
TMI 2/EPICOR		N/R	0.00E+00	0.00E+00	0.00E+00
TROJAN	1.24E+02	1.03E+02	2.00E+02	2.34E+02	1.87E+02
TURKEY POINT	7.49E+02	1.95E+02	6.27E+02	7.12E+02	8.91E+02
YANKEE ROWE	5.84E+01	1.03E+02	1.86E+02	1.68E+02	1.64E+02
ZION 1	7.45E+02	6.04E+02	6.76E+02	1.74E+02	1.74E+02
ZION 2		2.66E+02	3.77E+02	2.56E+02	5.11E+02

N/R = NOT REPORTED

TABLE 7

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

BOILING WATER REACTORS

MIXED FISSION AND ACTIVATION PRODUCTS

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	4.70E+00	3.50E+00	1.10E+00	2.70E+00	1.10E+00	2.02E+00	7.70E-01	3.92E-01	2.74E-01	9.03E-01
BROWNS FERRY					8.00E-01	2.70E+00	<3.95E+00	1.19E+00	1.32E+01	1.02E+01
BRUNSWICK						1.89E+00	3.29E+00	6.22E+00	3.48E+00	5.10E+00
COOPER					1.40E+00	1.74E+00	7.00E-02	7.50E-01	3.05E+00	<2.48E+00
DRESDEN 1	8.20E+00	6.20E+00	6.80E+00	9.20E+00	6.90E+00	8.40E-01	3.60E-01	6.00E-01	3.26E-01	2.65E-02
DRESDEN 2-3		2.30E+01	2.20E+01	2.59E+01	3.31E+01	8.10E-01	1.21E+00	4.40E-01	3.99E-01	2.65E-01
DUANE ARNOLD						<1.00E-02	<1.00E-02	2.32E-03	2.73E-01	5.10E-04
EDWIN I. HATCH 1						6.00E-02	4.00E-02	2.50E+01	4.03E-02	4.82E-02
EDWIN I. HATCH 2										
GRAND GULF										
HUMBOLDT BAY	2.40E+00	1.80E+00	1.40E+00	2.40E+00	4.40E+00	3.79E+00	9.90E-01	9.17E-01	1.95E-01	9.55E-02
JAMES A. FITZPATRICK						5.32E+00	6.01E+00	8.85E-01	1.58E+00	6.46E-01
LACROSSE	6.40E+00	1.71E+01	4.85E+01	3.59E+01	1.31E+01	1.42E+01	<5.78E+00	2.13E+01	8.86E+00	1.67E+00
LASALLE										
LIMERICK										
MILLSTONE 1		1.97E+01	5.15E+01	3.34E+01	1.98E+02	1.99E+02	9.65E+00	5.27E-01	1.75E-01	2.10E-01
MONTICELLO		<1.00E-01	<1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NINE MILE POINT	2.80E+01	3.22E+01	3.46E+01	4.08E+01	2.56E+01	2.10E+01	2.14E+00	3.03E-01	N/R	1.89E+00
OYSTER CREEK	1.85E+01	1.20E+01	1.00E+01	4.20E+00	7.00E-01	4.10E-01	2.20E-01	9.81E-02	1.53E-02	6.59E-03
PEACH BOTTOM				<1.00E-01	9.00E-01	9.30E-01	3.38E+00	2.23E+00	5.11E+00	1.95E+01
PILGRIM			1.50E+00	9.00E-01	4.20E+00	8.01E+00	2.33E+00	3.41E+00	1.77E+00	5.12E-01
QUAD-CITIES			2.40E+00	2.14E+01	3.88E+01	1.71E+01	6.99E+00	1.34E+00	2.24E+00	1.31E+00
SUSQUEHANNA										
VERMONT YANKEE				<1.00E-01	0.00E+00	<1.00E-02	<1.00E-02	1.55E-01	N/R	2.40E-04
WNP-2										
FORT ST. VRAIN*										1.89E-04

* HIGH TEMPERATURE GAS COOLED REACTOR
N/R = NOT REPORTED

TABLE 7

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

BOILING WATER REACTORS

MIXED FISSION AND ACTIVATION PRODUCTS

FACILITY	1980	1981	1982	1983	1984
BIG ROCK POINT	7.82E-01	3.91E-01	2.60E-01	7.82E-02	1.48E-01
BROWNS FERRY	9.38E+00	2.24E+00	5.36E+01	1.28E+01	6.30E+00
BRUNSWICK	1.26E+00	2.20E+00	2.32E+00	1.08E+00	5.65E-01
COOPER	<1.10E+01	<3.61E+00	<5.44E+00	<1.23E+01	<6.30E+00
DRESDEN 1	N/R	0.00E+00	0.00E+00	0.00E+00	N/R
DRESDEN 2-3	7.16E-01	6.12E-02	1.91E-02	1.24E-02	1.15E-01
DUANE ARNOLD	N/R	0.00E+00	4.16E-06	0.00E+00	1.90E-09
EDWIN I. HATCH 1	6.83E-02	3.73E-01	7.00E-01	9.09E-01	1.05E+00
EDWIN I. HATCH 2	4.57E-02	1.63E-01	1.83E-01	3.29E-01	2.67E-01
GRAND GULF				4.42E-03	3.16E-02
HUMBOLDT BAY	1.39E-01	1.55E-01	3.46E-01	9.89E-02	1.64E-01
JAMES A. FITZPATRICK	1.51E+00	2.51E+00	6.50E-01	7.71E-01	9.79E-02
LACROSSE	2.13E+00	2.26E-01	5.83E+00	3.75E+00	3.26E+00
LASALLE			9.82E-01	8.60E+00	8.48E-02
LIMERICK					6.45E-04
MILLSTONE 1	7.24E-01	3.94E-01	1.15E+00	8.08E-01	3.78E-02
MONTICELLO	0.00E+00	3.11E-06	5.80E-07	0.00E+00	0.00E+00
NINE MILE POINT	N/R	5.35E+00	2.51E-03	1.11E-02	N/R
OYSTER CREEK	5.06E-01	2.48E-01	8.10E-02	3.63E-03	6.84E-03
PEACH BOTTOM	1.90E+00	1.97E+00	9.33E+00	2.24E+00	6.15E+00
PILGRIM	2.73E+00	1.94E+00	8.72E-01	9.35E-01	4.75E+00
QUAD-CITIES	1.31E+01	3.27E+00	4.03E-01	1.37E-01	7.23E-02
SUSQUEHANNA			<1.99E-01	2.49E+00	1.45E-01
VERMONT YANKEE	N/R	1.02E-02	0.00E+00	0.00E+00	N/R
WNP-2					2.74E-02
FORT ST. VRAIN*	6.37E-05	3.64E-04	4.34E-04	1.73E-02	1.27E-03

* HIGH TEMPERATURE GAS COOLED REACTOR

N/R = NOT REPORTED

TABLE 8

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

PRESSURIZED WATER REACTORS

MIXED FISSION AND ACTIVATION PRODUCTS

FACILITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ARKANSAS ONE 1					6.50E+00	3.11E+00	1.31E+01	4.50E+00	6.05E+00	3.09E+00
ARKANSAS ONE 2										1.30E+00
BEAVER VALLEY							1.70E-01	6.52E-01	2.63E-01	1.21E-01
CALLAWAY										
CALVERT CLIFFS						1.44E+00	1.18E+00	3.48E+00	6.13E+00	7.80E+00
CRYSTAL RIVER								1.54E-02	2.96E-02	4.16E-01
DAVIS-BESSE								2.60E-02	9.01E-02	4.28E-02
DIABLO CANYON										
DONALD C. COOK						2.60E-01	1.87E+00	1.52E+00	1.48E+00	2.58E+00
FORT CALHOUN				<1.00E-01	2.30E+00	3.60E-01	5.50E-01	3.63E-01	5.95E-01	2.45E-01
H. B. ROBINSON		7.00E-01	8.00E-01	6.00E-01	2.50E+00	4.50E-01	3.80E-01	3.29E-01	1.78E-01	2.99E-01
HADDAM NECK	6.70E+00	5.90E+00	4.80E+00	3.00E+00	2.20E+00	1.20E+00	1.30E-01	1.71E+00	9.50E-01	8.67E-01
INDIAN POINT 1-2				2.20E+00	4.20E+00	4.93E+00	<4.98E+00	3.02E+00	1.99E+00	1.94E+00
INDIAN POINT 3									1.03E+00	4.02E-01
JOSEPH M. FARLEY 1									1.03E-01	5.86E-02
JOSEPH M. FARLEY 2										
KEWAUNEE					4.00E-01	7.20E-01	2.83E+00	1.26E+00	6.99E-01	8.94E-01
MAINE YANKEE			<1.00E-01	<1.00E-01	4.00E+00	3.21E+00	<2.84E+00	4.42E-01	1.04E-01	4.63E-01
MCGUIRE 1										
MCGUIRE 2										
MCGUIRE										
MILLSTONE 2						2.00E-02	2.60E-01	1.56E+00	2.79E+00	4.87E+00
NORTH ANNA									2.68E-01	5.89E-01
OCONEE				2.80E+00	1.90E+00	5.05E+00	7.93E+00	3.62E+01	6.51E+00	9.24E-01
PALISADES			6.80E+00	2.78E+01	5.90E+00	3.45E+00	4.40E-01	9.29E-02	9.65E-02	1.28E-01
POINT BEACH		1.00E-01	1.50E+00	8.00E-01	2.00E-01	2.34E+00	3.24E+00	1.50E+00	6.86E-01	7.25E-01
PRAIRIE ISLAND				<1.00E-01	<1.00E-01	4.50E-01	1.00E-01	1.33E-02	4.94E-03	9.00E-03
R. E. GINNA	1.00E+01	9.00E-01	3.00E-01	1.00E-01	1.00E-01	4.20E-01	6.90E-01	6.47E-02	6.07E-02	8.63E-02
RANCHO SECO						<1.00E-02	0.00E+00	0.00E+00	N/R	N/R
SALEM 1							<1.00E-02	2.88E+00	4.02E+00	3.98E+00
SALEM 2										
SAN ONOFRE 1	7.60E+00	1.50E+00	3.03E+01	1.60E+01	5.00E+00	1.22E+00	7.43E+00	9.84E+00	1.18E+01	1.10E+01
SAN ONOFRE 2-3										
SEQUOYAH										
ST. LUCIE 1							8.00E-02	5.80E+00	2.80E+00	2.67E+00
ST. LUCIE 2										
SUMMER										
SURRY			2.00E-01	1.00E-01	3.80E+00	9.27E+00	3.37E+01	6.55E+01	2.41E+00	2.53E+00
THREE MILE ISLAND 1					1.30E+00	7.00E-02	1.00E-01	1.94E-01	6.14E-01	4.91E-01
THREE MILE ISLAND 2									3.92E-01	3.31E-01
TMI 2/EPICOR										
TROJAN							2.77E+00	4.19E+00	7.07E-01	5.55E-01
TURKEY POINT				<1.00E-01	1.60E+00	3.07E+00	<8.65E+00	8.90E+00	3.32E+00	4.10E-01
YANKEE ROWE	<1.00E-01	<1.00E-01	<1.00E-01	<1.00E-01	<1.00E-01	2.00E-02	<1.00E-02	1.80E-02	8.14E-02	1.17E-02
ZION 1				<1.00E-01	<1.00E-01	<1.00E-02	1.60E-01	9.50E-01	9.51E-01	7.00E-01
ZION 2										

N/R = NOT REPORTED

TABLE 8

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

PRESSURIZED WATER REACTORS		MIXED FISSION AND ACTIVATION PRODUCTS				
FACILITY	1980	1981	1982	1983	1984	
ARKANSAS ONE 1	3.42E+00	7.50E+00	5.80E+00	4.30E+00	4.10E+00	
ARKANSAS ONE 2	4.13E+00	2.95E+00	5.90E+00	3.70E+00	2.48E+00	
BEAVER VALLEY	1.04E-01	1.44E-01	1.47E-01	6.09E-02	2.03E-01	
CALLAWAY					1.07E-03	
CALVERT CLIFFS	4.53E+00	2.68E+00	5.26E+00	2.24E+00	1.64E+00	
CRYSTAL RIVER	1.46E-01	1.29E-01	1.07E-01	1.50E-01	2.34E-01	
DAVIS-BESSE	2.07E-01	7.92E-01	2.19E-01	5.39E-01	1.89E-01	
DIABLO CANYON					1.16E-02	
DONALD C. COOK	1.37E+00	1.86E+00	1.90E+00	6.83E-01	1.19E+00	
FORT CALHOUN	5.04E-01	1.65E-01	1.79E-01	1.42E-01	2.90E+00	
H. B. ROBINSON	3.58E-01	1.84E+00	1.20E+00	8.23E-01	3.90E-01	
HADDAM NECK	2.76E-01	7.12E-01	6.93E-02	4.80E-01	2.63E-01	
INDIAN POINT 1-2	1.26E+00	5.67E+00	2.41E+00	4.02E+00	2.67E+00	
INDIAN POINT 3	2.90E+00	2.62E+00	5.46E-01	5.44E-01	1.26E+00	
JOSEPH M. FARLEY 1	6.18E-02	1.31E-01	5.94E-02	5.75E-02	6.34E-02	
JOSEPH M. FARLEY 2		2.69E-02	2.90E-02	2.04E-02	8.63E-02	
KEWAUNEE	6.17E-01	8.15E-01	1.52E+00	5.43E-01	1.01E+00	
MAINE YANKEE	2.97E-01	4.36E-01	7.03E-01	1.99E-01	8.62E-02	
MCGUIRE 1		3.94E-01	1.75E+00	1.87E+00		
MCGUIRE 2				1.87E+00		
MCGUIRE					3.02E+00	
MILLSTONE 2	2.81E+00	4.18E+00	1.39E+01	7.81E+00	3.55E+00	
NORTH ANNA	1.05E+00	6.76E-01	1.32E+00	5.88E+00	4.51E+00	
OCONEE	1.54E+00	1.75E+00	1.04E+00	1.43E+00	1.58E+00	
PALISADES	8.73E-03	3.31E-02	1.27E-01	7.48E-02	3.68E-02	
POINT BEACH	6.29E-01	1.01E+00	2.95E+00	1.27E+00	1.22E+01	
PRAIRIE ISLAND	1.32E-02	9.12E-03	2.23E-03	3.16E-02	1.91E-02	
R. E. GINNA	1.96E-02	3.85E-02	6.17E-01	1.93E-01	1.69E-01	
RANCHO SECO	3.78E-03	5.92E-01	2.16E-01	2.81E-01	6.33E-01	
SALEM 1	2.65E+00	2.80E+00	3.22E+00	2.97E+00	3.31E+00	
SALEM 2	3.89E-01	1.51E+00	3.21E+00	2.85E+00	2.75E+00	
SAN ONOFRE 1	1.12E+01	<5.53E+00	2.15E+00	1.22E+00	2.74E+00	
SAN ONOFRE 2-3			6.32E-01	2.79E+00	1.30E+01	
SEQUOYAH	N/R	2.76E+00	9.82E+00	4.61E+00	3.23E+00	
ST. LUCIE 1	2.36E+00	2.46E+00	3.07E+00	2.99E+00	1.93E+00	
ST. LUCIE 2					1.93E+00	
SUMMER			1.24E-04	1.47E+00	4.54E+00	
SURRY	3.85E+00	6.11E+00	6.68E+00	1.45E+01	9.73E+00	
THREE MILE ISLAND 1	1.83E-01	8.69E-02	5.29E-02	8.12E-02	3.41E-02	
THREE MILE ISLAND 2	1.45E-05	2.22E-05	4.25E-05	9.03E-05	6.46E-04	
TMI 2/EPICOR		N/R	0.00E+00	0.00E+00	N/R	
TROJAN	7.87E-01	9.94E-01	8.56E-01	3.10E-01	3.49E-01	
TURKEY POINT	6.78E-01	3.03E-01	1.68E+00	1.13E+00	2.27E-01	
YANKEE ROWE	1.75E-02	1.43E-02	9.53E-03	1.30E-02	3.06E-02	
ZION 1	4.74E-01	1.61E+00	7.22E-01	1.50E+00	6.82E+00	
ZION 2		1.05E+00	1.65E+00	1.15E+00	7.06E+00	

N/R = NOT REPORTED

TABLE 9

BOILING WATER REACTORS

SOLID WASTE SUMMARY 1984

FACILITY	VOLUME (CUBIC METERS)	ACTIVITY (CURIES)	NO. OF SHIPMENTS
BIG ROCK POINT	3.67E+01	2.13E+00	1
BROWNS FERRY	1.92E+03	2.15E+03	173
BRUNSWICK	1.37E+03	3.45E+03	99
COOPER	4.37E+02	4.91E+02	64
DRESDEN	1.26E+03	4.37E+03	212
DUANE ARNOLD	2.68E+02	9.13E+02	41
EDWIN I. HATCH 1	2.50E+03	2.58E+03	179
EDWIN I. HATCH 2	**	**	**
GRAND GULF	4.31E+02	9.09E+00	19
HUMBOLDT BAY	6.56E+01	7.29E+00	3
JAMES A. FITZPATRICK	4.31E+02	1.26E+03	56
LACROSSE	4.22E+01	1.93E+02	3
LASALLE	8.40E+02	1.80E+02	90
LIMERICK	0.00E+00	0.00E+00	0
MILLSTONE 1	9.40E+02	1.97E+03	47
MONTICELLO	1.24E+03	5.73E+02	54
NINE MILE POINT	6.29E+02	1.34E+04	73
OYSTER CREEK	1.39E+03	4.39E+04	109
PEACH BOTTOM	2.26E+03	9.22E+04	254
PILGRIM	3.12E+03	1.54E+03	132
QUAD-CITIES	1.35E+03	4.06E+04	197
SUSQUEHANNA	1.30E+03	9.27E+02	120
VERMONT YANKEE	3.48E+02	2.85E+02	36
WNP-2	3.87E+02	3.58E+01	22
 FORT ST. VRAIN*	 0.00E+00	 0.00E+00	 0

* HIGH TEMPERATURE GAS COOLED REACTOR

** INCLUDED WITH UNIT 1 TOTALS FOR 1984

TABLE 10

PRESSURIZED WATER REACTORS

SOLID WASTE SUMMARY 1984

FACILITY	VOLUME (CUBIC METERS)	ACTIVITY (CURIES)	NO. OF SHIPMENTS
ARKANSAS ONE 1&2	8.10E+02	1.46E+03	55
BEAVER VALLEY	1.56E+02	7.11E+02	22
CALLAWAY	0.00E+00	0.00E+00	0
CALVERT CLIFFS	5.28E+02	3.77E+04	49
CRYSTAL RIVER	4.11E+02	1.15E+03	51
DAVIS-BESSE	1.51E+02	4.73E+02	16
DIABLO CANYON	0.00E+00	0.00E+00	0
DONALD C. COOK	4.94E+02	6.69E+02	39
FORT CALHOUN	3.93E+02	7.17E+01	26
H. B. ROBINSON	3.05E+03	1.95E+02	118
HADDAM NECK	4.28E+02	3.75E+02	35
INDIAN POINT 1-2	9.81E+02	2.03E+03	72
INDIAN POINT 3	1.53E+02	4.12E+02	17
JOSEPH M. FARLEY	5.62E+02	2.98E+02	32
KEWAUNEE	6.32E+01	1.60E+03	13
MAINE YANKEE	3.49E+02	3.59E+02	21
MCGUIRE	4.14E+02	1.89E+03	32
MILLSTONE 2	6.08E+01	1.10E+05	23
NORTH ANNA	9.00E+02	9.53E+02	82
OCONEE	9.36E+02	6.17E+03	112
PALISADES	4.48E+02	2.58E+02	19
POINT BEACH	7.12E+02	1.64E+03	35
PRAIRIE ISLAND	4.19E+01	1.19E+01	6
R. E. GINNA	2.52E+02	3.23E+02	19
RANCHO SECO	4.25E+02	4.60E+01	30
SALEM 1&2	1.52E+03	6.23E+02	59
SAN ONOFRE 1	2.91E+02	1.54E+01	29
SAN ONOFRE 2-3	2.02E+02	5.49E+02	2
SEQUOYAH	9.67E+02	2.43E+03	43
ST. LUCIE	1.22E+03	6.36E+04	74
SUMMER	4.80E+02	1.55E+02	34
SURRY	9.45E+02	1.16E+03	54
THREE MILE ISLAND 1	4.34E+02	4.18E+02	39
THREE MILE ISLAND 2	2.56E+02	9.89E+03	26
TMI 2/EPICOR	4.53E+00	2.35E+01	0
TROJAN	2.30E+02	5.85E+01	14
TURKEY POINT	8.50E+02	1.91E+03	58
YANKEE ROWE	2.00E+02	1.63E+02	14
ZION	6.43E+02	2.62E+03	69

TABLE 11

SOLID WASTE COMPARISON BY YEAR

BOILING WATER REACTORS

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

FACILITY	1975	1976		1977		1978		1979	
BIG ROCK POINT		2.88E+01	3.69E+00	7.22E+01	9.68E+02	3.10E+01	2.56E+01	8.99E+01	2.77E+02
BROWNS FERRY		3.20E+02	1.03E+02	1.82E+03	1.10E+04	2.90E+03	1.33E+03	2.29E+03	4.17E+03
BRUNSWICK		1.79E+03	6.46E+02	2.47E+03	3.24E+03	2.02E+03	2.14E+03	3.09E+03	4.29E+03
COOPER		3.01E+02	3.20E+02	2.83E+02	2.85E+02	3.29E+02	3.84E+02	5.65E+02	9.69E+01
DRESDEN		7.12E+03	4.33E+03	2.25E+03	1.13E+04	1.77E+03	1.88E+03	1.04E+03	8.45E+02
DUANE ARNOLD		5.95E+02	1.87E+02	5.45E+02	4.98E+02	1.10E+03	1.86E+03	7.99E+02	8.01E+02
EDWIN I. HATCH 1		4.12E+02	2.91E+02	5.39E+02	3.81E+02	7.50E+02	1.09E+04	9.78E+02	2.70E+02
EDWIN I. HATCH 2									
GRAND GULF									
HUMBOLDT BAY		8.49E+01	4.09E+00	3.77E+02	2.00E+01	1.78E+02	7.91E-01	9.06E+01	3.35E+03
JAMES A. FITZPATRICK		6.19E+02	3.41E+02	1.23E+03	6.17E+03	8.70E+02	3.19E+02	8.04E+02	1.06E+03
LACROSSE		N/R	N/R	4.65E+00	5.88E+02	3.80E+01	6.18E+01	5.09E+00	1.25E+02
LASALLE									
LIMERICK									
MILLSTONE 1		1.33E+03	1.70E+03	1.77E+03	3.03E+03	2.00E+03	8.15E+04	2.11E+03	1.16E+03
MONTICELLO		2.85E+02	3.79E+03	5.73E+02	2.91E+04	4.99E+02	6.35E+04	4.74E+02	1.31E+04
NINE MILE POINT		5.38E+02	2.51E+03	6.65E+02	2.51E+04	3.85E+02	2.24E+04	4.97E+02	1.52E+03
OYSTER CREEK		1.20E+03	1.29E+03	1.74E+03	2.73E+02	1.54E+03	1.15E+03	1.13E+03	1.34E+03
PEACH BOTTOM		1.20E+03	5.85E+02	2.52E+03	1.82E+03	1.96E+03	4.97E+03	2.40E+03	8.03E+03
PILGRIM		9.12E+02	3.69E+04	5.84E+02	5.70E+03	1.97E+03	4.92E+04	3.03E+03	2.22E+04
QUAD-CITIES		1.00E+03	2.35E+03	1.20E+03	7.53E+03	1.34E+03	3.27E+03	7.82E+02	4.26E+03
SUSQUEHANNA									
VERMONT YANKEE		2.38E+02	2.93E+01	1.08E+02	1.76E+02	3.99E+02	5.39E+04	2.71E+02	9.99E+02
WNP-2									
FORT ST. VRAIN*								0.00E+00	0.00E+00

* HIGH TEMPERATURE GAS COOLED REACTOR
N/R = NOT REPORTED

TABLE 11

SOLID WASTE COMPARISON BY YEAR

BOILING WATER REACTORS

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

FACILITY	1980		1981		1982		1983		1984	
BIG ROCK POINT	4.20E+01	3.09E+01	1.44E+02	3.17E+02	1.09E+02	4.33E+00	1.01E+02	2.74E+02	3.67E+01	2.13E+00
BROWNS FERRY	2.49E+03	6.46E+03	2.23E+03	4.78E+03	5.91E+03	5.51E+03	3.72E+03	6.90E+03	1.92E+03	2.15E+03
BRUNSWICK	6.73E+03	7.55E+03	4.30E+03	7.47E+03	3.53E+03	5.50E+03	3.51E+03	8.36E+03	1.37E+03	3.45E+03
COOPER	4.35E+02	7.05E+02	4.99E+02	4.43E+02	4.45E+02	4.27E+02	5.03E+02	8.53E+02	4.37E+02	4.91E+02
DRESDEN	1.16E+03	4.46E+03	1.14E+03	4.59E+03	8.99E+02	1.66E+05+	1.42E+03	2.91E+03	1.26E+03	4.37E+03
DUANE ARNOLD	7.35E+02	7.00E+02	6.97E+02	1.07E+03	4.57E+02	1.27E+03	6.81E+02	1.44E+03	2.68E+02	9.13E+02
EDWIN I. HATCH 1	4.64E+02	9.62E+02	1.29E+03	4.46E+03	9.13E+02	3.10E+03	1.87E+03	2.27E+03	2.50E+03	2.58E+03
EDWIN I. HATCH 2	2.59E+02	8.27E+01	1.40E+03	3.05E+02	7.79E+02	9.40E+02	**	**	**	**
GRAND GULF							3.12E+02	7.21E+00	4.31E+02	9.09E+00
HUMBOLDT BAY	8.20E+01	6.95E+01	8.43E+01	5.46E-01	7.71E+01	1.34E+00	2.78E+01	1.75E+04	6.56E+01	7.29E+00
JAMES A. FITZPATRICK	7.50E+02	8.86E+02	8.61E+02	1.63E+03	1.64E+03	7.89E+02	7.11E+02	7.03E+02	4.31E+02	1.26E+03
LACROSSE	4.32E+01	2.02E+01	4.82E+00	6.11E+01	3.53E+01	5.26E+01	1.20E+01	1.88E+02	4.22E+01	1.93E+02
LASALLE					0.00E+00	0.00E+00	6.83E+02	3.01E+01	8.40E+02	1.80E+02
LIMERICK									0.00E+00	0.00E+00
MILLSTONE 1	2.30E+03	2.36E+03	1.96E+03	1.82E+03	9.77E+02	1.08E+03	6.93E+02	6.81E+02	9.40E+02	1.97E+03
MONTICELLO	7.42E+02	7.57E+02	5.54E+02	4.42E+02	7.50E+02	3.89E+03	3.57E+02	4.43E+04	1.24E+03	5.73E+02
NINE MILE POINT	8.14E+02	2.32E+04	5.31E+02	1.72E+03	5.76E+02	7.07E+03	7.21E+02	5.42E+04	6.29E+02	1.34E+04
OYSTER CREEK	2.03E+03	1.32E+03	1.78E+03	4.21E+02	9.96E+02	4.67E+03	1.00E+03	5.61E+02	1.39E+03	4.39E+04
PEACH BOTTOM	2.64E+03	6.69E+03	2.34E+03	5.33E+03	3.23E+03	4.51E+03	2.68E+03	2.24E+04	2.26E+03	9.22E+04
PILGRIM	2.94E+03	1.60E+03	1.06E+03	9.38E+02	2.28E+03	9.59E+02	6.65E+02	1.48E+03	3.12E+03	1.54E+03
QUAD-CITIES	1.67E+03	4.07E+03	1.72E+03	5.16E+03	1.46E+03	3.98E+03	1.58E+03	5.85E+03	1.35E+03	4.06E+04
SUSQUEHANNA					4.51E+01	6.52E-02	1.26E+03	2.84E+02	1.30E+03	9.27E+02
VERMONT YANKEE	4.84E+02	9.20E+02	4.39E+02	1.11E+03	4.51E+02	2.09E+02	4.15E+02	5.75E+04	3.48E+02	2.85E+02
WNP-2									3.87E+02	3.58E+01
FORT ST. VRAIN*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E+01	1.84E+01	0.00E+00	0.00E+00

* HIGH TEMPERATURE GAS COOLED REACTOR

+ INCLUDES 12 SHIPMENTS OF POISON CURTAINS (IRRADIATED COMPONENTS) TO BARNWELL, SC

** INCLUDED WITH UNIT 1 TOTALS FOR 1983 & 1984

TABLE 12

SOLID WASTE COMPARISON BY YEAR

PRESSURIZED WATER REACTORS

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

FACILITY	1975	1976		1977		1978		1979	
		N/R	N/R	3.17E+02	1.26E+02	N/R	N/R	N/R	N/R
ARKANSAS ONE 1&2		4.30E+01	4.26E-02	2.67E+02	8.18E+00	4.39E+02	2.25E+02	2.44E+02	2.95E+02
BEAVER VALLEY									
CALLAWAY									
CALVERT CLIFFS		1.18E+02	1.22E+02	3.09E+02	9.83E+02	6.03E+02	1.12E+03	4.32E+02	9.71E+02
CRYSTAL RIVER				4.48E+02	3.48E+00	6.87E+02	2.72E+04	1.24E+03	1.20E+03
DAVIS-BESSE				0.00E+00	0.00E+00	3.40E+02	3.30E+00	2.60E+02	2.86E+00
DIABLO CANYON									
DONALD C. COOK		1.69E+02	2.62E-01	6.84E+02	8.28E+01	1.28E+03	2.25E+02	1.09E+03	3.37E+02
FORT CALHOUN		7.57E+02	1.27E+02	5.97E+02	6.46E+02	5.84E+02	1.06E+02	2.44E+02	2.99E+01
H. B. ROBINSON		3.16E+02	6.29E+01	2.59E+02	1.24E+03	8.22E+02	2.40E+02	8.34E+02	8.72E+01
HADDAM NECK		7.67E+02	7.46E+02	1.68E+03	8.41E+02	2.29E+02	1.44E+02	1.29E+03	3.05E+02
INDIAN POINT 1-2		9.19E+02	9.46E+02	1.06E+03	1.45E+03	8.43E+03	2.37E+03	1.17E+03	2.16E+03
INDIAN POINT 3						5.94E+02	6.49E+01	2.25E+02	1.63E+02
JOSEPH M. FARLEY						2.69E+02	5.72E+00	1.11E+03	2.32E+02
KEWAUNEE		5.94E+02	4.94E+01	3.37E+01	3.66E+02	7.98E+01	1.50E+03	1.70E+02	3.54E+02
MAINE YANKEE		1.84E+02	5.04E+02	1.84E+02	1.53E+04	5.81E+02	4.14E+03	3.63E+02	2.77E+03
MCGUIRE									
MILLSTONE 2		2.80E+02	1.80E+00	9.35E+01	5.80E+01	1.55E+02	1.70E+01	2.46E+02	1.78E+03
NORTH ANNA						2.14E+01	3.59E+00	2.95E+02	5.89E+01
OCONEE		2.22E+03	7.83E+02	1.07E+03	7.37E+03	1.58E+03	5.93E+03	1.63E+03	2.59E+03
PALISADES		6.81E+01	9.58E+01	4.43E+02	8.71E+01	7.17E+02	3.40E+03	6.84E+02	3.92E+02
POINT BEACH		1.99E+02	3.04E+02	6.84E+03	5.68E+02	1.61E+02	1.51E+03	2.69E+02	1.22E+03
PRAIRIE ISLAND		1.52E+02	6.53E+01	6.43E+02	2.46E+02	1.95E+02	1.53E+02	1.99E+01	8.83E+01
R. E. GINNA		2.80E+02	9.78E+01	3.49E+02	6.90E+02	5.96E+01	6.27E+02	3.08E+02	1.53E+02
RANCHO SECO		1.11E+02	2.80E+01	5.06E+01	1.21E+03	1.29E+02	1.27E+03	1.01E+02	4.03E+00
SALEM 1&2		0.00E+00	0.00E+00	4.25E+02	2.20E+00	2.27E+02	1.94E+02	6.86E+02	1.28E+02
SAN ONOFRE 1		1.45E+02	6.98E+02	3.68E+02	6.02E+01	1.31E+02	7.17E+00	8.35E+01	9.24E+01
SAN ONOFRE 2-3									
SEQUOYAH									
ST. LUCIE		8.68E+01	1.57E+00	3.85E+02	3.27E+03	3.58E+02	1.26E+04	3.08E+02	1.79E+02
SUMMER									
SURRY		7.00E+02	6.17E+02	7.93E+02	6.10E+02	6.03E+02	5.66E+02	2.74E+03	3.45E+02
THREE MILE ISLAND 1		4.06E+02	1.85E+02	2.18E+02	4.73E+01	3.89E+02	2.34E+02	7.51E+02	3.12E+01
THREE MILE ISLAND 2									
TMI 2/EPICOR									
TROJAN		4.37E+01	4.32E+00	1.01E+02	8.31E+01	2.26E+02	4.48E+02	6.37E+02	3.30E+02
TURKEY POINT		1.44E+03	4.77E+02	1.07E+03	4.26E+02	1.75E+03	1.72E+03	9.20E+02	2.48E+02
YANKEE ROWE		3.60E+02	2.65E+01	2.81E+02	3.54E+00	2.60E+02	9.75E+00	2.36E+02	1.63E+02
ZION		2.06E+03	6.82E+01	1.97E+03	2.25E+02	1.63E+03	1.86E+03	5.97E+02	2.69E+03

N/R = NOT REPORTED

TABLE 12

SOLID WASTE COMPARISON BY YEAR

PRESSURIZED WATER REACTORS

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

FACILITY	1980		1981		1982		1983		1984	
	N/R	N/R	N/R	N/R	N/R	N/R				
ARKANSAS ONE 1&2							7.06E+02	2.09E+03	8.10E+02	1.46E+03
BEAVER VALLEY	2.84E+02	5.34E+02	2.13E+02	9.30E+01	2.94E+02	3.83E+02	2.19E+02	4.75E+02	1.56E+02	7.11E+02
CALLAWAY									0.00E+00	0.00E+00
CALVERT CLIFFS	2.51E+02	1.48E+04	5.00E+02	9.86E+01	1.57E+02	9.16E+02	5.06E+02	1.07E+02	5.28E+02	3.77E+04
CRYSTAL RIVER	9.27E+02	2.05E+03	1.27E+03	1.38E+03	6.62E+02	6.28E+02	5.40E+02	1.55E+03	4.11E+02	1.15E+03
DAVIS-BESSE	3.30E+02	3.00E+01	3.25E+02	3.95E+01	0.00E+00	0.00E+00	1.13E+02	6.37E+02	1.51E+02	4.73E+02
DIABLO CANYON									0.00E+00	0.00E+00
DONALD C. COOK	2.10E+03	1.04E+03	9.63E+02	1.43E+03	7.14E+02	8.45E+02	6.68E+02	2.01E+03	4.94E+02	6.69E+02
FORT CALHOUN	4.06E+02	1.32E+03	2.53E+02	1.01E+02	3.42E+02	3.54E+01	4.65E+02	7.00E+02	3.93E+02	7.17E+01
H. B. ROBINSON	3.99E+03	3.08E+02	9.02E+02	1.88E+01	1.38E+03	6.38E+01	1.09E+03	4.62E+01	3.05E+03	1.95E+02
HADDAM NECK	1.26E+03	4.89E+02	4.38E+02	6.61E+02	3.12E+02	2.57E+02	6.52E+02	1.52E+03	4.28E+02	3.75E+02
INDIAN POINT 1-2	1.03E+03	3.32E+02	1.58E+03	1.71E+03	1.17E+03	6.46E+03	1.29E+03	2.12E+03	9.81E+02	2.03E+03
INDIAN POINT 3	3.47E+02	2.02E+02	3.17E+02	6.40E+01	3.79E+02	6.14E+01	3.16E+02	7.32E+02	1.53E+02	4.12E+02
JOSEPH M. FARLEY	4.41E+02	2.26E+02	5.64E+02	7.20E+02	3.46E+02	1.03E+02	4.41E+02	1.05E+03	5.62E+02	2.98E+02
KEWAUNEE	1.03E+02	1.37E+03	7.38E+01	1.98E+02	6.73E+01	2.74E+02	5.52E+01	6.85E+02	6.32E+01	1.60E+03
MAINE YANKEE	4.57E+02	4.79E+03	4.14E+02	1.67E+03	2.20E+02	3.09E+01	3.37E+02	1.03E+02	3.49E+02	3.59E+02
MCGUIRE			1.98E+01	1.31E-01	9.91E+01	6.43E+00	2.44E+02	2.82E+01	4.14E+02	1.89E+03
MILLSTONE 2	7.51E+00	2.28E+02	1.63E+01	3.21E+02	6.85E+00	4.84E+02	4.48E+01	2.58E+02	6.08E+01	1.10E+05
NORTH ANNA	2.64E+02	1.54E+02	3.02E+02	2.62E+03	4.21E+02	3.05E+02	5.39E+02	1.87E+03	9.00E+02	9.53E+02
OCONEE	1.32E+03	2.91E+03	2.48E+03	1.12E+04	3.06E+03	1.09E+04	1.16E+03	2.84E+03	9.36E+02	6.17E+03
PALISADES	7.31E+02	1.18E+02	8.54E+02	1.57E+04	7.08E+02	7.98E+01	5.75E+02	2.56E+04	4.48E+02	2.58E+02
POINT BEACH	4.49E+02	9.35E+02	1.77E+02	4.87E+02	2.52E+02	9.46E+02	7.11E+02	1.12E+03	7.12E+02	1.64E+03
PRAIRIE ISLAND	5.25E+02	1.98E+02	2.97E+02	5.64E+01	9.91E+01	3.64E+02	2.39E+02	1.92E+02	4.19E+01	1.19E+01
R. E. GINNA	4.00E+02	4.60E+02	3.76E+02	6.35E+02	4.89E+02	2.02E+02	3.36E+02	5.21E+02	2.52E+02	3.23E+02
RANCHO SECO	4.60E+02	1.12E+02	2.31E+02	1.44E+02	2.40E+02	4.66E+02	2.72E+02	2.25E+02	4.25E+02	4.60E+01
SALEM 1&2	1.01E+03	4.59E+02	9.36E+02	1.14E+03	1.91E+03	3.19E+02	2.07E+03	2.99E+02	1.52E+03	6.23E+02
SAN ONOFRE 1	7.12E+02	4.35E+02	1.62E+03	1.26E+03	9.27E+02	7.52E+01	3.33E+02	2.27E+02	2.91E+02	1.54E+01
SAN ONOFRE 2-3					0.00E+00	0.00E+00	1.89E+02	7.98E+00	2.02E+02	5.49E+02
SEQUOYAH	N/R	N/R	1.61E+02	2.92E+01	3.58E+02	2.28E+02	6.93E+02	2.30E+03	9.67E+02	2.43E+03
ST. LUCIE	3.12E+02	7.46E+02	2.50E+02	2.96E+02	3.07E+02	7.95E+02	6.20E+02	9.39E+04	1.22E+03	6.36E+04
SUMMER					0.00E+00	0.00E+00	9.25E+01	1.37E+01	4.80E+02	1.55E+02
SURRY	2.01E+03	7.06E+02	2.80E+03	1.36E+03	2.17E+03	9.89E+02	3.08E+03	3.56E+03	9.45E+02	1.16E+03
THREE MILE ISLAND 1	4.62E+02	2.30E+02	7.98E+02	2.34E+02	5.32E+02	8.91E+00	6.05E+02	6.84E+02	4.34E+02	4.18E+02
THREE MILE ISLAND 2	7.67E+02	1.26E+02	2.74E+02	5.11E+01	1.80E+02	1.22E+01	3.16E+02	5.17E+05	2.56E+02	9.89E+03
TMI 2/EPICOR	N/R	N/R	1.51E+02	3.50E+02	0.00E+00	0.00E+00	2.23E+02	4.62E+04	4.53E+00	2.35E-01
TROJAN	5.14E+02	4.59E+01	3.75E+02	1.04E+03	2.17E+01	2.87E+02	2.28E+02	1.67E+03	2.30E+02	5.85E+01
TURKEY POINT	7.24E+02	1.61E+02	1.25E+03	1.17E+02	1.01E+03	1.13E+03	1.21E+03	9.26E+02	8.50E+02	1.91E+03
YANKEE ROWE	2.07E+02	9.57E+01	3.08E+02	6.79E+01	2.09E+02	2.81E+01	1.58E+02	5.12E+00	2.00E+02	1.63E+02
ZION	1.64E+03	2.55E+03	1.53E+03	3.44E+03	8.82E+02	2.17E+03	9.21E+02	2.97E+03	6.43E+02	2.62E+03

N/R = NOT REPORTED

TABLE 13

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS			MEGAWATT HOURS								
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
BIG ROCK POINT	09/27/62	03/29/63									4.01E+05
BROWNS FERRY 1	08/17/73	08/01/74									1.69E+07
BROWNS FERRY 2	07/20/74	03/01/75									
BROWNS FERRY 3	08/08/76	03/01/77									
BRUNSWICK 1	10/08/76	03/18/77									9.91E+06
BRUNSWICK 2	03/20/75	11/03/75									
COOPER	02/21/74	07/01/74									4.89E+06
DRESDEN 1	10/15/59	07/04/60									7.59E+05
DRESDEN 2	01/07/70	06/09/70									9.53E+06
DRESDEN 3	01/31/71	11/16/71									
DUANE ARNOLD	03/23/74	02/01/75									1.23E+06
EDWIN I. HATCH 1	09/12/74	12/31/75									4.77E+06
EDWIN I. HATCH 2	07/04/78	09/05/79									
GRAND GULF 1	08/18/82	07/01/85									
HUMBOLDT BAY 3	02/16/63	08/ /63									0.00E+00
JAMES A. FITZPATRICK	11/17/74	07/28/75									4.20E+06
LACROSSE	07/11/67	11/01/69									1.74E+05
LASALLE 1	06/21/82	01/01/84									
LASALLE 2	03/10/84	10/19/84									
LIMERICK 1	12/22/84	02/01/86									
MILLSTONE 1	10/26/70	03/01/71									4.65E+06
MONTICELLO	12/10/70	06/30/71									3.86E+06
NINE MILE POINT 1	09/05/69	12/01/69									4.47E+06
OYSTER CREEK	05/03/69	12/01/69									3.65E+06
PEACH BOTTOM 2	09/16/73	07/05/74									1.38E+07
PEACH BOTTOM 3	08/07/74	12/23/74									
PILGRIM 1	06/16/72	12/01/72									4.38E+06
QUAD-CITIES 1	10/18/71	02/18/73									9.15E+06
QUAD-CITIES 2	04/26/72	03/10/73									
SUSQUEHANNA 1	09/10/82	06/08/83									
SUSQUEHANNA 2	05/08/84	02/12/85									
VERMONT YANKEE	03/24/72	11/30/72									3.24E+06
WNP-2	01/19/84	12/13/84									
FORT ST. VRAIN 1*	01/31/74	07/01/79									6.09E+05

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 13

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS			MEGAWATT HOURS					
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984
BIG ROCK POINT	09/27/62	03/29/63	1.14E+05	4.05E+05	4.70E+05	3.60E+05	3.49E+05	4.18E+05
BROWNS FERRY 1	08/17/73	08/01/74	2.04E+07	6.06E+06	4.41E+06	7.88E+06	2.18E+06	7.85E+06
BROWNS FERRY 2	07/20/74	03/01/75		5.62E+06	7.47E+06	4.45E+06	6.39E+06	4.04E+06
BROWNS FERRY 3	08/08/76	03/01/77		6.94E+06	6.26E+06	4.89E+06	5.39E+06	2.91E+05
BRUNSWICK 1	10/08/76	03/18/77	6.82E+06	3.94E+06	2.56E+06	2.92E+06	1.39E+06	5.03E+06
BRUNSWICK 2	03/20/75	11/03/75		1.86E+05	3.28E+06	1.91E+06	3.94E+06	1.39E+06
COOPER	02/21/74	07/01/74	4.99E+06	3.79E+06	3.85E+06	5.28E+06	3.34E+06	3.47E+06
DRESDEN 1	10/15/59	07/04/60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.46E+06
DRESDEN 2	01/07/70	06/09/70	8.42E+06	4.58E+06	3.41E+06	5.12E+06	3.40E+06	2.11E+06
DRESDEN 3	01/31/71	11/16/71		4.33E+06	5.18E+06	3.89E+06	4.15E+06	2.11E+06
DUANE ARNOLD	03/23/74	02/01/75	2.90E+06	2.80E+06	2.22E+06	2.28E+06	2.32E+06	2.72E+06
EDWIN I. HATCH 1	09/12/74	12/31/75	5.10E+06	4.79E+06	2.76E+06	2.88E+06	3.96E+06	3.60E+06
EDWIN I. HATCH 2	07/04/78	09/05/79		3.64E+06	4.48E+06	3.73E+06	3.81E+06	1.88E+06
GRAND GULF 1	08/18/82	07/01/85					0.00E+00	1.65E+05
HUMBOLDT BAY 3	02/16/63	08/ /63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74	07/28/75	2.96E+06	4.33E+06	4.78E+06	4.96E+06	4.63E+06	4.90E+06
LACROSSE	07/11/67	11/01/69	2.01E+05	2.15E+06	2.41E+05	1.38E+05	2.01E+05	3.19E+05
LASALLE 1	06/21/82	01/01/84				4.61E+05	1.64E+06	5.21E+06
LASALLE 2	03/10/84	10/19/84						1.39E+06
LIMERICK 1	12/22/84	02/01/86						0.00E+00
MILLSTONE 1	10/26/70	03/01/71	4.22E+06	3.40E+06	2.52E+06	4.08E+06	5.35E+06	4.32E+06
MONTICELLO	12/10/70	06/30/71	4.40E+06	3.45E+06	3.26E+06	2.42E+06	4.15E+06	2.63E+05
NINE MILE POINT 1	09/05/69	12/01/69	3.00E+06	4.54E+06	3.27E+06	1.13E+06	2.80E+06	3.64E+06
OYSTER CREEK	05/03/69	12/01/69	4.56E+06	1.96E+06	2.63E+06	2.01E+06	2.05E+05	2.79E+05
PEACH BOTTOM 2	09/16/73	07/05/74	1.47E+07	4.34E+06	6.63E+06	4.79E+06	4.45E+06	2.43E+06
PEACH BOTTOM 3	08/07/74	12/23/74		7.23E+06	3.13E+06	8.53E+06	2.42E+06	7.45E+06
PILGRIM 1	06/16/72	12/01/72	4.84E+06	3.04E+06	3.44E+06	3.29E+06	4.71E+06	3.52E+03
QUAD-CITIES 1	10/18/71	02/18/73	8.76E+06	3.44E+06	5.73E+06	3.24E+06	5.78E+06	3.35E+06
QUAD-CITIES 2	04/26/72	03/10/73		3.61E+06	3.77E+06	5.06E+06	3.15E+06	4.98E+06
SUSQUEHANNA 1	09/10/82	06/08/83				3.21E+05	3.54E+06	6.09E+06
SUSQUEHANNA 2	05/08/84	02/12/85						9.32E+05
VERMONT YANKEE	03/24/72	11/30/72	3.45E+06	2.98E+06	3.57E+06	4.17E+06	2.87E+06	3.34E+06
WNP-2	01/19/84	12/13/84						4.10E+05
FORT ST. VRAIN 1*	01/31/74	07/01/79	1.24E+05	6.76E+05	7.55E+05	5.69E+05	7.48E+05	5.67E+04

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 14

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS								
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
ARKANSAS ONE 1	08/06/74	12/19/74									5.25E+06
ARKANSAS ONE 2	12/05/78	03/26/80									3.98E+03
BEAVER VALLEY 1	05/10/76	10/01/76									2.48E+06
CALLAWAY 1	10/02/84	12/19/84									
CALVERT CLIFFS 1	10/07/74	05/08/75									9.91E+06
CALVERT CLIFFS 2	11/30/76	04/01/77									
CRYSTAL RIVER 3	01/14/77	03/13/77									2.59E+06
DAVIS-BESSE	08/12/77	07/31/78									2.61E+06
DIABLO CANYON 1	04/29/84	05/07/85									
DONALD C. COOK 1	01/18/75	08/27/75									1.01E+07
DONALD C. COOK 2	03/10/78	07/01/78									
FORT CALHOUN 1	08/06/73	06/20/74									2.85E+06
H. B. ROBINSON 2	09/20/70	03/07/71									3.98E+06
HADDAM NECK	07/24/67	01/01/68									4.71E+06
INDIAN POINT 1	08/02/62	10/ /62									4.37E+06
INDIAN POINT 2	05/22/73	08/01/74									
INDIAN POINT 3	04/06/76	08/30/76									5.46E+06
JOSEPH M. FARLEY 1	08/09/77	12/01/77									5.92E+06
JOSEPH M. FARLEY 2	05/05/81	07/30/81									
KEWAUNEE	03/07/74	06/16/74									3.89E+06
MAINE YANKEE	10/23/72	12/28/72									5.35E+06
MCGUIRE 1	08/08/81	10/01/81									
MCGUIRE 2	08/05/83	03/01/84									
MILLSTONE 2	10/17/75	12/26/75									4.50E+06
NORTH ANNA 1	04/05/78	06/06/78									3.66E+06
NORTH ANNA 2	06/12/80	12/14/80									
OCONEE 1	04/19/73	07/15/73									1.59E+07
OCONEE 2	11/11/73	09/09/74									
OCONEE 3	09/05/74	12/16/74									
PALISADES	05/24/71	12/31/71									2.62E+06
POINT BEACH 1	11/02/70	12/21/70									7.65E+06
POINT BEACH 2	05/30/72	10/01/72									
PRAIRIE ISLAND 1	12/01/73	12/16/73									7.73E+06
PRAIRIE ISLAND 2	12/17/74	12/21/74									
R. E. GINNA	11/08/69	07/01/70									3.22E+06
RANCHO SECO	09/16/74	04/17/75									4.99E+06
SALEM 1	12/11/76	06/30/77									4.53E+06
SALEM 2	08/02/80	10/13/81									
SAN ONOFRE 1	06/14/67	01/01/68									2.68E+06
SAN ONOFRE 2	07/26/82	08/08/83									
SAN ONOFRE 3	08/29/83	04/01/84									
SEQUOYAH 1	07/05/80	07/01/81									
SEQUOYAH 2	11/05/81	06/01/82									
ST. LUCIE 1	04/22/76	12/21/76									5.00E+06
ST. LUCIE 2	06/02/83	08/08/83									
SUMMER	10/22/82	01/01/84									
SURRY 1	07/01/72	12/22/72									1.01E+07
SURRY 2	03/07/73	05/01/73									

TABLE 14

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS									
FACILITY		INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
THREE MILE ISLAND 1	06/05/74	09/02/74										5.67E+06
THREE MILE ISLAND 2	03/28/78	12/30/78										5.77E+05
TROJAN	12/15/75	05/20/76										1.67E+06
TURKEY POINT 3	10/20/72	12/14/72										8.29E+06
TURKEY POINT 4	06/11/73	09/07/73										
YANKEE ROWE	08/19/60	07/01/61										1.19E+06
ZION 1	06/19/73	12/31/73										1.35E+07
ZION 2	12/24/73	09/17/74										

TABLE 14

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS					
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984
ARKANSAS ONE 1	08/06/74	12/19/74	3.78E+06	4.90E+06	3.72E+06	3.22E+06	4.60E+06	
ARKANSAS ONE 2	12/05/78	03/26/80	8.81E+05	3.65E+06	4.32E+06	3.81E+06	4.43E+06	6.20E+06
BEAVER VALLEY 1	05/10/76	10/01/76	1.79E+06	3.01E+05	4.66E+06	2.69E+06	4.68E+06	4.75E+06
CALLAWAY 1	10/02/84	12/19/84						3.23E+05
CALVERT CLIFFS 1	10/07/74	05/08/75	9.68E+06	4.53E+06	6.11E+06	5.36E+06	5.57E+06	6.22E+06
CALVERT CLIFFS 2	11/30/76	04/01/77		6.41E+06	5.42E+06	5.00E+06	6.11E+06	5.34E+06
CRYSTAL RIVER 3	01/14/77	03/13/77	3.76E+06	3.35E+06	4.01E+06	4.92E+06	3.77E+06	6.48E+06
DAVIS-BESSE	08/12/77	07/31/78	3.13E+06	2.09E+06	4.36E+06	3.22E+06	4.88E+06	4.29E+06
DIABLO CANYON 1	04/29/84	05/07/85						2.04E+05
DONALD C. COOK 1	01/18/75	08/27/75	1.16E+07	6.46E+06	6.78E+06	5.35E+06	5.29E+06	7.75E+06
DONALD C. COOK 2	03/10/78	07/01/78		6.70E+06	6.38E+06	7.00E+06	7.01E+06	5.36E+06
FORT CALHOUN 1	08/06/73	06/20/74	3.67E+06	2.01E+06	2.15E+06	3.48E+06	2.75E+06	2.33E+06
H. B. ROBINSON 2	09/20/70	03/07/71	4.00E+06	3.21E+06	3.50E+06	2.25E+06	3.35E+06	1.90E+05
HADDAM NECK	07/24/67	01/01/68	4.12E+06	3.56E+06	4.06E+06	4.54E+06	3.78E+06	3.36E+06
INDIAN POINT 1	08/02/62	10/ /62	4.80E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INDIAN POINT 2	05/22/73	08/01/74		4.26E+06	3.06E+06	4.45E+06	5.90E+06	2.89E+06
INDIAN POINT 3	04/06/76	08/30/76	4.79E+06	3.07E+06	3.03E+06	1.44E+06	6.07E+04	6.04E+06
JOSEPH M. FARLEY 1	08/09/77	12/01/77	1.74E+06	4.60E+06	2.62E+06	5.22E+06	5.26E+06	5.43E+06
JOSEPH M. FARLEY 2	05/05/81	07/30/81		2.92E+06	5.30E+06	5.98E+06	6.62E+06	
KEWAUNEE	03/07/74	06/16/74	3.44E+06	3.63E+06	3.77E+06	3.82E+06	3.71E+06	3.81E+06
MAINE YANKEE	10/23/72	12/28/72	4.54E+06	4.40E+06	5.21E+06	4.52E+06	0.00E+00	5.13E+06
MCGUIRE 1	08/08/81	10/01/81			1.91E+04	4.30E+06	4.63E+06	6.42E+06
MCGUIRE 2	08/05/83	03/01/84					0.00E+00	6.56E+06
MILLSTONE 2	10/17/75	12/26/75	4.36E+06	4.88E+06	6.09E+06	5.01E+06	2.45E+06	6.61E+06
NORTH ANNA 1	04/05/78	06/06/78	4.19E+06	5.63E+06	4.64E+06	2.40E+06	5.31E+06	3.78E+06
NORTH ANNA 2	06/12/80	12/14/80		3.50E+05	5.65E+06	4.05E+06	5.80E+06	4.72E+06
OCONEE 1	04/19/73	07/15/73	1.32E+07	5.12E+06	3.00E+06	5.15E+06	5.67E+06	6.17E+06
OCONEE 2	11/11/73	09/09/74		3.88E+06	5.19E+06	3.44E+06	5.14E+06	7.30E+06
OCONEE 3	09/05/74	12/16/74		5.22E+06	5.64E+06	2.12E+06	7.10E+06	5.35E+06
PALISADES	05/24/71	12/31/71	3.43E+06	2.38E+06	3.46E+06	3.35E+06	3.77E+06	8.12E+05
POINT BEACH 1	11/02/70	12/21/70	6.77E+06	2.48E+06	2.61E+06	2.70E+06	2.38E+06	3.11E+06
POINT BEACH 2	05/30/72	10/01/72		3.59E+06	3.72E+06	3.61E+06	3.02E+06	3.51E+06
PRAIRIE ISLAND 1	12/01/73	12/16/73	7.10E+06	3.11E+06	3.84E+06	3.92E+06	3.89E+06	4.16E+06
PRAIRIE ISLAND 2	12/17/74	12/21/74		3.47E+06	3.09E+06	3.86E+06	3.72E+06	3.91E+06
R. E. GINNA	11/08/69	07/01/70	2.96E+06	3.09E+06	3.32E+06	2.41E+06	3.04E+06	3.16E+06
RANCHO SECO	09/16/74	04/17/75	5.71E+06	4.42E+06	2.63E+06	3.37E+06	2.85E+06	3.77E+06
SALEM 1	12/11/76	06/30/77	2.04E+06	5.68E+06	6.19E+06	4.09E+06	5.38E+06	2.13E+06
SALEM 2	08/02/80	10/13/81		0.00E+00	1.63E+06	7.94E+06	7.44E+05	3.20E+06
SAN ONOFRE 1	06/14/67	01/01/68	3.36E+06	8.17E+05	7.79E+05	5.10E+05	0.00E+00	2.62E+05
SAN ONOFRE 2	07/26/82	08/08/83				1.26E+05	3.76E+06	5.27E+06
SAN ONOFRE 3	08/29/83	04/01/84					9.97E+05	4.10E+06
SEQUOYAH 1	07/05/80	07/01/81		5.18E+05	2.53E+06	4.91E+06	7.34E+06	6.10E+06
SEQUOYAH 2	11/05/81	06/01/82					6.69E+06	6.40E+06
ST. LUCIE 1	04/22/76	12/21/76	4.88E+06	5.20E+06	4.95E+06	6.78E+06	1.07E+06	4.23E+06
ST. LUCIE 2	06/02/83	08/08/83					2.40E+06	5.56E+06
SUMMER	10/22/82	01/01/84				1.91E+05	4.33E+06	4.20E+06
SURRY 1	07/01/72	12/22/72	2.87E+06	2.47E+06	2.38E+06	5.48E+06	3.52E+06	3.33E+06
SURRY 2	03/07/73	05/01/73		2.24E+06	5.15E+06	5.49E+06	4.09E+06	5.21E+06

TABLE 14

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS						
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984	
THREE MILE ISLAND 1	06/05/74	09/02/74	8.48E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
THREE MILE ISLAND 2	03/28/78	12/30/78	N/R	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
TROJAN	12/15/75	05/20/76	5.27E+06	6.07E+06	6.42E+06	4.80E+06	4.08E+06	4.74E+06	
TURKEY POINT 3	10/20/72	12/14/72	6.71E+06	4.39E+06	9.12E+05	3.77E+06	4.33E+06	4.78E+06	
TURKEY POINT 4	06/11/73	09/07/73		3.85E+06	4.50E+06	3.84E+06	2.97E+06	3.08E+06	
YANKEE ROWE	08/19/60	07/01/61	1.23E+06	2.92E+05	8.85E+05	8.82E+05	1.34E+06	1.03E+06	
ZION 1	06/19/73	12/31/73	1.03E+07	6.51E+06	6.19E+06	4.70E+06	4.02E+06	5.69E+06	
ZION 2	12/24/73	09/17/74		5.28E+06	5.26E+06	5.16E+06	6.18E+06	5.99E+06	

N/R = NOT REPORTED

TABLE 15
THERMAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS			MEGAWATT HOURS								
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
BIG ROCK POINT	09/27/62	03/29/63	1.18E+06	1.21E+06	1.20E+06	1.41E+06	1.13E+06	9.80E+05	8.30E+05	1.23E+06	1.37E+06
BROWNS FERRY 1	08/17/73	08/01/74				1.37E+06	1.64E+07	8.75E+06	1.34E+07	5.37E+07	5.32E+07
BROWNS FERRY 2	07/20/74	03/01/75									
BROWNS FERRY 3	08/08/76	03/01/77									
BRUNSWICK 1	10/08/76	03/18/77						4.72E+06	7.81E+06	1.59E+07	3.07E+07
BRUNSWICK 2	03/20/75	11/03/75									
COOPER	02/21/74	07/01/74					6.90E+06	1.24E+07	1.19E+07	1.45E+07	1.54E+07
DRESDEN 1	10/15/59	07/04/60	4.77E+06	2.38E+06	3.76E+06	2.43E+06	1.36E+06	2.56E+06	3.42E+06	2.21E+06	2.73E+06
DRESDEN 2	01/07/70	06/09/70	4.11E+06	1.23E+07	2.52E+07	2.83E+07	2.18E+07	1.70E+07	2.74E+07	2.89E+07	3.13E+07
DRESDEN 3	01/31/71	11/16/71									
DUANE ARNOLD	03/23/74	02/01/75						7.42E+06	8.02E+06	9.32E+06	3.96E+06
EDWIN I. HATCH 1	09/12/74	12/31/75						9.75E+06	1.38E+07	1.22E+07	3.37E+07
EDWIN I. HATCH 2	07/04/78	09/05/79									
GRAND GULF 1	08/18/82	07/01/85									
HUMBOLDT BAY 3	02/16/63	08/ /63	1.40E+06	1.14E+06	1.25E+06	1.47E+06	1.27E+06	1.32E+06	6.80E+05	0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74	07/28/75						6.81E+06	1.26E+07	1.18E+07	1.30E+07
LACROSSE	07/11/67	11/01/69	4.50E+05	7.10E+05	8.20E+05	6.90E+05	1.08E+06	9.20E+05	6.10E+05	3.43E+05	6.54E+05
LASALLE 1	06/21/82	01/01/84									
LASALLE 2	03/10/84	10/19/84									
LIMERICK 1	12/22/84	02/01/86									
MILLSTONE 1	10/26/70	03/01/71	2.60E+05	1.11E+07	9.69E+06	5.96E+06	1.12E+07	1.21E+07	1.16E+07	1.48E+07	1.43E+07
MONTICELLO	12/10/70	06/30/71		4.37E+06	1.10E+07	9.90E+06	8.28E+06	8.88E+06	1.23E+07	1.10E+07	1.18E+07
NINE MILE POINT 1	09/05/69	12/01/69	5.94E+06	9.94E+06	1.00E+07	1.10E+07	1.05E+07	9.68E+06	1.31E+07	9.15E+06	1.39E+07
OYSTER CREEK	05/03/69	12/01/69	1.06E+07	1.17E+07	1.30E+07	1.09E+07	1.13E+07	9.81E+06	1.18E+07	9.82E+06	1.10E+07
PEACH BOTTOM 2	09/16/73	07/05/74					1.23E+07	3.34E+07	3.72E+07	2.86E+07	4.39E+07
PEACH BOTTOM 3	08/07/74	12/23/74									
PILGRIM 1	06/16/72	12/01/72			2.65E+06	1.25E+07	6.00E+06	8.10E+06	7.60E+06	8.26E+06	1.33E+07
QUAD-CITIES 1	10/18/71	02/18/73			1.25E+07	3.17E+07	2.61E+07	2.31E+07	2.59E+07	2.68E+07	3.14E+07
QUAD-CITIES 2	04/26/72	03/10/73									
SUSQUEHANNA 1	09/10/82	06/08/83									
SUSQUEHANNA 2	05/08/84	02/12/85									
VERMONT YANKEE	03/24/72	11/30/72			1.48E+06	6.08E+06	8.20E+06	1.13E+07	1.02E+07	1.11E+07	1.00E+07
WNP-2	01/19/84	12/13/84									
FORT ST. VRAIN 1*	01/31/74	07/01/79									2.04E+06

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 15

THERMAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS			MEGAWATT HOURS					
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984
BIG ROCK POINT	09/27/62	03/29/63	3.96E+05	1.40E+06	1.63E+06	1.20E+06	1.14E+06	1.37E+06
BROWNS FERRY 1	08/17/73	08/01/74	6.31E+07	1.92E+07	1.36E+07	2.49E+07	6.78E+06	2.45E+07
BROWNS FERRY 2	07/20/74	03/01/75		1.74E+07	2.31E+07	1.38E+07	1.97E+07	1.31E+07
BROWNS FERRY 3	08/08/76	03/01/77		2.13E+07	1.95E+07	1.55E+07	1.70E+07	9.11E+05
BRUNSWICK 1	10/08/76	03/18/77	2.12E+07	1.23E+07	8.29E+06	9.48E+06	4.53E+06	1.56E+07
BRUNSWICK 2	03/20/75	11/03/75		5.38E+06	1.04E+07	6.30E+06	1.23E+07	4.53E+06
COOPER	02/21/74	07/01/74	1.58E+07	1.36E+07	1.39E+07	1.64E+07	1.05E+07	1.09E+07
DRESDEN 1	10/15/59	07/04/60	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E+07
DRESDEN 2	01/07/70	06/09/70	2.77E+07	1.57E+07	1.13E+07	1.69E+07	1.13E+07	7.10E+06
DRESDEN 3	01/31/71	11/16/71		1.42E+07	1.71E+07	1.27E+07	1.37E+07	7.10E+06
DUANE ARNOLD	03/23/74	02/01/75	9.07E+06	8.87E+06	7.05E+06	7.32E+06	7.38E+06	8.71E+06
EDWIN I. HATCH 1	09/12/74	12/31/75	1.62E+07	1.54E+07	8.97E+06	9.42E+06	1.29E+07	1.20E+07
EDWIN I. HATCH 2	07/04/78	09/05/79		1.16E+07	1.47E+07	1.18E+07	1.19E+07	5.99E+06
GRAND GULF 1	08/18/82	07/01/85					0.00E+00	8.80E+05
HUMBOLDT BAY 3	02/16/63	08/ /63	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74	07/28/75	8.97E+06	1.30E+07	1.42E+07	1.51E+07	1.42E+07	1.52E+07
LACROSSE	07/11/67	11/01/69	7.48E+05	8.00E+05	9.11E+05	5.27E+05	7.60E+05	1.07E+06
LASALLE 1	06/21/82	01/01/84				2.09E+06	5.86E+06	2.30E+07
LASALLE 2	03/10/84	10/19/84						4.51E+06
LIMERICK 1	12/22/84	02/01/86						0.00E+00
MILLSTONE 1	10/26/70	03/01/71	1.30E+07	1.04E+07	8.60E+06	1.36E+07	1.64E+07	1.34E+07
MONTICELLO	12/10/70	06/30/71	1.35E+07	1.07E+07	1.01E+07	7.68E+06	1.30E+07	8.98E+05
NINE MILE POINT 1	09/05/69	12/01/69	9.67E+06	1.41E+07	1.01E+07	3.42E+06	8.72E+06	1.12E+07
OYSTER CREEK	05/03/69	12/01/69	1.38E+07	6.27E+06	8.44E+06	6.79E+06	9.23E+05	1.04E+06
PEACH BOTTOM 2	09/16/73	07/05/74	4.58E+07	1.37E+07	2.08E+07	1.53E+07	1.40E+07	7.87E+06
PEACH BOTTOM 3	08/07/74	12/23/74		2.26E+07	9.85E+06	2.65E+07	7.82E+06	2.32E+07
PILGRIM 1	06/16/72	12/01/72	1.47E+07	9.20E+06	1.05E+07	9.90E+06	1.42E+07	4.99E+05
QUAD-CITIES 1	10/18/71	02/18/73	3.00E+07	1.17E+07	1.88E+07	1.12E+07	1.89E+07	1.06E+07
QUAD-CITIES 2	04/26/72	03/10/73		1.22E+07	1.27E+07	1.67E+07	1.08E+07	1.61E+07
SUSQUEHANNA 1	09/10/82	06/08/83				1.16E+06	1.12E+07	1.94E+07
SUSQUEHANNA 2	05/08/84	02/12/85						3.23E+06
VERMONT YANKEE	03/24/72	11/30/72	1.08E+07	9.38E+06	1.13E+07	1.31E+07	9.12E+06	1.04E+07
WNP-2	01/19/84	12/13/84						1.21E+06
FORT ST. VRAIN 1*	01/31/74	07/01/79	4.78E+05	2.23E+06	2.23E+06	1.86E+06	2.58E+06	3.40E+05

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 16

THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS								
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
ARKANSAS ONE 1	08/06/74	12/19/74					1.99E+06	1.54E+07	1.21E+07	1.64E+07	1.64E+07
ARKANSAS ONE 2	12/05/78	03/26/80									4.45E+04
BEAVER VALLEY 1	05/10/76	10/01/76							1.97E+06	1.01E+07	8.80E+06
CALLAWAY 1	10/02/84	12/19/84									
CALVERT CLIFFS 1	10/07/74	05/08/75						1.40E+07	1.98E+07	2.97E+07	3.14E+07
CALVERT CLIFFS 2	11/30/76	04/01/77									
CRYSTAL RIVER 3	01/14/77	03/13/77								1.26E+07	7.97E+06
DAVIS-BESSE	08/12/77	07/31/78								1.66E+06	8.52E+06
DIABLO CANYON 1	04/29/84	05/07/85									
DONALD C. COOK 1	01/18/75	08/27/75						1.46E+07	2.15E+07	1.55E+07	3.29E+07
DONALD C. COOK 2	03/10/78	07/01/78									
FORT CALHOUN 1	08/06/73	06/20/74				2.03E+06	7.58E+06	6.71E+06	7.15E+06	9.40E+06	8.98E+06
H. B. ROBINSON 2	09/20/70	03/07/71	6.00E+04	7.85E+06	1.55E+07	1.25E+07	1.56E+07	1.36E+07	1.59E+07	1.43E+07	1.33E+07
HADDAM NECK	07/24/67	01/01/68	1.14E+07	1.34E+07	1.38E+07	7.73E+06	1.42E+07	1.34E+07	1.30E+07	1.31E+07	1.51E+07
INDIAN POINT 1	08/02/62	10/ /62				1.47E+06	1.15E+07	1.64E+07	7.60E+06	3.50E+07	1.48E+07
INDIAN POINT 2	05/22/73	08/01/74									
INDIAN POINT 3	04/06/76	08/30/76									1.70E+07
JOSEPH M. FARLEY 1	08/09/77	12/01/77									1.95E+07
JOSEPH M. FARLEY 2	05/05/81	07/30/81									
KEWAUNEE	03/07/74	06/16/74					5.03E+06	1.08E+07	1.08E+07	1.11E+07	1.24E+07
MAINE YANKEE	10/23/72	12/28/72			1.44E+06	1.08E+07	1.14E+07	1.47E+07	1.94E+07	1.65E+07	1.69E+07
MCGUIRE 1	08/08/81	10/01/81									
MCGUIRE 2	08/05/83	03/01/84									
MILLSTONE 2	10/17/75	12/26/75						6.40E+05	1.52E+07	1.42E+07	1.44E+07
NORTH ANNA 1	04/05/78	06/06/78									1.22E+07
NORTH ANNA 2	06/12/80	12/14/80									
OCONEE 1	04/19/73	07/15/73				6.62E+06	1.70E+07	4.68E+07	3.97E+07	4.00E+07	4.84E+07
OCONEE 2	11/11/73	09/09/74									
OCONEE 3	09/05/74	12/16/74									
PALISADES	05/24/71	12/31/71			5.91E+06	7.80E+06	4.00E+05	8.91E+06	9.66E+06	1.73E+07	9.44E+06
POINT BEACH 1	11/02/70	12/21/70	6.30E+05	1.00E+07	9.96E+06	1.84E+07	2.04E+07	2.09E+07	2.18E+07	2.23E+07	2.33E+07
POINT BEACH 2	05/30/72	10/01/72									
PRAIRIE ISLAND 1	12/01/73	12/16/73				1.28E+05	5.26E+06	2.25E+07	2.06E+07	2.46E+07	2.52E+07
PRAIRIE ISLAND 2	12/17/74	12/21/74									
R. E. GINNA	11/08/69	07/01/70	6.84E+06	8.50E+06	7.71E+06	1.08E+07	6.71E+06	9.71E+06	6.98E+06	1.11E+07	1.05E+07
RANCHO SECO	09/16/74	04/17/75						4.11E+06	6.91E+06	1.81E+07	1.59E+07
SALEM 1	12/11/76	06/30/77							5.00E+04	6.70E+06	1.43E+07
SALEM 2	08/02/80	10/13/81									
SAN ONOFRE 1	06/14/67	01/01/68	9.19E+06	9.60E+06	8.53E+06	7.09E+06	9.73E+06	1.00E+07	7.75E+06	7.29E+06	8.54E+06
SAN ONOFRE 2	07/26/82	08/08/83									
SAN ONOFRE 3	08/29/83	04/01/84									
SEQUOYAH 1	07/05/80	07/01/81									
SEQUOYAH 2	11/05/81	06/01/82									
ST. LUCIE 1	04/22/76	12/21/76							3.50E+05	1.75E+07	1.64E+07
ST. LUCIE 2	06/02/83	08/08/83									
SUMMER	10/22/82	01/01/84									
SURRY 1	07/01/72	12/22/72			1.29E+06	2.26E+07	1.92E+07	2.90E+07	2.51E+07	3.10E+07	3.27E+07
SURRY 2	03/07/73	05/01/73									

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THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS								
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1970	1971	1972	1973	1974	1975	1976	1977	1978
THREE MILE ISLAND 1	06/05/74	09/02/74					6.20E+06	1.76E+07	1.39E+07	1.76E+07	1.83E+07
THREE MILE ISLAND 2	03/28/78	12/30/78									3.16E+06
TROJAN	12/15/75	05/20/76							7.54E+06	2.12E+07	5.63E+06
TURKEY POINT 3	10/20/72	12/14/72			2.90E+05	1.53E+07	2.55E+07	2.78E+07	2.68E+07	2.70E+07	2.81E+07
TURKEY POINT 4	06/11/73	09/07/73									
YANKEE ROWE	08/19/60	07/01/61	4.13E+06	5.02E+06	2.40E+06	3.57E+06	3.07E+06	4.02E+06	4.25E+06	3.52E+06	4.16E+06
ZION 1	06/19/73	12/31/73				2.73E+06	1.69E+07	3.28E+07	3.11E+07	3.66E+07	4.30E+07
ZION 2	12/24/73	09/17/74									

TABLE 16

THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS					
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984
ARKANSAS ONE 1	08/06/74	12/19/74	1.05E+07	1.29E+07	1.54E+07	1.22E+07	1.02E+07	1.44E+07
ARKANSAS ONE 2	12/05/78	03/26/80	3.45E+06	1.18E+07	1.39E+07	1.25E+07	1.43E+07	1.95E+07
BEAVER VALLEY 1	05/10/76	10/01/76	6.11E+06	1.13E+06	1.55E+07	8.88E+06	1.51E+07	1.58E+07
CALLAWAY 1	10/02/84	12/19/84						1.00E+06
CALVERT CLIFFS 1	10/07/74	05/08/75	3.15E+07	1.52E+07	1.96E+07	1.68E+07	1.75E+07	1.96E+07
CALVERT CLIFFS 2	11/30/76	04/01/77		2.05E+07	1.71E+07	1.62E+07	1.96E+07	1.69E+07
CRYSTAL RIVER 3	01/14/77	03/13/77	1.17E+07	1.04E+07	1.27E+07	1.52E+07	1.14E+07	1.97E+07
DAVIS-BESSE	08/12/77	07/31/78	1.00E+07	6.71E+06	1.40E+07	1.03E+07	1.57E+07	1.39E+07
DIABLO CANYON 1	04/29/84	05/07/85						9.48E+05
DONALD C. COOK 1	01/18/75	08/27/75	3.68E+07	2.02E+07	2.11E+07	1.69E+07	1.68E+07	2.41E+07
DONALD C. COOK 2	03/10/78	07/01/78		2.14E+07	2.04E+07	2.22E+07	2.22E+07	1.70E+07
FORT CALHOUN 1	08/06/73	06/20/74	1.16E+07	6.48E+06	6.98E+06	1.09E+07	9.14E+06	7.43E+06
H. B. ROBINSON 2	09/20/70	03/07/71	1.30E+07	1.07E+07	1.19E+07	7.67E+06	1.13E+07	7.84E+05
HADDAM NECK	07/24/67	01/01/68	1.32E+07	1.14E+07	1.31E+07	1.45E+07	1.22E+07	1.08E+07
INDIAN POINT 1	08/02/62	10/ /62	1.61E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INDIAN POINT 2	05/22/73	08/01/74		1.50E+07	1.05E+07	1.51E+07	1.96E+07	1.17E+07
INDIAN POINT 3	04/06/76	08/30/76	1.57E+07	1.15E+07	1.14E+07	5.06E+06	2.82E+05	1.93E+07
JOSEPH M. FARLEY 1	08/09/77	12/01/77	5.77E+06	1.54E+07	8.96E+06	1.75E+07	1.76E+07	1.78E+07
JOSEPH M. FARLEY 2	05/05/81	07/30/81			9.47E+06	1.75E+07	1.99E+07	2.15E+07
KEWAUNEE	03/07/74	06/16/74	1.09E+07	1.15E+07	1.21E+07	1.23E+07	1.19E+07	1.21E+07
MAINE YANKEE	10/23/72	12/28/72	1.41E+07	1.41E+07	1.67E+07	1.47E+07	1.83E+07	1.62E+07
MCGUIRE 1	08/08/81	10/01/81			8.50E+04	1.34E+07	1.39E+07	1.94E+07
MCGUIRE 2	08/05/83	03/01/84					0.00E+00	1.94E+07
MILLSTONE 2	10/17/75	12/26/75	1.38E+07	1.55E+07	1.92E+07	1.60E+07	7.88E+06	2.14E+07
NORTH ANNA 1	04/05/78	06/06/78	1.41E+07	1.89E+07	1.51E+07	7.95E+06	1.68E+07	1.18E+07
NORTH ANNA 2	06/12/80	12/14/80		1.12E+06	1.77E+07	1.29E+07	1.87E+07	1.51E+07
OCONEE 1	04/19/73	07/15/73	4.37E+07	1.52E+07	9.00E+06	1.57E+07	1.72E+07	1.86E+07
OCONEE 2	11/11/73	09/09/74		1.20E+07	1.59E+07	1.06E+07	1.58E+07	2.23E+07
OCONEE 3	09/05/74	12/16/74		1.59E+07	1.72E+07	6.53E+06	2.14E+07	1.63E+07
PALISADES	05/24/71	12/31/71	1.20E+07	8.19E+06	1.17E+07	1.12E+07	1.27E+07	2.72E+06
POINT BEACH 1	11/02/70	12/21/70	2.08E+07	8.09E+06	8.51E+06	8.60E+06	7.59E+06	9.41E+06
POINT BEACH 2	05/30/72	10/01/72		1.11E+07	1.15E+07	1.13E+07	9.38E+06	1.09E+07
PRAIRIE ISLAND 1	12/01/73	12/16/73	1.12E+08	1.06E+07	1.25E+07	1.27E+07	1.24E+07	1.33E+07
PRAIRIE ISLAND 2	12/17/74	12/21/74		1.14E+07	1.01E+07	1.26E+07	1.19E+07	1.24E+07
R. E. GINNA	11/08/69	07/01/70	9.35E+06	9.93E+06	1.07E+07	7.68E+06	9.67E+06	1.00E+07
RANCHO SECO	09/16/74	04/17/75	1.79E+07	1.39E+07	8.92E+06	1.09E+07	9.16E+06	1.21E+07
SALEM 1	12/11/76	06/30/77	6.60E+06	1.84E+07	2.02E+07	1.31E+07	1.67E+07	6.95E+06
SALEM 2	08/02/80	10/13/81		0.00E+00	5.11E+06	2.54E+07	2.95E+06	1.03E+07
SAN ONOFRE 1	06/14/67	01/01/68	1.05E+07	2.55E+06	2.59E+06	1.59E+06	0.00E+00	9.24E+05
SAN ONOFRE 2	07/26/82	08/08/83				9.28E+05	1.23E+07	1.66E+07
SAN ONOFRE 3	08/29/83	04/01/84					3.55E+06	1.29E+07
SEQUOYAH 1	07/05/80	07/01/81		1.67E+06	8.06E+06	1.52E+07	2.22E+07	1.92E+07
SEQUOYAH 2	11/05/81	06/01/82					2.03E+07	1.96E+07
ST. LUCIE 1	04/22/76	12/21/76	1.60E+07	1.70E+07	1.61E+07	2.18E+07	3.53E+06	1.35E+07
ST. LUCIE 2	06/02/83	08/08/83					7.66E+06	1.77E+07
SUMMER	10/22/82	01/01/84				7.95E+05	1.38E+07	1.33E+07
SURRY 1	07/01/72	12/22/72	9.32E+06	8.67E+06	7.94E+06	1.83E+07	1.22E+07	1.11E+07
SURRY 2	03/07/73	05/01/73	7.26E+06	1.68E+07	1.79E+07	1.35E+07	1.73E+07	

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THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS			MEGAWATT HOURS						
FACILITY	INITIAL CRITICALITY	COMMERCIAL OPERATION	1979	1980	1981	1982	1983	1984	
THREE MILE ISLAND 1	06/05/74	09/02/74	2.83E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
THREE MILE ISLAND 2	03/28/78	12/30/78	N/R	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
TROJAN	12/15/75	05/20/76	1.70E+07	1.97E+07	2.10E+07	1.56E+07	1.34E+07	1.54E+07	
TURKEY POINT 3	10/20/72	12/14/72	2.28E+07	1.47E+07	3.03E+06	1.22E+07	1.41E+07	1.56E+07	
TURKEY POINT 4	06/11/73	09/07/73		1.32E+07	1.48E+07	1.27E+07	9.83E+06	1.04E+07	
YANKEE ROWE	08/19/60	07/01/61	4.17E+06	1.13E+06	3.63E+06	3.69E+06	4.69E+06	3.61E+06	
ZION 1	06/19/73	12/31/73	3.31E+07	2.22E+07	1.98E+07	1.52E+07	1.34E+07	1.83E+07	
ZION 2	12/24/73	09/17/74		1.75E+07	1.77E+07	1.71E+07	2.00E+07	1.92E+07	

N/R = NOT REPORTED

APPENDIX A

INSTALLATION:ARKANSAS ONE 1

LOCATION:6 MI WNW RUSSELLVILLE, AR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:ARKANSAS POWER & LIGHT

TYPE:PWR

LICENSED POWER (MWT):2568.00

DOCKET NO.:50-313

INITIAL CRITICALITY:08/06/74

COOLING WATER SOURCE:DARDANELLE RESERVOIR

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

K-40	5.04E-05
CO-58	1.01E-04
CO-60	3.40E-05
KR-85	2.50E+01
KR-85M	2.21E-02
KR-87	4.70E+00
RB-88	2.34E-04
SR-89	3.06E-04
SR-90	4.78E-05
NB-95	9.31E-06
ZR-95	1.11E-05
AG-110M	1.36E-05
SB-125	2.22E-05
I-131	1.10E-03
XE-131M	1.00E+01
I-133	3.76E-05
XE-133	2.73E+03
XE-133M	3.00E+00
CS-134	1.37E-06
XE-135	1.25E+02
CS-137	2.76E-05
TH-228	1.85E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

BE-7	7.28E-04
NA-24	3.07E-02
CR-51	7.91E-02
MN-54	1.04E-02
CO-57	1.71E-03
CO-58	1.11E+00
FE-59	7.05E-03
CO-60	2.90E-01
NI-65	1.66E-04
SE-75	7.36E-04
KR-85	3.72E-01
KR-85M	2.44E-03
KR-87	1.99E-04
KR-88	2.25E-04
SR-89	3.50E-02
SR-90	1.03E-03
SR-91	3.85E-05
SR-92	3.37E-04
NB-95	2.01E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
ZR-95	1.19E-02
NB-97	2.86E-03
ZR-97	2.20E-04
MO-99	3.09E-03
RU-103	8.48E-03
RU-106	3.11E-03
AG-110M	3.73E-02
I-131	2.23E-01
XE-131M	8.60E-01
I-132	3.18E-04
BA-133	4.19E-06
I-133	8.90E-03
XE-133	1.98E+02
XE-133M	1.46E+00
CS-134	5.60E-01
I-135	5.38E-04
XE-135	6.18E-01
CS-136	8.49E-04
CS-137	1.44E+00
CS-138	7.91E-06
BA-140	2.68E-04
LA-140	8.05E-02
CE-144	1.15E-03
NP-239	1.40E-05

TOTAL AIRBORNE TRITIUM RELEASE	9.40E+00
TOTAL LIQUID TRITIUM RELEASE	3.05E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.10E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.01E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:ARKANSAS POWER & LIGHT

TYPE:PWR

LICENSED POWER (MWT):2815.00

DOCKET NO.:50-368

INITIAL CRITICALITY:12/05/78

COOLING WATER SOURCE:COOLING TOWER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

K-40	3.82E-05
AR-41	2.44E-03
CO-58	1.99E-05
CO-60	1.84E-06
KR-85	3.40E-01
KR-85M	4.02E-02
KR-88	6.96E-03
SR-89	2.05E-06
SR-90	5.60E-08
NB-95	5.72E-07
I-131	2.25E-04
XE-131M	7.20E+00
I-132	1.28E-06
I-133	2.86E-05
XE-133	2.99E+03
XE-133M	1.00E+01
CS-134	3.08E-07
I-134	4.79E-07
XE-135	2.49E+02
CS-137	1.57E-05
TH-228	3.58E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

BE-7	9.66E-04
NA-24	9.13E-03
CR-51	1.64E-01
MN-54	8.34E-03
CO-57	7.62E-04
CO-58	5.84E-01
FE-59	1.05E-02
CO-60	1.06E-01
ZN-65	1.04E-03
SE-75	8.86E-05
KR-85M	3.99E-04
KR-87	1.53E-04
KR-88	2.33E-04
SR-89	7.04E-04
SR-90	7.02E-05
SR-92	1.78E-04
NB-95	4.33E-02
ZR-95	2.84E-02
NB-97	2.72E-03
ZR-97	1.80E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:ARKANSAS ONE 2

LOCATION:6 MI WNW RUSSELVILLE, AR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MO-99	1.07E-02
RU-103	1.02E-02
RU-106	8.54E-03
AG-110M	2.72E-02
I-131	6.80E-01
XE-131M	9.35E-02
I-132	1.54E-04
I-133	2.34E-02
XE-133	1.26E+01
XE-133M	7.32E-02
CS-134	2.30E-01
I-135	9.95E-04
XE-135	6.97E-02
CS-136	2.97E-03
CS-137	5.10E-01
LA-140	7.90E-03
CE-144	2.91E-03
W-187	2.79E-04
NP-239	5.26E-04

TOTAL AIRBORNE TRITIUM RELEASE	4.10E+00
TOTAL LIQUID TRITIUM RELEASE	3.09E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.97E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.12E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ARKANSAS ONE 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
15	CASK SHIPMENT (TYPE A)	HANFORD WA
14	CASK TRUCK	HANFORD WA
26	UNSHIELDED VAN/TRUCK	HANFORD WA

IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
BA-140	%	2.32E-02	
C-14	%	1.29E-02	
CD-109	%	1.27E+00	
CE-144	%	1.57E-01	
CM-242	%	1.87E-03	
CO-57	%	1.37E-01	
CO-58	%	2.90E+01	3.12E+01
CO-60	%	1.41E+01	1.14E+01
CR-51	%	9.99E-02	
CS-134	%	8.52E+00	1.32E+01
CS-136	%	5.20E-02	
CS-137	%	3.01E+01	2.97E+01
FE-55	%	4.17E+00	5.47E+00
FE-59	%	8.14E-03	
H-3	%	2.63E-01	
I-129	%	7.48E-03	
I-131	%	3.48E-01	
MN-54	%	4.49E+00	
NB-95	%	5.41E-03	
NB-97	%	5.84E-26	
NI-59	%	3.76E-02	
NI-63	%	5.38E+00	7.06E+00
PU-241	%	1.10E-01	
RU-106	%	2.92E-02	
SB-122	%	7.32E-01	
SB-124	%	7.14E-02	
SB-125	%	5.57E-01	
SE-75	%	1.39E-02	
SN-113	%	1.53E-02	
SN-125	%	1.65E-01	
SR-90	%	1.86E-02	1.19E+00
TC-99	%	6.45E-02	
TRANSURANICS, ALPHA PARTICLES	%	7.25E-04	
ZN-65	%	2.82E-02	
ZR-95	%	4.41E-03	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ARKANSAS ONE 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
B			
C-14	%	2.15E+00	8.52E-01
CE-144	%	1.13E-01	
CM-242	%	1.08E-03	
CO-58	%	3.49E+00	7.53E+00
CO-60	%	2.06E+01	3.16E+00
CS-134	%	1.30E+01	5.01E+00
CS-137	%	4.04E+01	1.55E+01
FE-55	%	7.83E+00	6.49E+01
I-129	%	5.29E-02	
MN-54	%	3.28E+00	
NI-59	%	2.94E-01	
NI-63	%	6.90E+00	1.96E+00
PU-241	%	6.52E-02	
SR-90	%	1.70E+00	6.21E-01
TC-99	%	9.79E-02	
TRANSURANICS,ALPHA PARTICLES	%	8.24E-04	
C			
AG-110	%		5.10E+00
CO-58	%		4.79E+00
CO-60	%		3.76E+00
CS-134	%		9.79E-01
CS-137	%		2.01E+00
FE-55	%		7.89E+01
NI-63	%		2.33E+00
ZR-97	%		1.13E+00
D			
C-14	%		9.70E-01
CO-58	%		8.37E+00
CO-60	%		2.92E+00
CS-134	%		4.74E+00
CS-137	%		1.69E+01
FE-55	%		6.12E+01
H-3	%		2.07E+00
NI-63	%		1.81E+00
SR-90	%		6.77E-01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.02E+02
	CI	1.40E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	6.97E+02
	CI	6.16E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	2.07E-01
	CI	5.26E-02
D. OTHER	M3	1.08E+01
ABSORBED OIL,SCINT. VIALS	CI	3.00E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:DUQUESNE LIGHT+OHIO EDISON+PA POWER

TYPE:PWR

LICENSED POWER (MWT):2652.00

DOCKET NO.:50-334

INITIAL CRITICALITY:05/10/76

COOLING WATER SOURCE:OHIO RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	5.57E-05
CR-51	7.58E-05
MN-54	5.62E-07
CO-57	3.74E-07
CO-58	3.71E-04
CO-60	3.15E-04
KR-85	1.41E+01
KR-85M	5.33E+00
SR-89	8.18E-06
SR-90	4.91E-05
I-131	5.23E-03
XE-131M	9.16E+00
I-133	1.89E-03
XE-133	1.12E+03
XE-133M	1.02E+01
CS-134	4.29E-05
I-135	1.40E-05
XE-135	2.66E+00
CS-137	1.16E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.86E-05
CR-51	2.76E-04
MN-54	7.16E-04
FE-55	4.55E-02
CO-57	1.72E-04
CO-58	3.59E-02
CO-60	9.58E-02
KR-85	6.60E-05
SR-89	6.08E-05
SR-90	1.28E-05
SR-92	8.09E-05
ZR-NB-95	8.80E-05
NB-97	7.25E-04
AG-110M	7.02E-05
SB-124	1.77E-03
SB-125	4.62E-03
I-131	1.79E-03
XE-131M	2.81E-03
XE-133	4.76E-01
XE-133M	1.95E-03
CS-134	4.80E-03
XE-135	2.83E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:BEAVER VALLEY

LOCATION:SHIPPINGPORT, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

CS-137

1.08E-02

BA-139

3.41E-05

TOTAL AIRBORNE TRITIUM RELEASE 1.46E+01

TOTAL LIQUID TRITIUM RELEASE 4.12E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 7.75E+06

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 2.99E+10

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION: BEAVER VALLEY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
21	TRUCK	BARNWELL SC
1	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.85E+01
BOTTOMS, ETC.	CI	7.09E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	9.71E+01
EQUIPMENT, ETC.	CI	2.63E+00
C. IRRADIATED COMPONENTS, CONTROL	M3	
RODS, ETC.	CI	
D. OTHER	M3	
	CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BIG ROCK POINT

LOCATION:4 MI NE CHARLEVOIX, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:CONSUMERS POWER

TYPE:BWR

LICENSED POWER (MWT): 240.00

DOCKET NO.:50-155

INITIAL CRITICALITY:09/27/62

COOLING WATER SOURCE:LAKE MICHIGAN

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	1.61E+03
NA-24	1.65E-03
CR-51	2.34E-03
MN-54	1.64E-04
MN-56	5.50E-04
CO-58	1.11E-05
FE-59	6.37E-06
CO-60	1.86E-04
ZN-65	7.80E-05
BR-82	7.92E-03
KR-83M	4.23E+03
KR-85	1.52E+02
KR-85M	7.69E+03
KR-87	1.64E+04
KR-88	1.69E+04
KR-89	2.09E+03
KR-90	1.09E+03
SR-91	6.30E-04
SR-92	1.45E-03
MO-99	2.58E-04
TC-101	1.55E-01
AG-110M	1.86E-04
I-131	1.24E-01
XE-131M	3.38E+01
I-132	8.09E-02
I-133	4.89E-02
XE-133	2.04E+04
XE-133M	4.49E+02
CS-134	6.55E-04
I-134	5.88E-01
I-135	1.76E-01
XE-135	3.07E+04
XE-135M	7.25E+03
CS-136	2.19E-04
CS-137	1.17E-03
XE-137	3.60E+03
CS-138	2.22E+01
XE-138	2.73E+04
BA-139	8.38E-03
XE-139	1.58E+03
BA-140	8.22E-04
LA-140	4.78E-03
HG-203	1.24E-05
NP-239	2.77E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:BIG ROCK POINT

LOCATION:4 MI NE CHARLEVOIX, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

LIQUID EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

CR-51	1.01E-03
MN-54	1.74E-02
CO-58	7.57E-04
FE-59	5.02E-03
CO-60	1.46E-02
ZN-65	5.83E-04
SR-89	1.18E-03
SR-90	1.32E-04
SR-92	1.27E-04
NB-95	3.16E-04
ZR-95	1.99E-05
AG-110M	4.26E-04
SB-124	1.78E-05
I-131	3.25E-02
I-133	5.23E-03
XE-133	2.93E-03
CS-134	7.66E-03
I-135	2.54E-03
CS-136	8.76E-04
CS-137	2.30E-02

TOTAL AIRBORNE TRITIUM RELEASE	4.23E+01
TOTAL LIQUID TRITIUM RELEASE	1.11E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.45E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.89E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BIG ROCK POINT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
1	TRI-STATE TRUCK

DESTINATION
RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
0	

DESTINATION

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	0.00E+00
CI	0.00E+00
M3	3.67E+01
CI	2.13E+00
M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:TENNESSEE VALLEY AUTHORITY
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-259	INITIAL CRITICALITY:08/17/73
COOLING WATER SOURCE:TENNESSEE RIVER	
UNIT NUMBER: 2	LICENSEE:TENNESSEE VALLEY AUTHORITY
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-260	INITIAL CRITICALITY:07/20/74
COOLING WATER SOURCE:TENNESSEE RIVER	
UNIT NUMBER: 3	LICENSEE:TENNESSEE VALLEY AUTHORITY
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-296	INITIAL CRITICALITY:08/08/76
COOLING WATER SOURCE:TENNESSEE RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.54E+01
AR-41	<1.88E+03
MN-54	<2.43E-04
CO-58	<9.06E-06
CO-60	8.25E-04
ZN-65	<3.34E-03
KR-85	<1.29E+02
KR-85M	1.12E+05
KR-87	<7.29E+04
KR-88	1.89E+05
SR-89	1.26E-03
SR-90	6.32E-06
NB-95	<5.77E-05
I-131	1.49E-01
I-133	<4.66E-01
XE-133	<2.66E+05
CS-134	<2.00E-03
I-135	<2.36E-01
XE-135	2.34E+04
XE-135M	<7.77E+01
CS-137	<3.82E-03
BA-140	7.70E-03
LA-140	<5.02E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.18E+01
NA-24	1.22E-01
CR-51	9.93E-03
MN-54	1.32E-02
MN-56	7.19E-04
CO-58	1.86E-03
CO-60	1.85E-01
ZN-65	8.39E-01
SR-89	4.17E-03
SR-90	5.63E-04

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BROWNS FERRY

LOCATION:10 MI NW DECATUR, AL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NB-95	7.28E-04
ZR-95	1.01E-04
ZR-NB-95	1.52E-04
MO-99	6.17E-03
TC-99M	6.17E-03
AG-110M	1.21E-02
SB-125	1.17E-04
I-131	1.34E-01
I-133	2.07E-01
XE-133	5.49E-01
CS-134	1.02E+00
I-135	1.15E-01
XE-135	7.71E-01
CS-136	1.90E-03
CS-137	1.27E+00
BA-140	9.84E-04
BA-LA-140	1.23E-02
LA-140	5.05E-03
CE-141	2.18E-01

TOTAL AIRBORNE TRITIUM RELEASE	1.54E+01
TOTAL LIQUID TRITIUM RELEASE	3.18E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.22E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.84E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BROWNS FERRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
125	SOLE USE TRUCK	BARNWELL SC
48	SOLE USE TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE JULY-DEC

A

AG-110M	%	1.01E+00
CO-58	%	4.43E-01
CO-60	%	8.24E+00
CR-51	%	5.36E+00
CS-134	%	1.19E+01
CS-137	%	1.31E+01
FE-59	%	1.52E-02
I-131	%	4.57E+00
LA-140	%	1.68E+00
MN-54	%	8.02E-01
NB-95	%	3.49E-01
OTHERS	%	1.01E+01
SR-90	%	3.76E-01
ZN-65	%	4.19E+01
ZR-95	%	1.03E-01

B

AG-110M	%	7.95E-01
CO-58	%	1.99E-01
CO-60	%	9.54E+00
CR-51	%	1.40E+00
CS-134	%	8.28E+00
CS-137	%	8.44E+00
FE-59	%	8.83E-04
I-131	%	4.42E+00
LA-140	%	1.25E+00
MN-54	%	8.94E-01
NB-95	%	6.62E-02
OTHERS	%	1.01E+01
SR-90	%	4.09E-01
ZN-65	%	5.42E+01
ZR-95	%	1.10E-02

D

AG-110M	%	8.27E-01
CO-58	%	3.47E-01
CO-60	%	8.48E+00
CR-51	%	4.55E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:BROWNS FERRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
CS-134	%	9.72E+00	
CS-137	%	1.05E+01	
FE-59	%	1.95E-02	
I-131	%	3.72E+00	
LA-140	%	1.42E+00	
MN-54	%	1.06E+00	
NB-95	%	3.06E-01	
OTHERS	%	1.27E+01	
SR-90	%	2.35E-01	
ZN-65	%	4.60E+01	
ZR-95	%	8.69E-02	

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	5.00E+02
	CI	2.10E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.03E+02
	CI	9.06E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	N/A
	CI	N/A
D. OTHER BOXES	M3	1.12E+03
	CI	4.61E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BRUNSWICK

LOCATION:20 MI S WILMINGTON, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:CAROLINA POWER &LIGHT
TYPE:BWR	LICENSED POWER (MWT):2436.00
DOCKET NO.:50-325	INITIAL CRITICALITY:10/08/76
COOLING WATER SOURCE:CAPE FEAR RIVER	
UNIT NUMBER: 2	LICENSEE:CAROLINA POWER &LIGHT
TYPE:BWR	LICENSED POWER (MWT):2436.00
DOCKET NO.:50-324	INITIAL CRITICALITY:03/20/75
COOLING WATER SOURCE:CAPE FEAR RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	9.95E+00
AR-41	7.82E+01
CR-51	1.91E-02
MN-54	4.85E-03
CO-58	6.68E-04
FE-59	1.25E-04
CO-60	7.18E-03
ZN-65	1.12E-06
KR-85M	5.19E+03
KR-87	1.60E+04
KR-88	1.45E+04
SR-89	8.84E-03
SR-90	1.45E-05
ZR-NB-95	2.05E-04
I-131	1.55E-01
XE-131M	6.59E+03
I-132	7.74E-01
I-133	1.10E+00
XE-133	1.72E+04
XE-133M	5.54E+02
CS-134	8.82E-05
I-134	1.22E+01
I-135	1.67E+00
XE-135	2.84E+04
XE-135M	1.42E+04
CS-137	6.68E-04
XE-137	8.08E+03
XE-138	5.29E+04
BA-139	7.15E-04
BA-LA-140	2.13E-03
CE-144	3.65E-06
UNIDENTIFIED	2.74E+03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	3.24E-03
NA-24	2.03E-02
AR-41	6.95E-05
CR-51	9.28E-02
MN-54	5.56E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BRUNSWICK

LOCATION:20 MI S WILMINGTON, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-55	2.15E-02
MN-56	2.21E-06
CO-58	1.44E-02
FE-59	1.64E-03
CO-60	1.93E-01
ZN-65	2.09E-04
ZN-69M	6.87E-06
AS-76	3.31E-03
SR-89	1.25E-03
SR-90	4.14E-04
Y-91M	6.61E-04
SR-92	5.15E-04
Y-92	1.78E-02
ZR-NB-95	5.00E-05
NB-97	4.43E-03
MO-99	1.51E-03
TC-99M	8.81E-03
TC-101	1.31E-03
RU-103	1.19E-04
TC-104	4.33E-03
RU-105	1.44E-02
AG-110M	1.08E-03
AG-111	4.76E-04
I-131	3.54E-03
XE-131M	2.81E-04
I-132	1.64E-04
TE-132	5.10E-05
I-133	3.25E-03
XE-133	2.92E-01
XE-133M	1.15E-02
CS-134	1.51E-02
I-135	9.07E-04
XE-135	1.12E+00
XE-135M	1.91E-03
CS-137	4.08E-02
CS-138	2.97E-06
BA-LA-140	1.71E-02
CE-141	8.64E-07
LA-141	1.29E-03
LA-142	6.85E-04
W-187	2.12E-05
NP-239	4.09E-04
UNIDENTIFIED	2.56E-02

TOTAL AIRBORNE TRITIUM RELEASE 9.95E+00
TOTAL LIQUID TRITIUM RELEASE 3.37E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BRUNSWICK

LOCATION:20 MI S WILMINGTON, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.41E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.78E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:BRUNSWICK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

91

8

MODE OF TRANSPORTATION

SOLE USE VEHICLE

SOLE USE VEHICLE

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BA-140	%	1.41E+00	
CO-58	%	2.75E+00	3.00E+00
CO-60	%	4.60E+01	3.50E+01
CR-51	%	1.02E+01	1.90E+01
CS-134	%	1.10E+00	4.70E-01
CS-137	%	3.37E+00	1.05E+00
FE-55	%	1.01E+01	1.20E+01
FE-59	%	8.20E-01	1.74E+00
I-131	%	2.10E+00	
LA-140	%	1.10E+00	
MN-54	%	1.30E+01	2.44E+01
NI-63	%	4.24E+00	2.73E+00
SR-89	%		6.30E-01
XE-131M	%	2.80E+00	
ZN-65	%	9.40E-01	

B

BA-140	%		1.39E+00
CO-60	%	2.48E+01	2.38E+01
CR-51	%	1.60E+00	1.58E+00
CS-134	%	2.00E+00	1.95E+00
CS-137	%	4.50E+00	3.96E+00
FE-55	%	5.81E+01	5.71E+01
MN-54	%	8.80E+00	7.74E+00

D

CO-60	%		3.67E+01
CR-51	%		1.50E+00
CS-134	%		4.12E+00
CS-137	%		1.21E+01
FE-55	%		4.24E+01
H-3	%		2.80E+00
MN-54	%		2.25E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:BRUNSWICK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3		3.00E+02
BOTTOMS, ETC.	CI		3.42E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3		1.02E+03
EQUIPMENT, ETC.	CI		2.86E+01
C. IRRADIATED COMPONENTS, CONTROL	M3		0.00E+00
RODS, ETC.	CI		0.00E+00
D. OTHER	M3		5.25E+01
	CI		9.09E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:CALLAWAY

LOCATION:10 MI SE FULTON MO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:UNION ELECTRIC COMPANY

TYPE:PWR

LICENSED POWER (MWT):3411.00

DOCKET NO.:50-483

INITIAL CRITICALITY:10/02/84

COOLING WATER SOURCE:MISSOURI RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.10E+00
NA-24	2.07E-06
AR-41	4.27E+00
KR-85M	1.65E-01
KR-88	7.76E-02
I-131	9.41E-07
XE-133	1.88E+02
XE-133M	2.27E+00
XE-135	5.02E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.90E+01
NA-24	5.90E-04
MN-54	2.13E-05
FE-55	2.87E-04
CO-58	1.65E-04
CO-60	2.19E-07
TC-99M	3.77E-07
I-131	6.04E-06
I-133	8.24E-07
XE-133	4.03E-03
XE-133M	1.51E-05
XE-135	2.19E-04
CS-137	1.26E-07
BA-140	9.32E-07
LA-140	5.98E-07
W-187	2.73E-07

TOTAL AIRBORNE TRITIUM RELEASE 1.10E+00

TOTAL LIQUID TRITIUM RELEASE 2.90E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 9.71E+06

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 4.59E+08

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:CALVERT CLIFFS

LOCATION:45 MI SE WASHINGTON, D.C.

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:BALTIMORE GAS & ELECTRIC
TYPE:PWR	LICENSED POWER (MWT):2700.00
DOCKET NO.:50-317	INITIAL CRITICALITY:10/07/74
COOLING WATER SOURCE:CHESAPEAKE BAY	
UNIT NUMBER: 2	LICENSEE:BALTIMORE GAS & ELECTRIC
TYPE:PWR	LICENSED POWER (MWT):2700.00
DOCKET NO.:50-318	INITIAL CRITICALITY:11/30/76
COOLING WATER SOURCE:CHESAPEAKE BAY	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.73E-01
CO-57	1.09E-07
CO-58	2.45E-05
BR-82	1.48E-04
KR-85	5.35E+00
KR-85M	6.00E-01
KR-87	1.15E-02
KR-88	1.41E-01
RB-88	4.64E-02
SR-89	<1.31E-04
SR-90	<4.09E-06
MO-99	1.09E-09
I-131	5.94E-02
XE-131M	1.80E+01
I-132	1.25E-03
TE-132	2.76E-07
I-133	7.02E-02
XE-133	3.49E+03
XE-133M	8.10E+01
CS-134	7.11E-06
I-134	2.72E-06
I-135	1.52E-02
XE-135	1.97E+02
CS-137	4.81E-05
CS-138	3.59E-04
BA-140	1.91E-04
LA-140	3.77E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.57E-03
CR-51	1.23E-01
MN-54	1.53E-02
CO-57	1.16E-04
CO-58	5.65E-01
FE-59	7.09E-04
CO-60	1.00E-01
SR-89	<1.96E-02
SR-90	2.07E-03
NB-95	5.45E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:CALVERT CLIFFS

LOCATION:45 MI SE WASHINGTON, D.C.

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ZR-95	3.02E-02
NB-97	2.09E-02
ZR-97	1.05E-03
MO-99	1.24E-03
RU-103	5.35E-03
AG-110M	9.53E-02
SN-113	4.16E-03
SB-122	7.89E-05
SB-124	2.07E-03
SB-125	6.90E-02
I-131	9.03E-02
I-132	7.85E-04
TE-132	4.26E-04
I-133	4.13E-02
XE-133	2.53E-01
XE-133M	2.14E-03
CS-134	1.05E-01
XE-135	3.94E-03
CS-137	2.43E-01
BA-140	7.51E-04
LA-140	2.10E-04
CE-141	3.51E-03
CE-144	5.38E-02
UNIDENTIFIED	<1.86E-02

TOTAL AIRBORNE TRITIUM RELEASE	2.63E+00
TOTAL LIQUID TRITIUM RELEASE	7.87E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.73E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.21E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: CALVERT CLIFFS

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

35

14

MODE OF TRANSPORTATION

MOTOR SURFACE TRANSIT

MOTOR SURFACE TRANSIT

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CD-109

%

5.24E+00

CO-57

%

4.10E-01

CO-58

%

8.73E+00

6.33E+00

CO-60

%

9.15E+00

4.11E+00

CS-134

%

2.04E+01

1.86E+01

CS-137

%

3.92E+01

3.49E+01

I-131

%

1.25E+01

MN-54

%

3.87E+00

3.11E+00

NI-63

%

3.67E+00

2.46E+01

SB-122

%

2.15E+00

SB-125

%

1.85E+00

SR-90

%

2.05E-01

2.75E-01

B

CO-58

%

2.98E+00

3.25E+00

CO-60

%

3.97E+01

3.56E+01

CS-134

%

3.00E+00

5.62E+00

CS-137

%

1.13E+01

1.72E+01

MN-54

%

2.66E+00

2.44E+00

NI-63

%

3.67E+01

3.24E+01

C

CO-60

%

3.91E+01

FE-55

%

4.96E+01

MN-54

%

1.13E+00

NI-63

%

9.91E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3

3.22E+01

CI

7.98E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

4.92E+02

CI

2.18E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

4.44E+00

CI

3.69E+04

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:DONALD C. COOK

LOCATION:11 MI SSW ST. JOSEPH, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:INDIANA & MICHIGAN ELECTRIC
TYPE:PWR	LICENSED POWER (MWT):3250.00
DOCKET NO.:50-315	INITIAL CRITICALITY:01/18/75
COOLING WATER SOURCE:LAKE MICHIGAN	
UNIT NUMBER: 2	LICENSEE:INDIANA & MICHIGAN ELECTRIC
TYPE:PWR	LICENSED POWER (MWT):3391.00
DOCKET NO.:50-316	INITIAL CRITICALITY:07/01/78
COOLING WATER SOURCE:LAKE MICHIGAN	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	7.89E-01
MN-54	2.40E-04
CO-58	2.42E-03
CO-60	2.81E-03
KR-85	5.60E+01
KR-85M	1.92E-01
KR-87	1.19E-01
KR-88	1.32E-01
Y-88	1.14E-06
SR-89	2.06E-06
SR-90	9.14E-07
ZR-NB-95	7.93E-05
I-131	1.18E-02
XE-131M	6.95E+00
I-133	7.04E-03
XE-133	3.32E+03
XE-133M	2.13E+01
CS-134	1.62E-03
I-134	5.60E-04
I-135	5.41E-03
XE-135	9.90E+01
CS-137	1.95E-03
XE-138	3.85E-02
CE-139	1.12E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	8.00E-03
MN-54	1.14E-02
FE-55	1.31E-01
CO-57	8.48E-04
CO-58	2.76E-01
FE-59	5.69E-05
CO-60	2.22E-01
ZN-65	2.01E-03
KR-85	2.56E-02
KR-85M	7.72E-04
SR-85	8.48E-05
SR-89	3.56E-04
SR-90	3.67E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:DONALD C. COOK

LOCATION:11 MI SSW ST. JOSEPH, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SR-92	4.03E-03
ZR-NB-95	1.38E-02
ZR-97	1.08E-03
RU-106	3.57E-03
AG-110M	4.25E-02
SN-113	1.01E-04
SB-124	9.51E-03
SB-125	3.16E-03
I-131	1.09E-02
XE-131M	1.57E-03
I-133	1.59E-02
XE-133	1.02E+01
XE-133M	1.40E-01
CS-134	6.72E-02
I-134	1.44E-03
I-135	1.39E-02
XE-135	2.52E-01
CS-137	1.21E-01
BA-LA-140	3.26E-05

TOTAL AIRBORNE TRITIUM RELEASE	5.08E+01
TOTAL LIQUID TRITIUM RELEASE	1.37E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.44E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.95E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DONALD C. COOK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION	NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
	34	TRUCK	BARNWELL SC
	5	TRUCK	RICHLAND WA

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
A			
CO-58	%	7.00E+00	2.80E+01
CO-60	%	3.00E+01	1.00E+01
CS-134	%	5.00E+00	1.50E+01
CS-137	%	1.60E+01	2.00E+01
NI-63	%	4.20E+01	2.70E+01
B			
CO-58	%	5.80E+01	5.00E+01
CO-60	%	4.00E+00	6.00E+00
CS-134	%	1.60E+01	2.00E+01
CS-137	%	2.20E+01	2.40E+01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.70E+02
	CI	6.66E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.24E+02
	CI	3.08E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	
	CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:COOPER

LOCATION:70 MI S OMAHA, NE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:NEBRASKA PUBLIC PWR&IOWA PWR&LIGHT

TYPE:BWR

LICENSED POWER (MWT):2381.00

DOCKET NO.:50-298

INITIAL CRITICALITY:02/21/74

COOLING WATER SOURCE:MISSOURI RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

CR-51	5.62E-05
MN-54	5.37E-05
CO-58	2.27E-05
CO-60	6.57E-04
KR-83M	2.83E+01
KR-85	6.58E+00
KR-85M	3.89E+02
KR-87	1.27E+02
KR-88	2.89E+02
KR-89	2.76E+00
SR-89	2.82E-04
SR-90	3.75E-05
I-131	<7.59E-03
XE-131M	2.59E+00
I-133	<2.10E-02
XE-133	1.42E+02
XE-133M	2.62E+00
CS-134	<1.47E-04
I-135	<3.78E-02
XE-135	2.02E+02
XE-135M	2.96E+01
CS-137	<1.04E-03
XE-137	7.54E+00
XE-138	1.57E+02
BA-LA-140	<1.61E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

NA-24	<9.66E-03
CR-51	<1.94E-01
MN-54	<2.62E-01
CO-58	<9.53E-02
FE-59	<1.82E-02
CO-60	<1.83E+00
ZN-65	<2.56E-02
SR-89	<2.52E-02
SR-90	<1.42E-03
SR-92	4.69E-02
ZR-NB-95	<2.53E-02
MO-99	<3.01E-02
TC-99M	<1.31E-02
AG-110M	<7.95E-03
I-131	<2.34E-02
XE-133	<2.72E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:COOPER

LOCATION:70 MI S OMAHA, NE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-134	<1.49E+00
XE-135	<1.14E-02
CS-136	4.03E-03
CS-137	<2.03E+00
BA-LA-140	<4.01E-02
CE-141	<1.72E-02
NP-239	1.07E-03
UNIDENTIFIED	<1.07E-01

TOTAL AIRBORNE TRITIUM RELEASE 4.61E+00

TOTAL LIQUID TRITIUM RELEASE <7.20E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.15E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.05E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:COOPER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

2

61

MODE OF TRANSPORTATION

SOLE USE VEHICLE

SOLE USE VEHICLE

DESTINATION

BARNWELL SC

BEATTY NV

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

1

MODE OF TRANSPORTATION

RAIL SOLE USE VEHICLE

DESTINATION

MORRIS IL

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

AG-110M

%

2.89E-01

3.91E-01

BA-LA-140

%

1.08E+00

3.31E-02

C-14

%

6.26E-04

4.81E-02

CE-141

%

3.98E-02

7.68E-03

CM-242

%

7.77E-03

1.42E-03

CO-57

%

7.85E-04

CO-58

%

1.04E+00

7.82E+00

CO-60

%

3.81E+01

5.12E+01

CR-51

%

5.27E-01

5.75E+00

CS-134

%

2.18E+01

8.55E+00

CS-136

%

9.07E-04

CS-137

%

2.59E+01

1.03E+01

FE-59

%

1.90E-02

H-3

%

3.69E-02

9.42E-03

I-129

%

1.30E-03

2.07E-04

I-131

%

8.77E-01

4.00E-01

MN-54

%

3.79E+00

1.36E+01

NI-63

%

7.61E-01

5.88E-01

PU-241

%

2.07E-01

2.13E-03

SB-124

%

4.81E-03

SB-125

%

1.52E-02

SR-90

%

4.66E+00

3.70E-03

TC-99

%

5.17E-05

4.78E-05

TRANSURANICS

%

1.67E-02

2.57E-03

ZN-65

%

8.43E-01

1.32E+00

ZR-NB-95

%

7.88E-03

B

CM-242

%

3.09E-05

3.08E-05

CO-60

%

4.82E+01

4.80E+01

CS-134

%

1.72E-01

1.71E-01

CS-137

%

2.03E-01

2.03E-01

FE-55

%

4.32E+01

4.32E+01

H-3

%

2.69E-04

2.68E-04

I-129

%

1.04E-04

1.03E-04

MN-54

%

1.04E+00

1.03E+00

NI-63

%

7.09E+00

7.04E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION: COOPER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
PU-241	%	5.37E-04	5.35E-04
SB-125	%	4.28E-01	3.54E-01
SR-90	%	4.15E-05	4.14E-05
TC-99	%	2.32E-05	2.31E-05
TRANSURANICS	%	3.61E-05	3.60E-05

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT	YEAR TOTAL
M3	1.42E+02
CI	4.73E+02
M3	2.95E+02
CI	1.86E+01
M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:CRYSTAL RIVER

LOCATION:70 MI N TAMPA, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3

LICENSEE:FLORIDA POWER

TYPE:PWR

LICENSED POWER (MWT):2452.00

DOCKET NO.:50-302

INITIAL CRITICALITY:01/14/77

COOLING WATER SOURCE:GULF OF MEXICO

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	2.06E-02
MN-54	2.13E-06
CO-58	1.57E-07
CO-60	8.52E-07
KR-85	8.90E+00
KR-85M	5.75E-01
KR-87	2.81E+00
KR-88	7.55E-01
SR-89	5.96E-07
SR-90	3.17E-07
ZR-95	1.52E-07
I-131	1.26E-04
XE-131M	9.31E+00
I-133	4.40E-05
XE-133	1.70E+03
XE-133M	4.03E+00
CS-134	1.30E-06
XE-135	2.27E+02
XE-135M	7.38E+00
CS-137	9.36E-06
CE-141	7.60E-08
CE-144	9.07E-07
UNIDENTIFIED	4.90E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.70E-05
AR-41	7.30E-03
CR-51	2.04E-03
MN-54	9.04E-04
FE-55	1.04E-02
MN-56	2.55E-04
CO-58	2.86E-02
FE-59	1.43E-04
CO-60	2.29E-02
CU-64	3.68E-04
ZN-65	5.34E-07
AS-76	1.65E-05
KR-85	1.03E-02
KR-85M	2.70E-04
RB-88	1.35E-05
SR-89	2.46E-04
SR-90	8.68E-05
SR-92	8.64E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:CRYSTAL RIVER

LOCATION:70 MI N TAMPA, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
NB-95	5.67E-04
NB-95M	1.22E-04
ZR-95	3.09E-04
ZR-NB-95	4.56E-03
ZR-97	7.34E-04
ZR-NB-97	5.69E-06
MO-99	3.84E-05
TC-99M	3.28E-04
RU-106	5.63E-04
AG-110M	4.28E-02
SB-124	2.74E-03
SB-125	1.47E-02
SB-126	5.11E-08
I-131	2.15E-03
XE-131M	7.12E-02
I-132	1.61E-04
I-133	7.95E-04
XE-133	1.17E+01
XE-133M	1.30E-01
CS-134	1.13E-02
I-135	5.35E-05
XE-135	1.31E-01
CS-136	2.53E-04
CS-137	1.47E-02
BA-139	1.01E-04
BA-140	4.77E-05
BA-LA-140	1.32E-03
LA-140	2.02E-04
CE-144	9.83E-04
W-187	1.75E-05
NP-239	2.74E-05
UNIDENTIFIED	6.03E-02

TOTAL AIRBORNE TRITIUM RELEASE 1.63E+01

TOTAL LIQUID TRITIUM RELEASE 4.20E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.78E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.97E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:CRYSTAL RIVER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

51

MODE OF TRANSPORTATION

TRANSPORT TRUCK

DESTINATION

BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BA-140

%

1.89E+01

CO-58

%

6.79E+00

2.40E+00

CO-60

%

2.82E+00

3.00E+00

CR-51

%

4.64E+00

CS-134

%

2.84E+01

2.97E+01

CS-137

%

1.89E+01

3.23E+01

H-3

%

2.57E+00

B

AG-110M

%

2.51E+00

CO-58

%

2.51E+01

1.02E+01

CO-60

%

1.83E+01

2.50E+01

CS-134

%

4.77E+00

9.94E+00

CS-137

%

2.27E+01

1.93E+01

I-131

%

1.89E+00

1.65E+01

NI-63

%

9.25E+00

1.25E+01

C

CO-60

%

6.40E+01

6.40E+01

NI-63

%

3.20E+01

3.20E+01

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3

3.20E+02

CI

1.15E+03

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

8.60E+01

CI

2.28E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

5.10E+00

CI

1.54E-01

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:DAVIS-BESSE

LOCATION:21 MI E TOLEDO, OH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

TYPE:PWR

DOCKET NO.:50-346

COOLING WATER SOURCE:LAKE ERIE

LICENSEE:TOLEDO EDISON & CLEVELAND ELECTRIC ILLUM.

LICENSED POWER (MWT):2772.00

INITIAL CRITICALITY:08/12/77

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.16E+01
AR-41	7.38E-01
CO-58	1.88E-05
KR-85	5.39E+00
KR-85M	1.96E-02
I-131	1.64E-03
XE-131M	1.28E-01
I-132	1.54E-05
I-133	4.04E-04
XE-133	4.87E+02
XE-133M	2.68E+00
XE-135	4.98E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	4.68E-03
MN-54	9.49E-04
CO-58	5.85E-02
FE-59	9.88E-04
CO-60	1.77E-02
ZN-65	2.69E-05
NB-95	1.80E-04
ZR-95	1.07E-03
MO-99	1.19E-04
TC-99M	2.35E-04
AG-110M	3.62E-02
SB-124	7.04E-04
SB-125	6.41E-03
I-131	9.78E-04
I-132	1.98E-05
TE-132	7.63E-06
I-133	1.05E-04
CS-134	1.37E-02
CS-136	9.48E-06
CS-137	4.55E-02
BA-140	1.85E-04
LA-140	3.20E-04
CE-141	1.08E-04
CE-143	6.31E-05
CE-144	2.87E-04
W-187	4.94E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:DAVIS-BESSE

LOCATION:21 MI E TOLEDO, OH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.16E+01
TOTAL LIQUID TRITIUM RELEASE 1.22E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.64E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.73E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DAVIS-BESSE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
16	TRUCK

DESTINATION
BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
0	N/A

DESTINATION
N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE	JULY-DEC
----------	----------

A

CO-58	%	1.77E+01	
CO-60	%		3.49E+00
CS-134	%	2.56E+01	2.44E+01
CS-137	%	4.77E+01	6.34E+01

B

CO-58	%		2.50E+01
CO-60	%	1.60E+01	
CS-134	%		1.60E+01
CS-137	%	4.60E+01	3.40E+01
NI-63	%	1.30E+01	

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	6.23E+01
CI	4.72E+02
M3	8.85E+01
CI	1.44E+00
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DIABLO CANYON

LOCATION:12 MI WSW OF SAN LUIS OBISPO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE:PWR
DOCKET NO.:50-275
COOLING WATER SOURCE:PACIFIC OCEAN
LICENSEE:PACIFIC GAS & ELECTRIC COMPANY
LICENSED POWER (MWT):3338.00
INITIAL CRITICALITY:04/29/84

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	5.86E-02
SR-89	7.86E-06
SR-90	4.13E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	3.42E-04
P-32	4.34E-03
CR-51	4.00E-04
MN-54	2.55E-04
CO-58	3.98E-03
FE-59	3.69E-05
CO-60	7.66E-04
ZN-65	6.17E-06
ZR-95	9.55E-05
MO-99	9.52E-04
SB-124	2.33E-05
I-131	3.15E-05
I-133	8.64E-05
XE-135	4.78E-06
CS-137	1.01E-07
W-187	3.25E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.31E-02
TOTAL LIQUID TRITIUM RELEASE 1.07E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.73E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.00E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DIABLO CANYON

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

TYPE OF WASTE

UNIT YEAR TOTAL

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DRESDEN 1

LOCATION:14 MI SW JOLIET, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:COMMON WEALTH EDISON

TYPE:BWR

LICENSED POWER (MWT): 700.00

DOCKET NO.:50-10

INITIAL CRITICALITY:10/15/59

COOLING WATER SOURCE:KANKAKEE RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	1.07E-05
CO-60	9.00E-04
SR-89	9.07E-06
SR-90	2.23E-06
I-131	6.34E-04
CS-134	8.46E-06
CS-137	1.20E-04

TOTAL AIRBORNE TRITIUM RELEASE N/D

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2	LICENSEE:COMMONWEALTH EDISON
TYPE:BWR	LICENSED POWER (MWT):2527.00
DOCKET NO.:50-237	INITIAL CRITICALITY:01/07/70
COOLING WATER SOURCE:KANKAKEE RIVER	
UNIT NUMBER: 3	LICENSEE:COMMONWEALTH EDISON
TYPE:BWR	LICENSED POWER (MWT):2527.00
DOCKET NO.:50-249	INITIAL CRITICALITY:01/31/71
COOLING WATER SOURCE:KANKAKEE RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	4.66E-03
MN-54	2.65E-03
CO-58	2.28E-03
FE-59	5.90E-04
CO-60	3.75E-02
ZN-65	4.29E-04
KR-85	1.21E+01
KR-85M	6.56E+01
KR-87	3.79E+01
KR-88	1.69E+02
SR-89	7.94E-03
SR-90	7.62E-05
NB-95	4.71E-06
ZR-95	1.02E-05
RU-103	2.05E-06
AG-110M	1.22E-05
SB-124	5.48E-05
SB-125	2.24E-05
I-131	3.76E-02
I-133	2.10E-01
XE-133	2.85E+02
CS-134	1.58E-04
I-135	3.49E-01
XE-135	1.27E+03
CS-136	6.22E-05
CS-137	1.68E-03
BA-140	3.36E-02
CE-141	4.66E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	1.27E-05
MN-54	4.46E-03
CO-58	9.45E-05
FE-59	9.60E-06
CO-60	6.25E-02
ZN-65	2.83E-05
SR-89	7.48E-04
SR-90	3.45E-04
RU-103	3.79E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DRESDEN 2-3

LOCATION:14 MI SW JOLIET, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
SB-124	1.50E-06
CS-134	2.65E-03
CS-137	6.74E-03
LA-140	9.00E-06
CE-141	1.20E-06

TOTAL AIRBORNE TRITIUM RELEASE	8.15E+01
TOTAL LIQUID TRITIUM RELEASE	3.92E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.13E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.60E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DRESDEN 1,2,&3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
180	MOTOR FREIGHT	BARNWELL SC
32	MOTOR FREIGHT	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.84E+02
BOTTOMS, ETC.	CI	4.33E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	6.77E+02
EQUIPMENT, ETC.	CI	3.55E+01
C. IRRADIATED COMPONENTS, CONTROL	M3	0.00E+00
RODS, ETC.	CI	0.00E+00
D. OTHER	M3	0.00E+00
	CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DUANE ARNOLD

LOCATION:8 MI NW CEDAR RAPIDS, IA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1 LICENSEE:IOWA ELECTRIC LIGHT & POWER
TYPE:BWR LICENSED POWER (MWT):1658.10
DOCKET NO.:50-331 INITIAL CRITICALITY:03/23/74
COOLING WATER SOURCE:CEDAR RAPIDS RIVER & CIRC WATER SYSTEM

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	6.81E+00
N-13	6.42E+00
AR-41	1.08E+00
CR-51	8.09E-03
MN-54	4.32E-04
CO-58	2.19E-04
FE-59	2.71E-05
CO-60	2.40E-03
ZN-65	2.51E-05
KR-85	<2.05E-02
KR-85M	5.64E-01
KR-87	2.56E+01
KR-88	1.44E+00
SR-89	3.21E-04
SR-90	1.08E-06
I-131	2.02E-03
I-133	3.80E-03
XE-133	5.83E+00
I-135	4.60E-03
XE-135	1.93E+02
XE-135M	6.08E+01
CS-137	9.11E-07
XE-138	1.21E+02
BA-140	5.08E-05
UNIDENTIFIED	1.75E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	1.03E-10
CO-60	1.34E-09
SR-89	2.60E-11
SR-90	<1.00E-12
UNIDENTIFIED	4.30E-10

TOTAL AIRBORNE TRITIUM RELEASE 6.81E+00
TOTAL LIQUID TRITIUM RELEASE 1.41E-06

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	N/A
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.80E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:DUANE ARNOLD

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

38

3

DESTINATION

BARNWELL SC

RICHLAND WA

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

D. OTHER

UNIT YEAR TOTAL

M3 1.30E+02

CI 9.11E+02

M3 1.37E+02

CI 2.13E+00

M3

CI

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:JOSEPH M. FARLEY 1

LOCATION:DOTHAN, AL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

TYPE:PWR

DOCKET NO.:50-348

COOLING WATER SOURCE:

LICENSEE:ALABAMA POWER

LICENSED POWER (MWT):2652.00

INITIAL CRITICALITY:08/09/77

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

AR-41	2.69E+00
MN-54	1.56E-05
CO-58	5.82E-05
CO-60	3.28E-05
KR-85	3.91E+00
KR-85M	1.06E+00
KR-87	4.74E+00
KR-88	1.54E+00
KR-90	5.52E-06
ZR-95	1.68E-05
I-131	5.75E-03
XE-131M	2.47E+00
I-133	3.47E-03
XE-133	2.96E+03
XE-133M	8.15E+00
XE-135	7.37E+02
XE-135M	2.72E-01
CS-137	1.49E-09
XE-138	9.61E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	4.23E+02
NA-24	8.21E-06
CR-51	5.46E-05
MN-54	1.48E-04
FE-55	1.47E-02
CO-57	6.88E-07
CO-58	2.38E-03
FE-59	1.00E-05
CO-60	8.36E-03
CU-64	3.89E-04
ZN-65	4.09E-06
SR-89	5.65E-04
SR-90	2.78E-05
SR-91	3.36E-05
NB-95	2.36E-03
ZR-95	2.19E-04
ZR-97	6.34E-06
MO-99	1.28E-05
TC-99M	3.82E-05
RU-103	1.55E-04
RU-106	1.69E-03
AG-110M	8.93E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
SB-124	8.27E-04
I-131	9.21E-04
TE-131M	8.86E-05
I-132	1.07E-02
TE-132	4.22E-03
I-133	4.07E-04
XE-133	5.78E+00
CS-134	3.07E-04
I-135	6.87E-05
XE-135	1.83E-04
CS-136	3.45E-04
CS-137	1.01E-03
BA-140	2.13E-05
LA-140	7.79E-04
CE-141	8.61E-05
CE-144	3.51E-03
NP-239	3.55E-05

TOTAL AIRBORNE TRITIUM RELEASE	8.11E+01
TOTAL LIQUID TRITIUM RELEASE	4.23E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.43E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.87E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTSUNIT NUMBER: 2
TYPE:PWR
DOCKET NO.:50-364
COOLING WATER SOURCE:LICENSEE:ALABAMA POWER
LICENSED POWER (MWT):2652.00
INITIAL CRITICALITY:05/05/81AIRBORNE EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

AR-41	9.44E+01
CR-51	5.38E-06
CO-60	7.70E-10
KR-85	3.84E+01
KR-85M	1.60E-01
KR-87	9.31E-05
KR-88	2.62E-01
KR-89	5.56E-02
KR-90	6.78E-09
I-131	1.48E-03
XE-131M	1.36E+00
I-133	9.77E-05
XE-133	3.68E+03
XE-133M	9.83E-01
CS-134	2.51E-06
XE-135	1.78E+02
CS-137	1.32E-05
BA-140	2.97E-05
CE-141	3.68E-06

LIQUID EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

H-3	3.56E+02
NA-24	3.07E-03
CR-51	1.67E-03
MN-54	8.86E-04
FE-55	1.16E-02
CO-57	3.47E-07
CO-58	1.68E-02
FE-59	6.06E-05
CO-60	4.08E-03
AS-76	3.27E-07
NB-95	5.44E-03
ZR-95	9.08E-04
MO-99	7.36E-04
TC-99M	2.02E-05
RU-103	1.02E-03
RU-106	1.04E-03
AG-110M	3.75E-03
SB-124	6.99E-04
I-131	4.68E-03
TE-131M	9.73E-06
I-132	4.24E-03
TE-132	1.45E-03

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-133	4.59E-03
XE-133	2.93E+00
CS-134	6.19E-03
I-135	1.10E-03
XE-135	2.91E-04
CS-136	1.56E-04
CS-137	9.80E-03
BA-140	7.69E-05
LA-140	3.41E-04
CE-141	2.23E-04
CE-144	1.51E-03
NP-239	1.06E-05

TOTAL AIRBORNE TRITIUM RELEASE	1.90E+02
TOTAL LIQUID TRITIUM RELEASE	3.56E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.39E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.18E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: JOSEPH M. FARLEY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

22

10

MODE OF TRANSPORTATION

CHEM-NUCLEAR TRANSPORT

HITTMAN TRANSPORT

DESTINATION

BARNWELL SC

BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CE-144

%

1.60E-01

CO-58

%

1.10E+01

2.24E+01

CO-60

%

5.78E+01

5.06E+01

CS-134

%

1.80E+00

CS-137

%

3.75E+00

7.00E-02

H-3

%

9.50E-01

3.10E+00

I-131

%

1.22E+01

MN-54

%

1.33E+01

NB-95

%

5.00E-01

4.70E-01

NI-63

%

1.11E+01

9.90E+00

B

BA-140

%

4.93E+00

CE-141

%

5.40E+00

CE-144

%

2.38E+00

3.95E+00

CO-58

%

4.57E+00

1.17E+00

CO-60

%

3.22E+01

2.66E+01

CR-51

%

1.00E+00

1.03E+00

CS-134

%

4.45E+00

5.12E+00

CS-137

%

1.15E+01

1.19E+01

H-3

%

8.33E+00

4.22E+01

LA-140

%

6.41E+00

MN-54

%

3.46E+00

5.50E-01

NB-95

%

3.78E+00

1.79E+00

NI-63

%

9.13E+00

3.82E+00

PU-241

%

6.60E-01

SR-90

%

4.50E-01

ZR-95

%

1.87E+00

7.30E-01

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3 3.40E+01

CI 2.67E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 5.28E+02

CI 3.10E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 0.00E+00

CI 0.00E+00

D. OTHER

M3 0.00E+00

CI 0.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE: POWER AUTHORITY OF THE STATE OF NY

TYPE: BWR

LICENSED POWER (MWT): 2436.00

DOCKET NO.: 50-333

INITIAL CRITICALITY: 11/17/74

COOLING WATER SOURCE: LAKE ONTARIO

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	2.51E+03
AR-41	1.99E+00
CR-51	5.64E-03
MN-54	1.04E-03
CO-58	2.17E-04
CO-60	3.98E-03
ZN-65	5.42E-04
KR-85M	1.50E+03
KR-87	1.72E+03
KR-88	3.01E+03
SR-89	8.22E-02
SR-90	1.23E-04
ZR-NB-95	2.57E-05
I-131	1.01E-01
XE-131M	3.21E+03
I-133	5.25E-01
XE-133	1.30E+03
XE-133M	1.12E+01
CS-134	1.37E-05
I-135	5.84E-01
XE-135	1.08E+04
XE-135M	2.32E+03
CS-137	4.37E-04
XE-138	7.78E+03
BA-LA-140	1.45E-02
CE-141	1.74E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.02E-04
CR-51	8.30E-04
MN-54	1.02E-02
CO-58	3.23E-03
FE-59	3.21E-04
CO-60	3.99E-02
ZN-65	1.29E-03
AS-76	2.89E-04
KR-85M	5.40E-05
ZR-NB-95	1.74E-04
TC-99M	1.38E-04
AG-110M	2.66E-05
SB-124	1.87E-05
I-131	4.73E-05
I-133	1.08E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION: JAMES A. FITZPATRICK

LOCATION: 36 MI N SYRACUSE, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-133	2.82E-03
CS-134	2.19E-04
XE-135	3.31E-02
CS-137	8.80E-04
BA-LA-140	5.86E-04
CE-141	1.23E-04
CE-144	1.88E-05
NP-239	2.02E-03

TOTAL AIRBORNE TRITIUM RELEASE	7.98E+00
TOTAL LIQUID TRITIUM RELEASE	4.77E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.38E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.41E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: JAMES A. FITZPATRICK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
46	TRUCK	BARNWELL SC
10	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
CO-58	%	8.00E-01	8.00E-01
CO-60	%	3.71E+01	4.40E+01
CR-51	%	2.00E-01	2.00E+00
CS-134	%	5.40E+00	2.00E+00
CS-137	%	8.90E+00	5.00E+00
FE-55	%	2.95E+01	3.80E+01
MN-54	%	5.00E+00	4.00E+00
NI-59	%	5.00E-01	2.00E-01
NI-63	%	9.00E-01	5.00E-01
SR-89	%	5.60E+00	2.00E+00
SR-90	%	1.40E+00	6.00E-01
ZN-65	%	3.00E+00	1.00E+00

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	1.77E+02
CI	1.24E+03
M3	2.54E+02
CI	2.15E+01
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:FORT CALHOUN

LOCATION:19 MI N OMAHA, NE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE:PWR
DOCKET NO.:50-285
COOLING WATER SOURCE:MISSOURI RIVER

LICENSEE:OMAHA PUBLIC POWER
LICENSED POWER (MWT):1500.00
INITIAL CRITICALITY:08/06/73

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	9.39E-06
H-3	6.82E+00
AR-41	<1.48E+00
KR-85	3.15E+01
KR-85M	1.37E+00
KR-87	<2.09E-01
KR-88	7.18E-01
SR-89	1.15E-16
SR-90	1.18E-17
I-131	1.23E-02
XE-131M	<1.83E+01
I-133	3.03E-03
XE-133	1.44E+03
XE-133M	1.77E+01
CS-134	<4.72E-05
I-135	<7.04E-03
XE-135	<1.68E+01
XE-135M	<1.30E-01
CS-137	<5.42E-05
XE-138	<4.90E-01
BA-140	<1.13E-04
LA-140	<3.24E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.35E+02
CR-51	<9.66E-02
MN-54	<1.88E-02
CO-57	<8.84E-03
CO-58	<2.72E-01
FE-59	<9.52E-03
CO-60	<5.25E-02
ZN-65	<8.77E-03
SR-89	1.19E-06
SR-90	2.94E-07
NB-95	<6.42E-02
ZR-95	<4.01E-02
MO-99	<4.11E-02
TC-99M	<4.47E-02
RU-103	<1.19E-02
SN-117M	<7.68E-03
SB-124	<4.65E-03
I-131	<4.02E-02
I-133	<1.45E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:FORT CALHOUN

LOCATION:19 MI N OMAHA, NE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-133	7.91E-01
CS-134	1.01E+00
XE-135	<2.05E-02
CS-136	<5.97E-03
CS-137	1.09E+00
BA-140	<3.24E-02
LA-140	<2.24E-03
CE-141	<1.41E-02

TOTAL AIRBORNE TRITIUM RELEASE	6.82E+00
TOTAL LIQUID TRITIUM RELEASE	2.36E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.57E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	4.79E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:FORT CALHOUN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

9
17

MODE OF TRANSPORTATION

CLOSED SOLE USE VEHICLE
CLOSED SOLE USE VEHICLE

DESTINATION

BARNWELL SC
RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58

%

9.70E+00

5.60E+00

CO-60

%

1.40E+00

CS-134

%

2.89E+01

3.58E+01

CS-137

%

5.48E+01

5.14E+01

H-3

%

4.90E+00

7.20E+00

B

CO-58

%

8.80E+00

6.40E+00

CO-60

%

1.00E+00

CS-134

%

3.31E+01

3.87E+01

CS-137

%

5.62E+01

5.30E+01

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3

1.33E+02

CI

4.00E+01

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

2.59E+02

CI

3.18E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

0.00E+00

CI

0.00E+00

D. OTHER

M3

0.00E+00

CI

0.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:FORT ST. VRAIN

LOCATION:35 MI N DENVER, CO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:PUBLIC SERVICE CO OF COLORADO

TYPE:HTG

LICENSED POWER (MWT): 842.00

DOCKET NO.:50-267

INITIAL CRITICALITY:01/31/74

COOLING WATER SOURCE:SOUTH PLATTE RIVER/SHALLOW WELLS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.17E+00
KR-85	5.14E+00
KR-85M	2.77E-01
KR-87	3.56E-02
KR-88	2.44E-01
XE-131M	1.65E+00
XE-133	1.07E+02
XE-133M	1.71E+00
XE-135	1.64E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.24E+02
S-35	1.80E-04
MN-54	2.30E-06
CO-58	3.87E-07
FE-59	1.45E-06
CO-60	2.26E-05
AG-110M	8.59E-06
I-131	5.19E-07
XE-133	2.08E-03
XE-135	2.74E-07
CS-137	5.93E-06

TOTAL AIRBORNE TRITIUM RELEASE	1.17E+00
TOTAL LIQUID TRITIUM RELEASE	1.24E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	9.23E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.40E+08

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:FORT ST. VRAIN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3 0.00E+00

CI 0.00E+00

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 0.00E+00

CI 0.00E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

CI

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:R.E.GINNA

LOCATION:16 MI NE ROCHESTER, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE:PWR
DOCKET NO.:50-244
COOLING WATER SOURCE:LAKE ONTARIO

LICENSEE:ROCHESTER GAS&ELEC
LICENSED POWER (MWT):1520.10
INITIAL CRITICALITY:11/08/69

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85	5.26E+00
KR-85M	8.28E-02
KR-87	4.35E-02
KR-88	5.95E-02
SR-90	4.54E-07
I-131	1.63E-03
XE-131M	7.58E-01
I-133	7.92E-04
XE-133	2.70E+02
XE-133M	1.13E+00
XE-135	1.85E+01
XE-135M	4.47E-01
XE-138	1.12E-01
UNIDENTIFIED	5.50E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	3.95E-03
MN-54	4.95E-03
FE-55	7.69E-02
CO-58	5.31E-03
FE-59	2.10E-04
CO-60	3.66E-02
SR-89	1.38E-03
SR-90	6.01E-05
ZR-NB-95	5.64E-04
RU-103	3.07E-04
AG-110M	2.24E-03
I-131	2.23E-05
I-132	4.90E-07
I-133	8.15E-06
XE-133	6.62E-04
CS-134	2.62E-02
I-135	3.06E-06
XE-135	2.19E-06
CS-137	4.13E-02
BA-LA-140	1.09E-05
CE-144	2.35E-04

TOTAL AIRBORNE TRITIUM RELEASE 9.43E+01
TOTAL LIQUID TRITIUM RELEASE 4.59E+02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:R.E.GINNA

LOCATION:16 MI NE ROCHESTER, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.25E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.02E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:R.E.GINNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

11

8

MODE OF TRANSPORTATION

HIGHWAY TRANSPORT

HIGHWAY TRANSPORT

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58

% 1.60E+00

CO-60

% 4.00E+01

6.60E+01

CS-134

% 8.40E+01

CS-137

% 4.00E+01

3.30E+01

H-3

% 2.00E+01

1.10E+01

NI-63

% 8.00E+00

B

CO-58

% 2.90E+00

CO-60

% 3.20E+01

2.50E+00

CS-134

% 1.70E+01

CS-137

% 3.20E+01

2.50E+00

H-3

% 4.80E+00

NI-63

% 7.10E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3 1.21E+02

CI 3.12E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 1.30E+02

CI 1.13E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

CI

D. OTHER

M3

CI

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:GRAND GULF

LOCATION:25 MI, VICKSBURG. MS

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1 LICENSEE:MISSISSIPPI POWER & LIGHT CO.
TYPE:BWR LICENSED POWER (MWT):3833.00
DOCKET NO.:50-416 INITIAL CRITICALITY:08/18/82
COOLING WATER SOURCE:MISSISSIPPI RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	5.27E+01
CO-60	2.87E-07
KR-85M	8.07E-04
KR-87	1.42E-03
KR-88	5.86E-03
KR-89	6.08E+01
RU-106	1.82E-04
I-131	2.97E-06
I-133	2.25E-05
XE-135	6.82E-03
XE-138	5.22E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.67E-03
CR-51	8.17E-03
MN-54	1.41E-03
FE-55	1.26E-02
MN-56	3.65E-06
CO-58	3.63E-03
FE-59	3.64E-04
CO-60	1.83E-03
CU-64	1.02E-03
ZN-65	9.16E-06
BR-82	5.90E-05
ZR-97	1.94E-06
TC-99M	3.83E-06
RU-106	7.90E-04
I-131	4.53E-06
I-133	4.19E-06
XE-133	1.34E-04
XE-135	3.98E-05
BA-LA-140	1.05E-05
CE-141	3.42E-06
ND-147	4.90E-06

TOTAL AIRBORNE TRITIUM RELEASE 1.14E-01
TOTAL LIQUID TRITIUM RELEASE 7.27E-01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.99E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.62E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:GRAND GULF

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS
19

MODE OF TRANSPORTATION
TRUCK

DESTINATION
BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS
0

MODE OF TRANSPORTATION
N/A

DESTINATION
N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BA-LA-140	%	5.03E-02	2.10E+00
C-14	%	3.40E-02	2.10E+00
CO-57	%	1.84E-02	2.10E+00
CO-58	%	2.07E+01	2.51E+01
CO-60	%	1.95E+01	2.83E+01
CR-51	%	5.22E+01	2.78E+01
CS-136	%	5.64E-04	2.10E+00
FE-59	%	1.13E+00	1.20E+00
H-3	%	9.40E-03	2.10E+00
HG-203	%	6.04E-04	2.10E+00
I-131	%	1.32E-02	2.10E+00
MN-54	%	5.40E+00	2.10E+00
NB-95	%	1.41E-01	4.20E+00
NI-63	%	3.20E-01	2.10E+00
ZN-65	%	1.82E-01	2.10E+00
ZR-95	%	2.63E-01	2.10E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3 4.31E+02

CI 9.09E+00

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 0.00E+00

CI 0.00E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 0.00E+00

CI 0.00E+00

D. OTHER

M3 0.00E+00

CI 0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:HADDAM NECK

LOCATION:9.5 MI SE MIDDLETOWN, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:CONNECTICUT YANKEE ATOMIC POWER

TYPE:PWR

LICENSED POWER (MWT):1825.00

DOCKET NO.:50-213

INITIAL CRITICALITY:07/24/67

COOLING WATER SOURCE:CONNECTICUT RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

ALPHA	3.82E-06
AR-41	1.56E-02
CO-58	2.40E-04
CO-60	1.39E-03
KR-85	9.41E+02
KR-85M	3.40E+01
KR-87	5.20E+00
KR-88	1.97E+01
SR-89	3.80E-07
SR-90	3.84E-06
I-131	5.47E-02
XE-131M	1.32E+01
I-132	2.10E-02
I-133	2.69E-03
XE-133	5.61E+03
XE-133M	1.32E+02
XE-135	5.42E+02
XE-135M	1.18E+00
CS-137	1.74E-04
XE-137	1.71E+00
XE-138	1.70E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

ALPHA	1.49E-03
CR-51	1.09E-02
MN-54	4.29E-03
CO-57	1.28E-04
CO-58	3.66E-02
FE-59	5.21E-04
CO-60	5.21E-02
KR-85	4.85E-02
SR-89	6.89E-03
SR-90	7.59E-03
ZR-NB-95	4.33E-04
RU-103	2.19E-04
RU-106	1.16E-03
AG-110M	5.39E-04
SB-125	8.50E-03
I-131	8.17E-03
I-133	9.02E-03
XE-133	7.66E-01
XE-133M	1.41E-02
CS-134	4.20E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:HADDAM NECK

LOCATION:9.5 MI SE MIDDLETOWN, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-135	2.29E-03
CS-136	1.25E-04
CS-137	7.30E-02
BA-LA-140	4.51E-04
CE-141	3.02E-05
CE-143	9.30E-05
CE-144	2.08E-04

TOTAL AIRBORNE TRITIUM RELEASE	1.35E+02
TOTAL LIQUID TRITIUM RELEASE	3.66E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.26E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.34E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:HADDAM NECK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

35

MODE OF TRANSPORTATION

TRUCK

DESTINATION

BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

AM-241	%	4.53E-03	9.93E-03
C-14	%	1.87E-02	4.08E-02
CM-242	%	7.15E-03	1.56E-02
CM-243	%	1.59E-04	1.16E-02
CM-244	%	1.59E-04	1.16E-02
CO-58	%	4.48E-01	3.49E+01
CO-60	%	3.98E+00	1.20E+01
CR-51	%		8.21E+00
CS-134	%	2.36E+01	1.10E+01
CS-136	%		5.49E-01
CS-137	%	4.17E+01	1.12E+01
H-3	%	2.65E+01	6.41E+00
I-129	%	8.38E-05	2.24E-05
I-131	%		2.21E+00
MN-54	%	1.99E+00	1.01E+01
NI-63	%	1.10E+00	2.41E+00
NP-237	%	7.55E-06	1.65E-04
PU-238	%	1.06E-02	2.32E-02
PU-239	%	1.66E-03	3.64E-03
PU-240	%	1.66E-03	3.64E-03
PU-241	%	3.57E-01	7.82E-01
PU-242	%	1.08E-05	2.38E-05
SR-90	%	1.84E-01	4.94E-02
TC-99	%	4.61E-04	1.24E-04

B

AM-241	%	2.77E-03	7.68E-03
C-14	%	7.92E-02	2.19E-01
CM-242	%	1.58E-03	4.39E-02
CM-243	%	1.82E-03	5.04E-03
CM-244	%	1.82E-03	5.04E-03
CO-58	%	2.02E-01	2.23E+01
CO-60	%	1.71E+00	6.86E+00
CR-51	%		2.71E+00
CS-134	%	1.06E+01	2.12E+01
CS-137	%	1.85E+01	2.28E+01
H-3	%	6.68E+01	1.60E+01
I-129	%	3.77E-02	4.56E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:HADDAM NECK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
MN-54	%	8.98E-01	5.56E+00
NI-63	%	2.97E-01	8.24E-01
NP-237	%	5.19E-06	1.44E-05
PU-238	%	8.49E-03	2.35E-02
PU-239	%	1.29E-03	3.60E-03
PU-240	%	1.29E-03	3.60E-03
PU-241	%	3.71E-01	1.03E+00
PU-242	%	3.12E-05	8.64E-05
SR-90	%	2.26E-01	2.74E-01
TC-99	%	2.83E-02	3.42E-02

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	8.53E+01
CI	3.67E+02
M3	3.42E+02
CI	8.76E+00
M3	N/A
CI	N/A
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:EDWIN I. HATCH 1

LOCATION:11 MI N BAXLEY, GA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:GEORGIA POWER

TYPE:BWR

LICENSED POWER (MWT):2436.00

DOCKET NO.:50-321

INITIAL CRITICALITY:09/12/74

COOLING WATER SOURCE:ALTAMAHA RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	1.30E+02
AR-41	1.60E+01
CR-51	3.44E-03
MN-54	1.73E-04
CO-58	5.11E-04
FE-59	7.38E-07
CO-60	1.86E-03
KR-85M	1.17E+03
KR-87	5.13E+02
KR-88	1.96E+03
KR-89	4.74E-01
SR-89	7.74E-05
SR-90	6.91E-07
NB-95	1.07E-05
ZR-95	1.36E-05
SN-113	5.04E-06
I-131	4.34E-02
XE-131M	2.34E+02
I-133	2.59E-02
XE-133	5.05E+03
XE-133M	1.69E+02
CS-134	5.98E-03
I-135	2.02E-02
XE-135	7.38E+02
XE-135M	1.87E+02
CS-137	6.50E-03
XE-137	4.12E+00
XE-138	4.37E+01
BA-140	2.60E-04
LA-140	6.64E-04
CE-141	3.92E-07
CE-144	9.46E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.95E-02
NA-24	2.72E-02
P-32	7.84E-04
CR-51	1.26E-02
MN-54	1.83E-02
MN-56	7.14E-06
CO-58	7.29E-03
FE-59	3.44E-04
CO-60	7.00E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CU-64	1.50E-02
ZN-65	1.49E-01
ZN-69M	1.62E-05
AS-76	5.71E-04
RB-88	1.58E-08
SR-89	1.15E-03
SR-90	7.08E-05
NB-95	5.18E-04
ZR-95	1.90E-04
NB-97	5.77E-06
MO-99	2.66E-03
TC-99M	1.38E-03
AG-110M	8.74E-05
SB-124	1.85E-04
SB-125	1.98E-04
I-131	3.55E-02
XE-131M	3.67E-04
I-132	1.10E-05
I-133	1.26E-02
XE-133	6.70E-02
XE-133M	1.24E-04
CS-134	2.70E-01
I-135	2.39E-03
XE-135	8.73E-02
XE-135M	1.50E-06
CS-136	5.00E-03
CS-137	3.86E-01
CS-138	1.99E-05
XE-138	1.60E-03
LA-140	1.25E-04
CE-144	1.07E-02
NP-239	2.05E-05

TOTAL AIRBORNE TRITIUM RELEASE	5.19E+01
TOTAL LIQUID TRITIUM RELEASE	8.02E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.79E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.95E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:EDWIN I. HATCH 2

LOCATION:11 MI N BAXLEY, GA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:GEORGIA POWER

TYPE:BWR

LICENSED POWER (MWT):2436.00

DOCKET NO.:50-366

INITIAL CRITICALITY:07/04/78

COOLING WATER SOURCE:ALTAMAHA RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	7.87E+01
AR-41	2.82E+02
CR-51	1.38E-05
CO-58	5.31E-07
CO-60	5.11E-05
KR-85M	1.14E+02
KR-87	2.07E+01
KR-88	1.49E+02
SR-89	7.02E-05
NB-95	2.00E-07
ZR-95	3.15E-06
SN-113	1.98E-07
I-131	8.33E-01
XE-131M	8.37E+00
I-133	1.93E-03
XE-133	1.36E+03
XE-133M	4.74E+01
CS-134	1.62E-05
I-135	1.24E-03
XE-135	2.69E+02
XE-135M	1.09E+01
CS-137	7.88E-05
XE-138	2.18E+01
BA-140	3.00E-05
LA-140	5.73E-05
CE-141	3.52E-08
CE-144	9.62E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	2.55E-03
NA-24	1.74E-02
CR-51	2.14E-03
MN-54	2.36E-03
CO-58	4.91E-04
FE-59	1.06E-04
CO-60	1.50E-02
CU-64	1.57E-03
NI-65	4.34E-06
ZN-65	3.61E-02
ZN-69M	1.83E-05
AS-76	2.16E-04
RB-88	7.27E-06
SR-89	2.06E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:EDWIN I. HATCH 2

LOCATION:11 MI N BAXLEY, GA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SR-90	3.73E-05
NB-95	1.16E-03
ZR-95	7.22E-04
MO-99	5.10E-04
TC-99M	5.64E-04
AG-110M	4.35E-05
SN-113	2.67E-05
SB-125	4.81E-05
I-131	1.80E-02
XE-131M	3.93E-03
I-132	1.05E-05
I-133	2.40E-03
XE-133	1.16E-01
XE-133M	3.01E-04
CS-134	6.69E-02
I-135	3.64E-04
XE-135	6.85E-03
CS-136	1.13E-03
CS-137	9.32E-02
CS-138	7.17E-06
XE-138	1.40E-10
BA-139	1.41E-03
LA-140	1.72E-05
CE-144	7.84E-04
W-187	1.73E-06

TOTAL AIRBORNE TRITIUM RELEASE	8.67E+00
TOTAL LIQUID TRITIUM RELEASE	2.13E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.42E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.90E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:EDWIN I. HATCH 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
100	CASK	BARNWELL SC
7	VAN	BARNWELL SC
72	VAN	HANFORD WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
A			
	CS-134	% 1.31E+01	1.30E+01
	CS-137	% 1.58E+01	1.70E+01
	OTHERS	% 2.49E+01	3.00E+01
	ZN-65	% 4.62E+01	4.00E+01
B			
	CO-60	% 2.79E+01	3.00E+01
	CS-137	% 7.04E+00	9.00E+00
	OTHERS	% 1.34E+01	1.20E+01
	ZN-65	% 5.16E+01	4.90E+01
C			
	CO-60	% 2.80E+01	2.80E+01
	MN-54	% 1.00E+01	1.00E+01
	OTHERS	% 1.10E+01	1.10E+01
	ZN-65	% 5.10E+01	5.10E+01
D			
	CO-60	% 2.85E+01	2.90E+01
	CS-137	% 7.45E+00	7.00E+00
	OTHERS	% 1.10E+01	1.10E+01
	ZN-65	% 5.31E+01	5.30E+01

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.24E+02
BOTTOMS, ETC.	CI	2.25E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	1.66E+03
EQUIPMENT, ETC.	CI	2.61E+02
C. IRRADIATED COMPONENTS, CONTROL	M3	1.22E+02
RODS, ETC.	CI	6.98E+01
D. OTHER	M3	1.96E+02
	CI	2.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:HUMBOLDT BAY

LOCATION:4 MI SW EUREKA, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3

LICENSEE:PACIFIC GAS &ELECTRIC

TYPE:BWR

LICENSED POWER (MWT): 220.00

DOCKET NO.:50-133

INITIAL CRITICALITY:02/16/63

COOLING WATER SOURCE:HUMBOLDT BAY

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-60	2.12E-04
SR-90	<1.55E-06
SB-125	<7.82E-06
CS-134	<1.63E-05
CS-137	5.54E-05
EU-154	<7.17E-06
UNIDENTIFIED	<4.37E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	<9.06E-05
CO-60	7.18E-02
SR-90	2.74E-04
CS-134	3.29E-03
CS-137	8.89E-02
UNIDENTIFIED	<6.38E-05

TOTAL AIRBORNE TRITIUM RELEASE <3.96E-02

TOTAL LIQUID TRITIUM RELEASE 2.93E-02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.38E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.96E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

3

MODE OF TRANSPORTATION

TRUCK

DESTINATION

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

B

JAN-JUNE

JULY-DEC

AG-108M

%

N/A

5.48E-03

C-14

%

N/A

1.02E+01

CE-144

%

N/A

9.60E-03

CO-60

%

N/A

1.67E+00

CS-134

%

N/A

1.37E-02

CS-137

%

N/A

2.83E+00

EU-152

%

N/A

6.34E-01

EU-154

%

N/A

2.87E-01

EU-155

%

N/A

2.81E-01

FE-55

%

N/A

1.94E+01

H-3

%

N/A

4.24E-03

H0-166M

%

N/A

3.02E-02

I-129

%

N/A

4.78E-03

K-40

%

N/A

6.36E+01

NB-94

%

N/A

9.60E-03

NI-63

%

N/A

2.78E-01

PU-241

%

N/A

8.23E-02

RU-106

%

N/A

3.70E-02

SB-125

%

N/A

7.40E-02

SN-126

%

N/A

5.48E-03

SR-90

%

N/A

4.39E-02

TC-99

%

N/A

4.35E-01

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3 N/A

CI N/A

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 6.56E+01

CI 7.29E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 N/A

CI N/A

D. OTHER

M3 N/A

CI N/A

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:CONSOLIDATED EDISON
TYPE:PWR	LICENSED POWER (MWT): 615.00
DOCKET NO.:50-3	INITIAL CRITICALITY:08/02/62
COOLING WATER SOURCE:HUDSON RIVER	
UNIT NUMBER: 2	LICENSEE:CONSOLIDATED EDISON
TYPE:PWR	LICENSED POWER (MWT):2758.00
DOCKET NO.:50-247	INITIAL CRITICALITY:05/22/73
COOLING WATER SOURCE:HUDSON RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-55	5.35E-06
CO-58	4.17E-04
CO-60	8.78E-04
NI-63	9.84E-07
KR-85	2.71E+01
KR-85M	1.07E+00
KR-87	3.33E-01
KR-88	1.85E+00
SR-89	8.45E-05
SR-90	3.90E-05
I-131	<4.81E-03
XE-131	2.28E+01
I-133	<7.61E-03
XE-133	3.59E+03
XE-133M	2.25E+01
CS-134	3.87E-04
I-135	<2.05E-02
XE-135	1.14E+02
XE-135M	4.49E-01
CS-137	1.19E-03
BA-LA-140	1.11E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	2.99E-01
MN-54	2.48E-02
FE-55	3.93E-01
CO-57	2.17E-02
CO-58	2.30E-01
FE-59	7.38E-02
CO-60	3.19E-01
NI-63	2.83E-01
ZN-65	6.02E-02
SR-89	3.22E-03
SR-90	1.34E-03
ZR-NB-95	5.07E-02
MO-99	1.39E-01
TC-99M	1.79E-02
AG-110M	6.91E-02
SB-124	3.72E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:INDIAN POINT 1-2

LOCATION:3 MI SW PEEKSKILL, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
SB-125	1.14E-01
I-131	1.37E-01
I-133	1.77E-04
XE-133	1.25E-01
CS-134	1.24E-01
XE-135	1.69E-02
CS-136	7.06E-02
CS-137	1.95E-01
BA-LA-140	2.21E-01
CE-141	4.20E-02

TOTAL AIRBORNE TRITIUM RELEASE	3.21E+00
TOTAL LIQUID TRITIUM RELEASE	2.22E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.33E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.29E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:INDIAN POINT 1-2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
64	TRUCK
8	TRUCK

DESTINATION
BARNWELL SC
RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
0	

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58	%	1.57E+01	7.00E+00
CO-60	%	1.32E+01	1.90E+01
CS-134	%	9.46E+00	1.40E+01
CS-137	%	2.71E+01	3.90E+01
FE-55	%	4.76E+00	1.00E+01
H-3	%	1.02E+01	
I-131	%	1.35E+00	
NI-63	%	1.38E+01	9.00E+00
SB-125	%	1.46E+00	

B

CO-58	%	7.70E-01	
CO-60	%	4.43E+01	4.50E+01
CS-134	%	1.30E+00	
CS-137	%	6.65E+00	7.00E+00
FE-55	%	5.70E+00	6.00E+00
H-3	%	5.67E+00	
MN-54	%	1.13E+00	
NI-63	%	3.40E+01	3.40E+01

TYPE OF WASTE

UNIT YEAR TOTAL

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

M3	1.98E+02
CI	2.02E+03
M3	7.83E+02
CI	1.35E+01
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3

TYPE:PWR

DOCKET NO.:50-286

COOLING WATER SOURCE:

LICENSEE:POWER AUTHORITY OF THE STATE OF NY

LICENSED POWER (MWT):2760.00

INITIAL CRITICALITY:04/06/76

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

FE-55	2.50E-05
CO-57	4.07E-07
CO-58	1.35E-05
CO-60	8.99E-05
KR-85	1.58E+01
KR-85M	8.44E+00
KR-87	2.65E-02
KR-88	4.99E-01
SR-90	9.11E-08
CD-109	1.63E-05
SN-113	3.15E-07
SB-125	8.33E-07
I-131	3.17E-03
XE-131M	1.88E+01
BA-133	1.03E-07
I-133	<2.27E-03
XE-133	1.69E+03
XE-133M	1.15E+01
CS-134	6.14E-07
I-135	<1.44E-02
XE-135	1.31E+02
XE-135M	6.19E-02
CS-137	9.60E-06
CE-139	3.45E-07
CE-141	1.64E-07
CE-144	1.99E-06
HG-203	3.98E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

NA-24	5.93E-02
CR-51	2.30E-03
MN-54	5.15E-03
FE-55	2.49E-01
MN-56	2.32E-06
CO-57	4.87E-04
CO-58	1.56E-01
FE-59	4.30E-04
CO-60	1.69E-01
NI-63	1.29E-01
ZN-65	7.20E-05
SR-85	2.71E-04
RB-88	6.10E-02
Y-88	1.50E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SR-89	1.98E-06
SR-90	1.19E-04
Y-91M	2.18E-06
Y-92	1.16E-04
ZR-NB-95	3.76E-04
ZR-97	1.07E-05
MO-99	2.92E-04
TC-99M	4.95E-05
RU-103	3.87E-05
RU-105	1.00E-04
RH-106	4.61E-04
CD-109	4.50E-04
AG-110M	7.48E-04
SN-113	3.06E-05
SB-122	5.70E-04
SB-124	2.03E-03
SB-125	3.19E-02
TE-129	3.48E-03
I-131	2.16E-02
TE-132	5.15E-06
BA-133	9.25E-05
I-133	3.93E-04
XE-133	1.74E+01
CS-134	1.24E-01
XE-135	1.33E-01
CS-136	1.07E-03
CS-137	2.33E-01
CE-139	4.37E-03
BA-LA-140	3.22E-04
CE-141	1.46E-04
LA-142	1.68E-05
CE-144	3.35E-04
PR-144	7.50E-04
W-187	3.22E-05
HG-203	1.55E-05
NP-239	5.15E-05

TOTAL AIRBORNE TRITIUM RELEASE	1.74E+00
TOTAL LIQUID TRITIUM RELEASE	5.87E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.47E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.09E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:INDIAN POINT 3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

7

10

MODE OF TRANSPORTATION

TRUCK

TRUCK

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-60

%

6.40E+01

4.20E+01

CS-134

%

4.00E+00

6.00E+00

CS-137

%

1.00E+01

2.10E+01

FE-55

%

5.00E+00

2.90E+01

NI-63

%

1.70E+01

2.00E+00

B

CO-60

%

3.40E+01

3.20E+01

CS-137

%

1.00E+00

FE-55

%

5.20E+01

6.60E+01

NI-63

%

1.40E+01

1.00E+00

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3 3.55E+01

CI 4.07E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 1.18E+02

CI 4.90E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 0.00E+00

CI 0.00E+00

D. OTHER

M3 0.00E+00

CI 0.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:KEWAUNEE

LOCATION:27 MI ESE GREEN BAY, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:WISCONSIN PUBLIC SERVICE

TYPE:PWR

LICENSED POWER (MWT):1650.00

DOCKET NO.:50-305

INITIAL CRITICALITY:03/07/74

COOLING WATER SOURCE:LAKE MICHIGAN

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.87E-01
CR-51	2.63E-06
MN-54	8.74E-07
FE-55	<9.84E-05
CO-58	2.95E-05
CO-60	6.43E-06
NI-63	<2.37E-05
KR-85	1.01E-01
KR-85M	1.13E-02
SR-85	6.14E-09
RB-88	2.65E-05
SR-89	<2.26E-04
SR-90	<1.68E-04
CD-109	1.10E-04
I-131	3.41E-03
XE-131M	9.79E-03
I-132	1.57E-04
TE-132	1.53E-05
I-133	1.95E-05
XE-133	2.40E+01
XE-133M	3.26E-04
XE-135	2.98E+00
XE-135M	3.66E-05
RN-222	1.83E-02
UNIDENTIFIED	<1.31E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.42E-03
K-40	6.92E-05
CR-51	2.57E-03
MN-54	6.06E-03
FE-55	7.45E-03
CO-57	9.47E-04
CO-58	5.78E-01
FE-59	3.62E-04
CO-60	1.03E-01
SR-89	2.05E-03
SR-90	2.59E-04
NB-95	1.23E-03
ZR-95	7.30E-04
NB-97	3.91E-02
ZR-97	3.55E-04
AG-110M	8.33E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:KEWAUNEE

LOCATION:27 MI ESE GREEN BAY, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SN-113	1.77E-03
SB-124	9.51E-02
SB-125	4.73E-02
I-131	4.44E-05
I-133	4.12E-05
XE-133	2.35E-02
XE-133M	1.52E-05
CS-134	1.31E-02
XE-135	1.68E-04
CS-137	2.04E-02
CS-138	8.01E-04
CE-139	3.28E-07
HG-203	6.46E-07

TOTAL AIRBORNE TRITIUM RELEASE	9.53E-01
TOTAL LIQUID TRITIUM RELEASE	4.40E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.74E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.50E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:KEWAUNEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
9	CHEM-NUCLEAR CASK	BARNWELL SC
4	CHEM-NUCLEAR SHIELDED VAN	BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE JULY-DEC

A

AG-110M	%	4.93E-02	1.10E+00
C-14	%	3.98E-03	1.55E-02
CM-242	%	1.92E-03	3.85E-03
CO-57	%	5.61E-01	8.84E-02
CO-58	%	6.67E+00	1.22E+01
CO-60	%	5.12E+01	5.12E+01
CR-51	%	4.08E-02	3.07E-03
CS-134	%		1.60E-01
CS-137	%	5.18E+00	4.74E-01
FE-59	%	4.45E-02	
MN-54	%	1.74E+00	2.30E+00
NB-94	%	1.34E-04	2.08E-04
NB-95	%	4.17E-02	1.56E+00
NI-59	%	5.16E-01	4.57E-01
NI-63	%	3.40E+01	2.90E+01
PU-241	%	1.05E-01	2.22E-01
SB-124	%	1.87E-04	
SN-113	%	2.48E-03	2.97E-01
SR-90	%	2.69E-02	2.11E-03
TRANSURANICS	%	2.30E-03	4.67E-03
ZR-95	%	5.98E-03	1.10E+00

B

C-14	%	6.47E-01	2.66E+00
CM-242	%	9.46E-02	1.82E-02
CO-57	%	2.95E-01	6.61E-02
CO-58	%	9.22E+00	8.82E-01
CO-60	%	4.19E+01	4.69E+01
CR-51	%		2.50E-02
CS-134	%		1.02E-03
CS-137	%	2.19E-01	2.49E-01
MN-54	%	1.19E+00	6.70E+00
NB-94	%	4.12E-03	3.27E-02
NB-95	%	3.94E+00	5.56E-03
NI-59	%	4.21E-01	4.68E-01
NI-63	%	3.37E+01	4.08E+01
PU-241	%	5.20E+00	6.26E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:KEWAUNEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
SN-113	%	1.42E-01	
SR-90	%	1.13E-03	2.69E-03
TRANSURANICS	%	8.76E-02	2.21E-02
ZR-95	%	3.19E+00	

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.53E+01
	CI	1.48E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.79E+01
	CI	1.21E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	
	CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LACROSSE

LOCATION:19 MI S LACROSSE, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:DAIRYLAND POWER

TYPE:BWR

LICENSED POWER (MWT): 165.00

DOCKET NO.:50-409

INITIAL CRITICALITY:07/11/67

COOLING WATER SOURCE:MISSISSIPPI RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	5.81E-05
MN-54	7.85E-05
CO-57	3.35E-06
CO-58	2.27E-05
FE-59	2.79E-06
CO-60	3.85E-04
ZN-65	1.86E-05
KR-85M	4.96E+02
KR-87	5.67E+02
KR-88	1.22E+03
SR-89	8.78E-05
NB-95	1.58E-05
ZR-95	6.34E-06
RU-103	5.98E-06
RU-RH-106	2.91E-05
I-131	3.98E-03
XE-131M	6.48E+02
I-133	3.00E-03
XE-133	1.15E+03
XE-133M	2.20E+02
CS-134	5.72E-06
I-135	6.39E-04
XE-135	5.90E+03
XE-135M	2.39E+02
CS-136	2.00E-07
CS-137	7.79E-05
XE-137	6.55E+01
XE-138	4.95E+02
BA-LA-140	2.07E-03
CE-141	5.86E-06
CE-144	3.51E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	3.72E-04
CR-51	3.84E-02
MN-54	4.71E-01
CO-57	2.04E-03
CO-58	2.14E-01
FE-59	7.27E-02
CO-60	1.90E+00
ZN-65	4.20E-02
KR-85M	1.33E-04
KR-87	3.07E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:LACROSSE

LOCATION:19 MI S LACROSSE, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-88	1.07E-04
RB-88	1.03E-03
SR-89	5.35E-03
SR-90	2.16E-03
SR-91	1.58E-02
SR-92	1.79E-03
ZR-NB-95	3.56E-02
ZR-97	1.70E-04
MO-99	2.38E-02
TC-99M	8.00E-02
RU-103	1.60E-02
RU-RH-105	1.99E-02
RU-RH-106	1.80E-02
SN-113	1.60E-04
SB-124	2.55E-04
I-131	2.28E-02
XE-131M	2.52E-02
I-132	4.66E-03
I-133	5.01E-02
XE-133	3.05E-02
XE-133M	2.82E-03
CS-134	4.70E-03
I-135	1.75E-02
XE-135	2.65E-02
XE-135M	3.11E-03
CS-137	5.70E-02
BA-139	5.12E-05
BA-LA-140	6.07E-02
CE-141	4.92E-03
CE-143	4.17E-04
CE-144	2.45E-02
W-187	6.00E-03
NP-239	3.97E-02

TOTAL AIRBORNE TRITIUM RELEASE 4.25E+01
TOTAL LIQUID TRITIUM RELEASE 1.25E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.88E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.74E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LACROSSE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984 SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
2	SOLE USE VEHICLE	BARNWELL SC
1	SOLE USE VEHICLE	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
C-14	%	1.00E-02	1.08E-01
CE-141	%	1.00E-02	1.08E-01
CE-PR-144	%	2.00E-01	2.15E-01
CM-242	%	2.00E-02	1.08E-01
CO-58	%	1.91E+00	1.94E+00
CO-60	%	4.67E+01	4.67E+01
CS-134	%	6.90E-01	6.45E-01
CS-137	%	1.00E+01	1.00E+01
FE-55	%	2.49E+01	2.49E+01
MN-54	%	7.97E+00	7.74E+00
NI-59	%	6.00E-02	1.08E-01
NI-63	%	4.94E+00	4.95E+00
PU-241	%	3.50E-01	3.23E-01
SR-89	%	1.70E-01	2.15E-01
SR-90	%	4.10E-01	4.30E-01
ZN-65	%	1.54E+00	1.51E+00

B

AM-241	%	8.00E-03
BA-LA-140	%	7.17E+01
CO-58	%	9.48E+00
CO-60	%	4.98E+00
CS-136	%	2.34E+00
CS-137	%	5.50E-01
FE-59	%	1.54E+00
MN-54	%	2.40E+00
NI-63	%	1.42E+00
PU-238	%	3.00E-02
PU-239/240	%	4.00E-02
PU-241	%	1.42E+00
SR-90	%	3.60E-01
ZN-65	%	3.71E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LACROSSE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3		7.78E+00
BOTTOMS, ETC.	CI		1.93E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3		3.44E+01
EQUIPMENT, ETC.	CI		5.90E-02
C. IRRADIATED COMPONENTS, CONTROL	M3		
RODS, ETC.	CI		
D. OTHER	M3		
	CI		

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LASALLE

LOCATION:11 MI SE OF OTTAWA, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:COMMONWEALTH EDISON COMPANY
TYPE:BWR	LICENSED POWER (MWT):3323.00
DOCKET NO.: 50-373	INITIAL CRITICALITY:06/21/82
COOLING WATER SOURCE:RESERVOIR	
UNIT NUMBER: 2	LICENSEE:COMMONWEALTH EDISON COMPANY
TYPE:BWR	LICENSED POWER (MWT):3323.00
DOCKET NO.:50-374	INITIAL CRITICALITY:03/10/84
COOLING WATER SOURCE:RESERVOIR	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	2.17E-02
NA-24	6.37E-04
AR-41	6.50E+01
CR-51	4.78E-04
MN-54	3.41E-03
CO-58	1.03E-04
FE-59	3.34E-05
CO-60	2.73E-03
ZN-65	3.96E-05
BR-82	4.79E-05
KR-85M	2.57E+00
KR-87	4.46E+00
KR-88	3.00E+01
RB-88	2.05E+00
RB-89	8.64E-03
SR-89	1.44E-10
SR-90	3.79E-11
SR-91	1.34E-04
SR-92	1.79E-04
MO-99	1.85E-04
TC-99M	1.17E-04
AG-110M	2.16E-05
I-131	3.54E-03
I-132	1.25E-02
BA-133	8.09E-02
I-133	3.77E-02
XE-133	4.40E+02
I-134	6.93E-03
I-135	3.28E-02
XE-135	1.85E+01
XE-135M	3.15E-01
CS-138	7.38E-01
XE-138	4.90E+00
BA-139	1.16E-02
BA-LA-140	6.23E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.07E-03
P-32	2.74E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LASALLE

LOCATION:11 MI SE OF OTTAWA, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	3.50E-05
CR-51	9.60E-03
MN-54	2.11E-02
FE-55	1.86E-03
CO-58	4.64E-03
FE-59	2.77E-04
CO-60	9.46E-03
ZN-65	1.79E-03
AS-76	7.36E-04
SR-89	1.03E-05
SR-90	2.32E-06
MO-99	2.78E-03
TC-99M	4.51E-04
SB-122	9.03E-05
SB-124	2.40E-04
I-131	1.58E-05
I-133	3.61E-05
XE-133	6.59E-05
CS-134	<2.65E-04
XE-135	1.38E-04
CS-137	<2.96E-05
CE-144	<2.15E-04
W-187	8.40E-05

TOTAL AIRBORNE TRITIUM RELEASE	6.18E+00
TOTAL LIQUID TRITIUM RELEASE	1.10E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.57E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.47E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LASALLE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
1	CHEM NUCLEAR CO	BARNWELL SC
57	CHEM NUCLEAR CO	RICHLAND WA
1	MCCORMACKS HWY TRANSP	RICHLAND WA
31	TRI-STATE M.T.	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT	YEAR TOTAL
M3	5.27E+02
CI	1.76E+02
M3	3.13E+02
CI	4.49E+00
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:LIMERICK

LOCATION:21 MI NW OF PHILA. PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:PHILADELPHIA ELEC.CO
TYPE:BWR	LICENSED POWER (MWT): 165.00
DOCKET NO.:50-352	INITIAL CRITICALITY:12/22/84
COOLING WATER SOURCE:SCHUYLKILL RIVER	

LIQUID EFFLUENTS	
NUCLIDES RELEASED	ACTIVITY (CI)
FE-55	6.45E-04

TOTAL AIRBORNE TRITIUM RELEASE	0.00E+00
TOTAL LIQUID TRITIUM RELEASE	0.00E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.41E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.91E+07

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MAINE YANKEE

LOCATION:3.9 MI S WICASSETT, ME

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:MAINE YANKEE ATOMIC POWER

TYPE:PWR

LICENSED POWER (MWT):2630.00

DOCKET NO.:50-309

INITIAL CRITICALITY:10/23/72

COOLING WATER SOURCE:BACK RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	2.29E-05
CO-58	2.11E-05
CO-60	2.44E-04
KR-85	1.22E+00
KR-85M	4.71E-02
KR-88	4.07E-02
RB-88	1.36E-02
SR-90	1.95E-08
NB-97	4.16E-03
RU-103	1.60E-04
AG-110M	4.54E-04
I-131	2.40E-03
XE-131M	4.30E-02
I-132	5.79E-05
I-133	1.30E-05
TE-133M	1.96E-03
XE-133	1.06E+02
XE-133M	3.32E-02
CS-134	3.26E-05
XE-135	1.53E+01
CS-137	4.30E-05
CS-138	1.09E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	3.60E-05
CR-51	8.20E-04
MN-54	2.89E-04
MN-56	2.81E-04
CO-57	3.72E-05
CO-58	3.28E-02
CO-60	1.64E-02
SE-75	5.33E-04
SR-89	7.32E-04
SR-90	1.68E-04
SR-91	2.15E-04
NB-95	3.18E-04
NB-97	3.32E-05
AG-110M	3.55E-05
SB-124	1.66E-02
SB-125	4.82E-03
I-131	1.83E-03
I-133	5.34E-04
TE-133M	2.34E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MAINE YANKEE

LOCATION:3.9 MI S WICASSETT, ME

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-133	1.31E-02
CS-134	7.61E-04
XE-135	4.70E-03
CS-137	8.00E-03
BA-140	8.90E-05
UNIDENTIFIED	9.40E-04

TOTAL AIRBORNE TRITIUM RELEASE	4.81E+00
TOTAL LIQUID TRITIUM RELEASE	1.72E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.40E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.57E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MAINE YANKEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
14	TRUCK	BARNWELL SC
7	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

	%	JAN-JUNE	JULY-DEC
CO-58	%	4.00E+01	
CO-60	%	3.00E+01	1.50E+01
CS-137	%	3.00E+01	2.50E+01
NI-63	%		6.00E+01

B

	%	JAN-JUNE	JULY-DEC
CO-58	%	2.50E+01	
CO-60	%	6.00E+01	3.50E+01
CS-137	%	1.50E+01	3.50E+01
NI-63	%		3.00E+01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.06E+02
	CI	3.45E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.43E+02
	CI	1.48E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	0.00E+00
	CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MCGUIRE

LOCATION:17 MI N OF CHARLOTTE, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:DUKE POWER COMPANY
TYPE:PWR	LICENSED POWER (MWT):3411.00
DOCKET NO.: 50-369	INITIAL CRITICALITY:08/08/81
COOLING WATER SOURCE:LAKE NORMAN	
UNIT NUMBER: 2	LICENSEE:DUKE POWER CO.
TYPE:PWR	LICENSED POWER (MWT):3411.00
DOCKET NO.:50-370	INITIAL CRITICALITY:08/05/83
COOLING WATER SOURCE:LAKE NORMAN	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	6.90E+01
CR-51	4.45E-08
MN-54	1.88E-05
CO-58	2.95E-04
CO-60	6.20E-05
KR-85	2.41E+01
KR-85M	5.65E+00
KR-87	4.87E-01
KR-88	2.62E+00
SR-89	3.15E-08
NB-95	4.90E-10
MO-99	7.25E-09
RU-106	4.39E-08
I-131	1.73E-02
XE-131M	1.96E+01
I-133	7.05E-03
XE-133	4.29E+03
XE-133M	4.97E+01
CS-134	3.84E-05
XE-135	9.49E+01
XE-135M	3.24E-03
CS-136	1.02E-08
CS-137	1.21E-04
XE-137	1.53E-01
CE-141	1.36E-06
CE-144	1.52E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.26E-02
AR-41	4.82E-04
CR-51	9.36E-02
MN-54	3.32E-02
FE-55	1.57E+00
CO-58	7.13E-01
FE-59	2.43E-02
CO-60	2.39E-01
CU-64	2.61E-06
NI-65	2.05E-05
ZN-65	2.56E-03

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MCGUIRE

LOCATION:17 MI N OF CHARLOTTE, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BR-84	2.19E-06
KR-85	6.15E-04
KR-85M	9.24E-06
KR-87	4.65E-06
RB-88	1.39E-02
SR-89	1.78E-04
SR-90	7.75E-08
Y-91M	1.52E-05
SR-92	2.47E-02
Y-92	3.72E-05
NB-95	1.77E-02
ZR-95	4.58E-03
MO-99	1.10E-04
TC-99M	8.28E-04
RU-103	4.64E-05
RU-106	5.70E-03
AG-110M	5.23E-02
TE-129M	4.25E-06
I-131	9.95E-02
XE-131M	1.61E-04
I-132	1.91E-03
TE-132	2.97E-04
I-133	4.10E-02
XE-133	1.56E-01
XE-133M	7.26E-04
CS-134	1.81E-02
I-135	1.16E-02
XE-135	4.19E-02
CS-136	2.08E-04
CS-137	2.58E-02
CS-138	1.26E-04
BA-139	8.75E-04
LA-140	3.71E-03
CE-141	2.48E-05
CE-144	2.32E-05
PR-144	4.19E-04
NP-239	1.25E-03

TOTAL AIRBORNE TRITIUM RELEASE 2.95E+01
TOTAL LIQUID TRITIUM RELEASE 6.47E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.06E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.18E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MCQUIRE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

32

DESTINATION

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

0

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

C-14	%	<1.00E-02	<1.00E-02
CM-242	%	1.00E-02	<1.00E-02
C0-57	%	1.50E-01	1.50E-01
C0-58	%	1.77E+01	3.83E+01
C0-60	%	3.02E+01	2.18E+01
CS-134	%	4.00E-01	1.70E+00
CS-137	%	8.30E-01	2.70E+00
H-3	%	1.00E-01	3.00E-01
MN-54	%	7.24E+00	3.90E+00
NB-95	%		<1.00E-02
NI-63	%	4.26E+01	3.08E+01
PU-241	%	7.80E-01	<1.00E-02
SR-90	%	<1.00E-02	<1.00E-02
TRANSURANICS	%	2.00E-02	<1.00E-02

B

C-14	%	2.11E+01	4.58E+01
C0-58	%	1.90E+01	1.35E+01
C0-60	%	4.51E+01	3.20E+01
MN-54	%	7.02E+00	5.00E+00
NB-95	%	2.81E+00	2.00E+00
NI-63	%	1.03E+00	7.00E-01
OTHERS	%	3.90E-01	
SR-90	%	3.58E+00	8.00E-02
ZR-94	%	4.00E-02	
ZR-95	%		1.00E+00

D

AG-110M	%		1.90E+00
C-14	%		<1.00E-02
C0-58	%		2.29E+01
C0-60	%		2.48E+01
CR-51	%		6.90E+00
FE-59	%		1.00E+00
H-3	%		<1.00E-02
MN-54	%		2.00E+01
NB-95	%		2.20E+00
NI-63	%		1.85E+01
ZR-95	%		1.80E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MCGUIRE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE) JAN-JUNE JULY-DEC

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.22E+01
BOTTOMS, ETC.	CI	1.78E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	3.56E+02
EQUIPMENT, ETC.	CI	1.98E+01
C. IRRADIATED COMPONENTS, CONTROL	M3	0.00E+00
RODS, ETC.	CI	0.00E+00
D. OTHER	M3	5.98E+00
DEWATERED MECH. FILTERS	CI	8.28E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MILLSTONE 1

LOCATION:3.2 MI WSW NEW LONDON, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:NORTHEAST NUCLEAR ENERGY

TYPE:BWR

LICENSED POWER (MWT):2011.00

DOCKET NO.:50-245

INITIAL CRITICALITY:10/26/70

COOLING WATER SOURCE:LONG ISLAND SOUND

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

CR-51	1.69E-02
MN-54	5.51E-04
CO-58	2.93E-04
CO-60	3.36E-03
KR-85M	3.13E+01
KR-87	1.10E+02
SR-89	3.06E-03
SR-90	5.17E-05
NB-95	1.95E-05
I-131	2.13E-02
I-133	1.47E-01
XE-133	1.04E+02
CS-134	5.66E-05
I-135	2.40E-01
XE-135	1.80E+02
XE-135M	3.83E+02
CS-137	1.44E-03
XE-137	5.54E+02
XE-138	1.44E+03
BA-LA-140	1.41E-02

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

CR-51	1.61E-03
MN-54	2.13E-03
CO-58	8.90E-05
FE-59	1.16E-04
CO-60	2.06E-02
RB-88	1.43E-03
SR-89	1.07E-05
SR-90	2.44E-04
SR-92	6.64E-06
NB-97	6.05E-05
RU-103	5.14E-04
RU-106	1.80E-04
SB-124	2.79E-04
SB-125	1.78E-04
I-131	8.44E-04
I-133	5.02E-04
XE-133	6.59E-03
CS-134	3.99E-04
XE-135	1.27E-02
CS-137	8.03E-03
CE-141	5.06E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MILLSTONE 1

LOCATION:3.2 MI WSW NEW LONDON, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 7.71E+01
TOTAL LIQUID TRITIUM RELEASE 8.58E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	5.46E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.81E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MILLSTONE 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
44	TRUCK(SOLE USE VEHICLE)	BARNWELL SC
3	TRUCK(SOLE USE VEHICLE)	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
BA-140	%	1.60E+00	1.15E-01
CE-144, I-131, CE-141, SR-90, TC-99M, ZN-65, NB-97, FE-59, ZR-95, NB-95, RU-103, NI-63	%	2.51E+00	3.17E+00
CO-58	%	5.50E+00	5.78E+00
CO-60	%	3.92E+01	2.76E+01
CR-51	%	1.16E+01	2.57E+00
CS-134	%	9.00E-01	1.15E+01
CS-137	%	6.50E+00	3.04E+01
FE-55	%	1.54E+01	8.87E+00
LA-140	%	1.50E+00	5.18E-02
MN-54	%	7.30E+00	9.69E+00
SR-89	%	4.00E-02	2.79E-02

B

CO-60	%	4.08E+01	4.94E+01
CS-134	%	1.19E+00	1.72E+00
CS-137	%	3.56E+00	5.14E+00
FE-55	%	1.17E+01	2.32E+01
MN-54	%	4.26E+00	1.05E+01
NI-63, SR-90, CO-58, CR-51	%	6.66E+00	7.42E+00
SR-89	%	1.89E+00	3.05E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.54E+02
	CI	1.95E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	6.86E+02*
	CI	2.24E+01*
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	0.00E+00
	CI	0.00E+00

*TYPE B. WASTE INCLUDES MILLSTONE 2 WASTE

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MILLSTONE 2

LOCATION:3.2 MI WSW NEW LONDON, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:NORTHEAST NUCLEAR ENERGY

TYPE:PWR

LICENSED POWER (MWT):2700.00

DOCKET NO.:50-336

INITIAL CRITICALITY:10/17/75

COOLING WATER SOURCE:LONG ISLAND SOUND

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	8.99E+00
CO-60	4.85E-05
KR-85	3.31E+02
KR-85M	2.41E+01
KR-87	9.54E-02
KR-88	1.22E+01
RB-88	8.62E-01
SR-90	1.24E-07
RU-103	2.06E-05
RU-106	2.18E-05
SB-124	4.30E-06
I-131	1.10E-01
XE-131M	3.41E-01
I-133	2.43E-02
XE-133	2.85E+04
XE-133M	1.83E+02
I-135	6.41E-03
XE-135	3.34E+02
XE-135M	2.07E-01
CS-137	1.37E-04
XE-138	6.82E-02

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	5.08E-03
CR-51	4.44E-04
MN-54	1.39E-02
CO-57	2.69E-04
CO-58	3.73E-02
CO-60	9.10E-01
CU-64	1.73E-01
KR-85	1.43E+00
RB-88	9.02E-04
SR-89	3.72E-03
SR-90	5.09E-05
SR-92	4.91E-03
NB-95	2.10E-03
NB-97	2.44E-02
TC-99M	1.60E-04
RU-106	5.71E-04
AG-110M	1.26E-02
SB-125	1.47E-02
I-131	2.44E-01
I-132	2.67E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MILLSTONE 2

LOCATION:3.2 MI WSW NEW LONDON, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
I-133	1.32E-01
XE-133	9.26E+02
CS-134	6.46E-01
CS-134M	3.02E-02
I-134	6.99E-05
I-135	3.83E-02
XE-135	1.31E-01
XE-135M	2.98E-01
CS-136	6.29E-03
CS-137	1.33E+00
CS-138	3.47E-05
BA-LA-140	9.13E-03
CE-141	5.22E-06
CE-144	6.25E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.12E+02
TOTAL LIQUID TRITIUM RELEASE	3.98E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.10E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.81E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MILLSTONE 2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

3

20

MODE OF TRANSPORTATION

RAILCAR(SOLE USE VEHICLE)

TRUCK(SOLE USE VEHICLE)

DESTINATION

RICHLAND WA

BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BE-10

%

2.77E-11

C-14

%

6.22E-04

3.63E-02

CL-36

%

2.00E-02

CM-242

%

1.71E-04

2.45E-05

CM-244

%

1.51E-08

8.16E-07

CO-57

%

3.99E-02

CO-58

%

3.51E+00

1.18E+00

CO-60

%

3.70E+01

2.04E+00

CR-51

%

1.39E-01

1.61E+01

CS-134

%

1.23E+01

2.80E+01

CS-137

%

2.14E+01

4.88E+01

FE-55

%

2.19E+01

1.22E+00

FE-59

%

1.00E-02

H-3

%

8.36E-03

2.60E-01

I-129

%

9.69E-06

3.37E-04

MN-54

%

7.05E-01

1.30E-01

NI-59

%

1.10E-02

NI-63

%

2.50E+00

2.40E-01

NP-237

%

1.94E-08

1.04E-06

P-32

%

1.07E-10

P-33

%

6.29E-06

PU-238

%

7.93E-08

6.13E-03

PU-239/240

%

1.25E-05

6.14E-02

PU-241

%

1.17E-03

S-35

%

7.17E-05

SR-89

%

2.60E-02

SR-90

%

1.60E-02

1.04E-04

TC-99

%

2.92E-04

7.36E-05

TRANSURANICS

%

3.65E-05

ZN-65

%

1.41E-11

C

BE-10

%

5.11E-11

C-14

%

8.42E-09

CL-36

%

7.81E-12

CO-60

%

5.64E+01

CR-51

%

2.82E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MILLSTONE 2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
FE-55	%		3.98E+01
FE-59	%		1.88E-02
H-3	%		7.38E-14
MN-54	%		5.22E-01
NI-59	%		2.09E-02
NI-63	%		3.07E+00
P-32	%		1.97E-08
P-33	%		1.16E-05
S-35	%		1.32E-04
ZN-65	%		2.62E-11

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	4.19E+01
	CI	4.25E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	*
	CI	*
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	1.89E+01
	CI	1.06E+05
D. OTHER	M3	0.00E+00
	CI	0.00E+00

*TYPE B. WASTE IS INCLUDED IN MILLSTONE 1 REPORT

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MONTICELLO

LOCATION:23 MI SE ST. CLOUD, MN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:NORTHERN STATES POWER

TYPE:BWR

LICENSED POWER (MWT):1670.00

DOCKET NO.:50-263

INITIAL CRITICALITY:12/10/70

COOLING WATER SOURCE:MISSISSIPPI RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	3.44E-04
MN-54	1.61E-04
CO-58	1.41E-05
CO-60	6.62E-03
ZN-65	1.07E-02
KR-83M	5.57E-01
KR-85	2.69E+02
KR-85M	3.62E-01
KR-87	2.03E+00
KR-88	1.23E+00
KR-89	5.75E+01
SR-89	1.23E-03
KR-90	1.97E+00
SR-90	1.33E-04
RU-103	1.16E-05
I-131	5.97E-03
XE-131M	4.67E-01
I-133	1.28E-02
XE-133	3.32E+01
XE-133M	1.11E-01
CS-134	5.17E-05
I-135	8.51E-03
XE-135	2.10E+00
XE-135M	4.33E+00
CS-137	3.09E-03
XE-137	7.50E+01
XE-138	6.07E+01
XE-139	5.88E+00
BA-140	9.47E-04
CE-141	1.39E-05
CE-144	1.69E-06

TOTAL AIRBORNE TRITIUM RELEASE 2.00E+01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:MONTICELLO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
18	RAIL	RICHLAND WA
2	TRUCK	BARNWELL SC
32	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
2	RAIL	MORRIS IL

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
BA-140	%	5.18E-01	
CE-141	%	8.06E-03	
CE-144	%	6.12E-02	
CO-58	%	9.33E-01	1.77E-01
CO-60	%	2.84E+01	1.49E+01
CR-51	%	9.90E+00	
CS-134	%	1.08E+00	1.03E+00
CS-136	%	3.04E-03	3.04E+00
CS-137	%	1.57E+01	1.28E+01
FE-55	%	9.26E+00	3.55E+01
FE-59	%	1.49E-01	
MN-54	%	4.69E+00	2.27E+00
NB-95	%	1.16E-03	
RU-103	%	1.07E-01	
SR-89	%	9.41E-01	5.09E+00
SR-90	%	1.19E-01	2.06E+00
ZN-65	%	2.54E+01	2.12E+01

B

BA-140	%	1.56E-03	
CO-58	%	1.90E-01	
CO-60	%	5.14E+01	4.99E+01
CR-51	%	5.55E+00	
CS-137	%	1.01E+00	4.89E-01
FE-55	%	1.66E+01	2.81E+01
I-131	%	1.67E-03	
LA-140	%	1.62E-03	
MN-54	%	1.24E+00	5.66E+00
SR-89	%	6.81E-02	3.32E-02
SR-90	%	1.22E-02	5.18E-03
ZN-65	%	1.70E+01	1.12E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:MONTICELLO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3		1.10E+02
BOTTOMS, ETC.	CI		5.41E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3		1.13E+03
EQUIPMENT, ETC.	CI		3.21E+01
C. IRRADIATED COMPONENTS, CONTROL	M3		0.00E+00
RODS, ETC.	CI		0.00E+00
D. OTHER	M3		
	CI		

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:NINE MILE POINT

LOCATION:8 MI NE OSWEGO, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:NIAGARA MOHAWK POWER

TYPE:BWR

LICENSED POWER (MWT):1850.00

DOCKET NO.:50-220

INITIAL CRITICALITY:09/05/69

COOLING WATER SOURCE:LAKE ONTARIO

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	4.46E+00
MN-54	2.08E-05
CO-60	3.81E-03
ZN-65	2.25E-05
KR-85M	9.85E+01
KR-87	2.37E+00
KR-88	7.65E+01
SR-89	1.35E-03
SR-90	5.29E-06
I-131	1.08E-02
I-133	<6.01E-02
XE-133	4.66E+02
CS-134	1.39E-05
I-135	<1.08E-01
XE-135	6.79E+01
XE-135M	3.22E+01
CS-137	1.15E-03
XE-137	8.91E+01
XE-138	1.86E+02
BA-LA-140	2.28E-04
CE-141	1.45E-05

TOTAL AIRBORNE TRITIUM RELEASE 3.64E+01

TOTAL LIQUID TRITIUM RELEASE N/A

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	N/A
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	4.32E+11

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:NINE MILE POINT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

71
2

MODE OF TRANSPORTATION

TRUCK
TRUCK

DESTINATION

BARNWELL SC
HANFORD WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58	%	7.69E-01	1.83E-01
CO-60	%	5.83E+01	8.75E+01
CR-51	%		1.83E-01
CS-134	%	2.69E+00	4.59E-01
CS-137	%	2.89E+01	1.04E+01
H-3	%	6.12E-01	
LA-140	%	2.31E-02	
MN-54	%	8.57E-01	5.50E-01
NI-63	%	6.22E+00	3.67E-01
OTHER	%	1.60E+00	8.30E-02
SR-90	%		2.75E-01

B

CO-58	%		5.50E-01
CO-60	%	7.99E+01	5.63E+01
CS-134	%	1.60E+00	3.27E+00
CS-137	%	1.31E+01	3.42E+01
H-3	%		8.44E-01
MN-54	%	2.49E+00	1.97E+00
NI-63	%		1.55E+00
OTHER	%	2.91E+00	9.60E-02
SR-90	%		1.22E+00

C

CO-60	%	6.94E+01	
H-3	%	2.35E+01	
NI-63	%	7.04E+00	
OTHER	%	6.00E-02	

D

CO-60	%		9.76E+01
CS-137	%		2.40E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:NINE MILE POINT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.04E+02
	CI	6.24E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.89E+02
	CI	3.47E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	1.47E+00
	CI	1.28E+04
D. OTHER	M3	3.47E+01
INTERNALLY CONTAMINATED	CI	4.43E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:NORTH ANNA

LOCATION:40 MI NW RICHMOND, VA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:VIRGINIA ELECTRIC &POWER
TYPE:PWR	LICENSED POWER (MWT):2775.00
DOCKET NO.:50-338	INITIAL CRITICALITY:04/05/78
COOLING WATER SOURCE:LAKE ANNA	
UNIT NUMBER: 2	LICENSEE:VIRGINIA ELECTRIC &POWER
TYPE:PWR	LICENSED POWER (MWT):2775.00
DOCKET NO.:50-339	INITIAL CRITICALITY:06/12/80
COOLING WATER SOURCE:LAKE ANNA	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	1.32E-04
H-3	6.45E+00
NA-24	2.76E-05
AR-41	1.51E+01
CR-51	2.58E-08
MN-54	5.92E-07
FE-55	1.90E-05
CO-58	2.40E-04
FE-59	1.10E-09
CO-60	2.88E-04
CU-64	7.09E-04
KR-85	3.14E+01
KR-85M	3.41E+01
SR-85	7.82E-06
RB-86	4.72E-06
KR-87	3.23E+01
KR-88	6.11E+01
RB-88	5.84E-01
RB-89	1.28E-02
SR-89	3.17E-11
SR-90	1.24E-12
Y-91	1.79E-03
NB-95	9.30E-06
ZR-95	4.61E-08
TC-99M	2.16E-06
SB-122	7.59E-05
TE-129	1.62E-04
I-131	8.15E-02
TE-131M	2.93E-04
XE-131M	2.85E+02
I-132	1.02E-03
TE-132	7.67E-03
I-133	3.93E-02
XE-133	1.66E+04
XE-133M	1.11E+02
CS-134	8.43E-04
I-134	4.34E-04
I-135	2.64E-02
XE-135	3.99E+02
XE-135M	9.99E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-136	3.39E-06
CS-137	1.80E-03
CS-138	4.52E-01
XE-138	3.81E+01
BA-140	7.91E-09
LA-140	4.77E-08

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	1.16E-04
H-3	6.20E+02
NA-24	6.24E-03
CR-51	6.29E-03
MN-54	3.13E-03
FE-55	1.08E-01
CO-57	1.34E-06
CO-58	9.62E-02
FE-59	2.21E-03
CO-60	7.10E-02
ZN-65	N/D
KR-85M	1.20E-04
KR-88	1.57E-04
RB-88	1.35E-02
SR-89	7.65E-03
SR-90	2.11E-03
NB-95	6.71E-03
ZR-95	4.89E-03
MO-99	N/D
TC-99	N/D
TC-99M	5.05E-06
RU-103	2.23E-03
RU-105	1.70E-03
AG-110M	5.67E-03
SB-122	1.55E-01
SB-124	2.11E-02
TE-129M	8.59E-03
I-131	1.68E-01
TE-131M	3.38E-06
XE-131	1.09E-02
XE-131M	1.06E-01
I-132	7.16E-05
I-133	7.43E-02
XE-133	1.59E+01
XE-133M	1.06E-01
CS-134	1.03E+00
I-134	1.87E-05
I-135	1.41E-02
XE-135	4.24E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:NORTH ANNA

LOCATION:40 MI NW RICHMOND, VA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-135M	3.88E-02
CS-136	9.12E-03
CS-137	1.77E+00
CS-138	4.27E-03
BA-140	1.33E-05
LA-140	4.20E-03
CE-141	4.06E-05

TOTAL AIRBORNE TRITIUM RELEASE	6.45E+00
TOTAL LIQUID TRITIUM RELEASE	6.20E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.69E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.38E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:NORTH ANNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

79

3

MODE OF TRANSPORTATION

PRIVATE VEHICLE

PRIVATE VEHICLE

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

AM-241	%	1.00E-03	5.00E-04
BA-140	%	6.20E-01	5.00E-02
C-14	%	1.40E+01	7.00E-02
CE-144	%	N/R	2.10E-01
CM-242	%	2.00E-02	1.00E-03
CM-244	%	1.00E-03	1.00E-04
CO-58	%	4.94E+00	9.90E+00
CO-60	%	1.45E+01	1.82E+01
CR-51	%	1.40E-01	5.80E-01
CS-134	%	1.44E+01	7.64E+00
CS-137	%	2.94E+01	1.47E+01
FE-55	%	N/R	1.77E+01
H-3	%	9.84E+00	2.34E+01
I-129	%	3.00E-04	3.00E-06
I-131	%	4.86E+00	N/R
LA-140	%	6.50E-01	5.00E-02
MN-54	%	1.14E+00	1.17E+00
NB-95	%	8.30E-01	3.50E-01
NI-63	%	2.63E+00	3.78E+00
PU-238	%	2.00E-03	7.00E-04
PU-239	%	3.00E-03	9.00E-04
PU-241	%	4.60E-01	1.90E-01
PU-242	%	2.00E-04	4.00E-05
RU-103	%	N/R	3.00E-02
SB-122	%	1.53E+00	9.80E-01
SR-90	%	1.80E-01	2.60E-02
TC-99	%	4.00E-03	1.00E-03
ZR-95	%	N/R	1.70E-01

B

AM-241	%	1.00E-03	7.00E-05
C-14	%	1.36E+01	2.20E-01
CE-144	%	1.06E+00	1.80E+00
CM-242	%	3.00E-02	8.00E-02
CM-244	%	1.00E-03	3.00E-04
CO-57	%	4.00E-02	N/R
CO-58	%	3.42E+00	4.72E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:NORTH ANNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
CO-60	%	2.89E+01	2.25E+01
CR-51	%	N/R	6.20E-01
CS-134	%	8.98E+00	5.54E+00
CS-137	%	2.48E+01	1.92E+01
FE-55	%	N/R	2.73E+01
H-3	%	4.83E+00	8.53E+00
I-129	%	2.00E-03	8.00E-06
I-131	%	9.00E-01	N/R
MN-54	%	1.89E+00	2.65E+00
NB-95	%	4.80E-01	1.14E+00
NI-63	%	5.61E+00	3.81E+00
PU-238	%	2.00E-03	6.00E-04
PU-239	%	4.00E-03	6.00E-04
PU-241	%	1.80E+00	1.09E+00
PU-242	%	2.00E-04	2.00E-04
RU-103	%	N/R	1.90E-01
SB-122	%	1.24E+00	1.40E-01
SR-90	%	1.94E+00	1.60E-02
TC-99	%	2.30E-01	1.00E-03
ZR-95	%	N/R	5.10E-01
D			
AM-241	%	N/R	4.80E-04
C-14	%	N/R	1.70E-01
CM-242	%	N/R	1.70E-03
CM-244	%	N/R	4.70E-04
CO-60	%	N/R	2.66E+01
CR-51	%	N/R	3.31E+01
CS-134	%	N/R	3.87E+00
CS-137	%	N/R	2.33E+01
FE-55	%	N/R	1.20E+01
I-129	%	N/R	1.30E-05
NI-63	%	N/R	5.36E-01
PU-238	%	N/R	9.70E-04
PU-239	%	N/R	6.90E-04
PU-241	%	N/R	1.70E-01
PU-242	%	N/R	1.70E-04
SR-90	%	N/R	8.30E-02
TC-99	%	N/R	5.80E-03

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	2.14E+02
CI	8.75E+02
M3	6.52E+02
CI	7.76E+01
M3	0.00E+00
CI	0.00E+00
M3	3.37E+01
CI	2.22E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:OCONEE

LOCATION:30 MI W GREENVILLE, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:DUKE POWER
TYPE:PWR	LICENSED POWER (MWT):2568.00
DOCKET NO.:50-269	INITIAL CRITICALITY:04/19/73
COOLING WATER SOURCE:KEOWEE LAKE	
UNIT NUMBER: 2	LICENSEE:DUKE POWER
TYPE:PWR	LICENSED POWER (MWT):2568.00
DOCKET NO.:50-270	INITIAL CRITICALITY:11/11/73
COOLING WATER SOURCE:KEOWEE LAKE	
UNIT NUMBER: 3	LICENSEE:DUKE POWER
TYPE:PWR	LICENSED POWER (MWT):2568.00
DOCKET NO.:50-287	INITIAL CRITICALITY:09/05/74
COOLING WATER SOURCE:KEOWEE LAKE	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.62E-01
CR-51	3.19E-10
MN-54	5.65E-07
FE-55	9.19E-04
CO-58	7.95E-06
CO-60	5.59E-06
ZN-65	1.36E-08
KR-85	1.00E+03
KR-85M	1.94E+00
KR-87	8.17E-04
KR-88	9.33E-02
SR-89	2.75E-10
SR-90	3.12E-12
NB-95	2.57E-07
ZR-95	2.16E-07
MO-99	2.67E-12
RU-103	2.52E-08
AG-110M	6.23E-07
I-131	1.02E-02
XE-131M	2.62E+02
I-133	3.16E-03
XE-133	2.13E+04
XE-133M	1.24E+02
CS-134	5.90E-06
XE-135	1.03E+02
CS-136	9.34E-07
CS-137	1.80E-05
BA-140	1.27E-08

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	8.97E-05
AR-41	1.15E-04
CR-51	4.69E-02
MN-54	1.69E-02
FE-55	3.46E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:OCONEE

LOCATION:30 MI W GREENVILLE, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	6.69E-01
FE-59	1.22E-03
CO-60	8.03E-02
KR-85	1.20E-02
KR-85M	5.44E-05
SR-89	2.06E-03
SR-90	1.49E-04
SR-92	1.11E-02
NB-95	1.84E-02
ZR-95	2.14E-03
ZR-97	4.70E-03
TC-99M	5.79E-05
RU-103	9.39E-05
RU-106	1.80E-02
AG-110M	1.16E-01
I-131	5.34E-02
XE-131M	2.60E-01
I-132	2.71E-03
I-133	2.12E-03
XE-133	1.66E+01
XE-133M	1.79E-01
CS-134	2.95E-02
I-134	5.04E-04
XE-135	1.26E-01
CS-136	4.66E-05
CS-137	7.45E-02
CS-138	1.70E-03
BA-139	6.92E-03
LA-140	4.91E-03
CE-144	5.85E-04
W-187	5.59E-05
NP-239	8.25E-05

TOTAL AIRBORNE TRITIUM RELEASE	4.16E+02
TOTAL LIQUID TRITIUM RELEASE	1.28E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.82E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.73E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:OCONEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
109

DESTINATION

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
3

DESTINATION

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER
DEWATERED MECHANICAL FILTERS

UNIT YEAR TOTAL

M3	2.53E+02
CI	1.43E+03
M3	6.39E+02
CI	2.30E+01
M3	8.50E-02
CI	4.68E+03
M3	4.35E+01
CI	4.18E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: OYSTER CREEK

LOCATION: 9 MI S TOMS RIVER, NJ

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE: JERSEY CENTRAL POWER & LIGHT

TYPE: BWR

LICENSED POWER (MWT): 1930.00

DOCKET NO.: 50-219

INITIAL CRITICALITY: 05/03/69

COOLING WATER SOURCE: BARNEGAT BAY

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	1.01E-01
CO-60	1.33E-03
KR-85M	2.58E+02
KR-87	7.95E+02
KR-88	8.17E+02
SR-89	1.42E-04
SR-90	1.03E-05
SR-91	7.48E-03
TC-99M	7.97E-04
I-131	3.31E-01
TE-132	1.07E-03
I-133	1.68E+00
XE-133	2.89E+02
I-135	1.92E+00
XE-135	1.77E+03
CS-137	9.24E-05
CE-139	3.56E-03
BA-140	7.40E-04
LA-140	2.72E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-60	6.09E-03
CS-137	7.50E-04

TOTAL AIRBORNE TRITIUM RELEASE 3.07E+00

TOTAL LIQUID TRITIUM RELEASE 1.03E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.49E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.40E+11

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION: OYSTER CREEK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

99

10

MODE OF TRANSPORTATION

MOTOR VEHICLE

MOTOR VEHICLE

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

C-14

% 3.07E+00

CO-60

% 8.20E+01 6.29E+01

CS-134

% 3.54E+00

CS-137

% 4.42E+00 1.04E+01

FE-55

% 9.43E+00

MN-54

% 2.42E+00

SR-90

% 1.41E+00

B

C-14

% 6.48E-01 8.13E+00

CO-60

% 8.85E+01 7.28E+01

CS-137

% 4.31E+00 5.67E+00

I-129

% 6.55E+01

MN-54

% 5.04E+00

PU-241

% 1.05E+00

TC-99

% 4.22E+00

C

CO-60

% 3.06E+01 1.86E+01

FE-55

% 6.55E+01

H-3

% 1.12E+01

MN-54

% 2.21E+00 1.21E+01

NI-59

% 4.32E+00 1.93E-02

NI-63

% 2.41E+00

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3 2.42E+02

CI 9.19E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 1.15E+03

CI 3.06E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 4.46E+00

CI 4.30E+04

D. OTHER

M3 0.00E+00

CI 0.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:PALISADES

LOCATION:5 MI S SOUTH HAVEN, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE:PWR
DOCKET NO.:50-255
COOLING WATER SOURCE:LAKE MICHIGAN

LICENSEE:CONSUMERS POWER
LICENSED POWER (MWT):2530.00
INITIAL CRITICALITY:05/24/71

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	3.89E-07
CO-58	3.21E-05
CO-60	6.45E-05
SE-75	2.34E-06
KR-85	2.65E-02
SB-125	4.21E-08
I-131	8.34E-04
XE-131M	2.16E-03
I-132	1.26E-04
I-133	2.61E-03
XE-133	2.83E+01
CS-134	9.88E-07
I-135	1.73E-03
XE-135	6.01E-02
XE-135M	1.74E-03
CS-137	3.43E-05
CS-138	9.38E-03
UNIDENTIFIED	2.39E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	6.95E+01
MN-54	2.11E-03
CO-58	4.37E-03
CO-60	1.54E-02
NB-97	7.68E-05
SB-125	1.36E-04
XE-133	5.17E-05
CS-134	2.24E-03
CS-137	9.68E-03
UNIDENTIFIED	2.92E-03

TOTAL AIRBORNE TRITIUM RELEASE 5.66E+00
TOTAL LIQUID TRITIUM RELEASE 6.95E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.17E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.55E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PALISADES

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
3	TRUCK	BARNWELL SC
16	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT	YEAR TOTAL
M3	4.57E+01
CI	2.49E+02
M3	4.02E+02
CI	8.93E+00
M3	0.00E+00
CI	0.00E+00
M3	0.00E+00
CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PEACH BOTTOM

LOCATION:17.9 MI S LANCASTER, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2	LICENSEE:PHILADELPHIA ELECTRIC
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-277	INITIAL CRITICALITY:09/16/73
COOLING WATER SOURCE:CONOWINGO POND/SUSQUEHANNA RIVER	
UNIT NUMBER: 3	LICENSEE:PHILADELPHIA ELECTRIC
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-278	INITIAL CRITICALITY:08/07/74
COOLING WATER SOURCE:CONOWINGO POND/SUSQUEHANNA RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.30E-03
CO-58	2.55E-05
CO-60	1.87E-04
CU-64	1.99E-03
ZN-65	1.46E-03
KR-85M	1.32E+02
KR-87	2.64E+02
KR-88	2.99E+02
SR-89	3.63E-03
SR-90	1.11E-04
SR-91	1.20E-03
Y-91M	7.54E-03
TC-99M	7.62E-05
CD-109	8.60E-05
I-131	9.34E-02
XE-131M	2.84E+02
TE-132	7.90E-07
I-133	7.91E-01
XE-133	7.45E+04
XE-133M	1.61E+03
CS-134	1.44E-03
I-135	4.51E-01
XE-135	2.64E+03
XE-135M	5.92E+02
CS-137	1.58E-03
CS-138	1.45E-01
XE-138	5.13E+02
BA-139	1.07E-02
BA-140	1.14E-03
LA-140	8.83E-04
UNIDENTIFIED	1.09E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.73E-01
P-32	1.95E-02
CR-51	5.82E-03
MN-54	1.56E-02
FE-55	2.38E-02
MN-56	1.83E-03

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CD-58	4.56E-03
CD-60	1.12E-01
NI-63	7.33E-03
ZN-65	2.11E-01
KR-85M	7.57E-02
KR-87	2.96E-02
KR-88	1.70E+00
SR-89	4.49E-02
SR-90	1.97E-03
SR-91	4.04E-04
Y-91M	1.03E-03
SR-92	7.06E-04
NB-95	6.89E-04
MO-99	2.18E-03
TC-99M	1.24E-02
CD-109	3.05E-03
AG-110M	1.29E-03
SN-113	7.46E-04
SB-124	2.86E-04
SB-125	1.12E-03
I-131	1.41E-01
XE-131M	5.51E-02
I-132	2.37E-03
TE-132	1.49E-04
I-133	1.20E-01
XE-133	1.43E+00
XE-133M	4.26E-02
CS-134	1.64E-01
I-135	2.38E-02
XE-135	1.51E+00
XE-135M	4.20E-02
CS-136	7.37E-03
CS-137	2.11E-01
BA-140	1.91E-03
LA-140	5.56E-03
CE-144	3.15E-03
NP-239	9.24E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.61E+01
TOTAL LIQUID TRITIUM RELEASE	3.58E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.41E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.86E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PEACH BOTTOM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
217	TRUCK	BARNWELL SC
37	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	2.26E+03
BOTTOMS, ETC.	CI	9.22E+04
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	N/A
EQUIPMENT, ETC.	CI	N/A
C. IRRADIATED COMPONENTS, CONTROL	M3	N/A
RODS, ETC.	CI	N/A
D. OTHER	M3	N/A
	CI	N/A

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PILGRIM

LOCATION:25 MI SE BOSTON, MA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:BOSTON EDISON

TYPE:BWR

LICENSED POWER (MWT):1998.00

DOCKET NO.:50-293

INITIAL CRITICALITY:06/16/72

COOLING WATER SOURCE:CAPE COD BAY

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	5.04E-04
CO-58	3.78E-05
CO-60	<3.32E-03
ZN-65	2.26E-04
KR-85	<1.10E-05
KR-85M	<1.69E+00
KR-87	<3.16E+00
KR-88	<4.35E+00
SR-89	<4.65E-04
SR-90	<5.15E-06
I-131	<7.83E-05
I-133	<1.89E-03
XE-133	<9.90E-01
CS-134	<2.66E-05
I-135	<3.40E-03
XE-135	7.86E+00
XE-135M	7.00E-02
CS-137	<4.09E-04
XE-138	2.90E-01
BA-140	<9.14E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	6.27E-04
MN-54	1.08E-01
FE-55	7.91E-01
CO-58	2.86E-02
FE-59	5.57E-03
CO-60	2.07E+00
ZN-65	1.30E-02
SR-89	<8.28E-04
SR-90	<2.92E-03
ZR-95	1.01E-04
I-131	8.20E-07
I-133	1.28E-03
CS-134	1.04E-01
XE-135	1.72E-03
CS-137	1.28E+00
BA-140	1.29E-06
CE-141	2.23E-03
CE-144	2.21E-03
UNIDENTIFIED	3.38E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:PILGRIM

LOCATION:25 MI SE BOSTON, MA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.77E+00
TOTAL LIQUID TRITIUM RELEASE 1.47E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.00E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	4.88E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PILGRIM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

130

2

MODE OF TRANSPORTATION

TRACTOR-TRAILER

TRACTOR-TRAILER

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

C-14	%	2.60E-02	2.30E-02
CE-141	%		4.00E-03
CE-144	%		5.60E-02
CM-242	%	1.70E-02	1.00E-02
CO-57	%		7.00E-03
CO-58	%	2.72E+00	2.73E-01
CO-60	%	4.45E+01	5.20E+01
CR-51	%	2.15E+00	
CS-134	%	2.55E+00	2.91E+00
CS-137	%	3.29E+01	2.20E+01
FE-55	%		1.52E+01
FE-59	%	1.96E-01	5.00E-03
H-3	%	4.60E-02	1.20E-02
I-129	%	1.00E-02	2.00E-03
I-131	%	4.00E-03	
LA-140	%	6.40E-02	
MN-54	%	3.87E+00	2.25E+00
NB-95	%	1.00E-02	4.00E-03
NI-63	%	1.40E+00	4.02E+00
NP-239	%	4.00E-03	
PU-241	%	3.72E-01	4.89E-01
RU-103	%	8.00E-03	4.40E-02
SB-124	%	2.30E-02	6.00E-03
SR-90	%	7.44E+00	2.13E-01
TC-99M	%	1.00E-02	4.50E-02
ZN-65	%	1.70E+00	4.60E-01
ZR-95	%	7.00E-03	

B

AG-110	%	8.20E-02	
BA-140	%	5.06E-01	
C-14	%	1.80E-02	1.90E-02
CE-141	%	1.49E-01	
CM-242	%	1.00E-02	1.00E-02
CO-58	%	7.62E+00	7.10E-02
CO-60	%	4.37E+01	6.76E+01
CR-51	%	2.60E+01	

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:PILGRIM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
CS-134	%	4.99E-01	1.38E+00
CS-136	%	9.00E-03	
CS-137	%	7.88E+00	2.50E+01
FE-59	%	1.32E+00	
H-3	%	1.07E+00	1.35E+00
I-129	%	1.00E-02	1.10E-02
I-131	%	2.10E-02	
MN-54	%	5.03E+00	2.10E+00
NB-95	%	5.80E-02	
NI-63	%	7.44E-01	9.44E-01
PU-241	%	3.74E-01	1.15E+00
RU-103	%	3.60E-02	
SB-124	%	1.28E-01	
SR-90	%	1.67E-01	3.73E-01
TC-99M	%	1.20E-02	1.60E-02
ZN-65	%	4.56E+00	
ZR-95	%	2.70E-02	

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.74E+02	
	CI	1.48E+03	
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.84E+03	
	CI	6.44E+01	
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3		
	CI		
D. OTHER	M3		
	CI		

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:POINT BEACH

LOCATION:15 MI N MANITOWOC, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:WISCONSIN ELECTRIC POWER COMPANY
TYPE:PWR	LICENSED POWER (MWT):1518.50
DOCKET NO.:50-266	INITIAL CRITICALITY:11/02/70
COOLING WATER SOURCE:LAKE MICHIGAN	
UNIT NUMBER: 2	LICENSEE:WISCONSIN ELECTRIC POWER COMPANY
TYPE:PWR	LICENSED POWER (MWT):1518.50
DOCKET NO.:50-301	INITIAL CRITICALITY:05/30/72
COOLING WATER SOURCE:LAKE MICHIGAN	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.28E+02
BE-7	3.38E-05
AR-41	1.53E+00
MN-54	1.91E-07
CO-58	1.64E-05
CO-60	4.29E-05
KR-85	1.63E+01
KR-85M	3.45E+00
KR-87	4.84E+00
KR-88	7.08E+00
RB-88	1.53E-03
SR-90	8.79E-08
NB-95	9.12E-08
NB-97	6.41E-08
MO-99	1.09E-10
RU-103	9.07E-08
CD-109	4.37E-04
SB-125	5.62E-07
I-131	6.26E-04
XE-131M	4.51E-02
I-132	2.32E-03
TE-132	2.29E-08
I-133	5.04E-04
XE-133	2.02E+01
XE-133M	7.35E-01
CS-134	2.18E-06
XE-135	1.73E+01
XE-135M	5.42E+00
CS-137	9.09E-05
CS-138	3.29E-03
XE-138	1.63E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.10E+03
F-18	3.74E-05
NA-24	6.68E-01
K-40	2.76E-04
CR-51	2.00E+00
MN-54	1.05E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:POINT BEACH

LOCATION:15 MI N MANITOWOC, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-57	1.82E-02
CO-58	6.49E+00
FE-59	5.72E-02
CO-60	1.53E+00
ZN-65	2.57E-02
KR-85	4.82E-02
KR-85M	1.31E-04
RB-88	3.54E-02
SR-89	1.60E-03
SR-90	3.99E-04
Y-91M	9.40E-05
NB-95	2.72E-01
ZR-95	1.86E-01
NB-97	6.35E-03
ZR-97	1.07E-03
RU-103	5.97E-02
RU-106	3.05E-02
CD-109	5.59E-04
AG-110M	5.01E-02
SN-113	5.11E-02
SB-124	7.09E-02
SB-125	6.55E-02
I-131	3.40E-03
XE-131M	1.81E-04
I-132	1.08E-02
TE-132	8.49E-05
I-133	1.96E-02
XE-133	3.41E-02
XE-133M	1.26E-04
CS-134	5.43E-02
I-134	5.83E-03
I-135	8.78E-03
XE-135	4.66E-03
XE-135M	1.47E-03
CS-137	1.18E-01
CS-138	5.86E-03
BA-140	1.27E-03
LA-140	7.30E-05
CE-141	2.38E-02
CE-144	9.63E-02

TOTAL AIRBORNE TRITIUM RELEASE 3.28E+02
TOTAL LIQUID TRITIUM RELEASE 2.10E+03

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:POINT BEACH

LOCATION:15 MI N MANITOWOC, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.24E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.80E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:POINT BEACH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
35

DESTINATION

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
0

DESTINATION

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3	1.55E+01
CI	1.22E+03
M3	6.97E+02
CI	4.27E+02
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:NORTHERN STATES POWER
TYPE:PWR	LICENSED POWER (MWT):1650.00
DOCKET NO.:50-282	INITIAL CRITICALITY:12/01/73
COOLING WATER SOURCE:MISSISSIPPI RIVER	
UNIT NUMBER: 2	LICENSEE:NORTHERN STATES POWER
TYPE:PWR	LICENSED POWER (MWT):1650.00
DOCKET NO.:50-306	INITIAL CRITICALITY:12/17/74
COOLING WATER SOURCE:MISSISSIPPI RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	3.73E-03
CO-58	9.82E-07
CO-60	1.54E-05
KR-85	4.49E+00
SR-89	1.30E-11
I-131	1.34E-03
XE-131M	2.14E-01
I-133	3.30E-04
XE-133	6.91E+01
XE-133M	1.09E+00
CS-134	4.43E-05
I-135	7.50E-05
XE-135	9.12E-01
CS-137	3.72E-05
BA-LA-140	1.98E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.43E-03
SC-47	1.02E-04
CR-51	1.46E-04
MN-54	1.09E-05
FE-55	1.82E-04
CO-58	5.72E-03
FE-59	1.55E-04
CO-60	6.17E-04
KR-85	2.79E-02
ZR-NB-95	2.12E-04
AG-110M	6.53E-05
SN-113	3.39E-05
SB-124	2.13E-03
SB-125	2.44E-03
I-131	1.47E-03
XE-131M	4.54E-03
I-133	1.58E-03
XE-133	1.00E-01
XE-133M	5.85E-05
CS-134	5.25E-04
I-134	1.35E-04
XE-135	7.70E-04

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PRAIRIE ISLAND

LOCATION:26 MI SE MINNEAPOLIS, MN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED
CS-137

ACTIVITY (CI)
5.53E-04

TOTAL AIRBORNE TRITIUM RELEASE 8.74E+01

TOTAL LIQUID TRITIUM RELEASE 6.41E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.66E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.07E+13

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:PRAIRIE ISLAND

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS 6 MODE OF TRANSPORTATION TRUCK

DESTINATION RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS 0 MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58	%	5.75E+01
CO-60	%	4.40E+00
CS-134	%	1.48E+01
CS-137	%	1.50E+01
H-3	%	3.90E+00
MN-54	%	3.30E+00
NI-63	%	9.00E-01

B

CO-60	%	7.90E+00
CS-134	%	9.70E+00
CS-137	%	1.58E+01
FE-55	%	1.68E+01
FE-59	%	4.00E-01
H-3	%	3.17E+01
MN-54	%	2.00E-01
NI-63	%	1.02E+01
SB-125	%	1.80E+00

D

AG-110M	%	3.00E-01
CO-58	%	3.20E+00
CO-60	%	6.60E+00
CS-134	%	1.25E+01
CS-137	%	1.98E+01
FE-55	%	8.60E+00
H-3	%	4.07E+01
NI-63	%	5.80E+00
SB-125	%	2.40E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
D. OTHER
WASTE CONCENTRATES

M3	2.41E+01
CI	1.14E+01
M3	9.11E+00
CI	1.09E-01
M3	0.00E+00
CI	0.00E+00
M3	8.69E+00
CI	3.66E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:QUAD-CITIES

LOCATION:20 MI NE MOLINE, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:COMMONWEALTH ED&IOWA-ILLINOIS GAS&ELEC
TYPE:BWR	LICENSED POWER (MWT):2511.00
DOCKET NO.:50-254	INITIAL CRITICALITY:10/18/71
COOLING WATER SOURCE:MISSISSIPPI RIVER	
UNIT NUMBER: 2	LICENSEE:COMMONWEALTH ED&IOWA-ILLINOIS GAS&ELEC
TYPE:BWR	LICENSED POWER (MWT):2511.00
DOCKET NO.:50-265	INITIAL CRITICALITY:04/26/72
COOLING WATER SOURCE:MISSISSIPPI RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	1.40E-03
MN-54	2.34E-04
CO-58	3.27E-05
CO-60	9.49E-03
ZN-65	9.99E-05
KR-85M	5.82E+02
KR-87	1.59E+02
KR-88	8.38E+02
SR-89	4.69E-03
SR-90	2.86E-04
NB-95	6.80E-05
RU-103	6.87E-05
AG-110M	3.89E-05
SB-124	1.06E-05
I-131	4.91E-02
I-133	1.87E-01
XE-133	2.63E+03
CS-134	1.86E-04
I-135	2.54E-01
XE-135	1.00E+03
XE-135M	1.78E+02
CS-137	2.10E-03
XE-138	6.25E+02
BA-140	1.69E-02
CE-141	1.93E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	4.59E-03
MN-54	1.20E-03
FE-55	7.66E-03
CO-58	5.69E-04
FE-59	8.20E-05
CO-60	3.97E-02
ZN-65	4.15E-04
SR-89	3.71E-04
SR-90	1.49E-04
NB-95	1.20E-03
ZR-95	1.72E-03
MO-99	N/D

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:QUAD-CITIES

LOCATION:20 MI NE MOLINE, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
RU-103	3.40E-04
AG-110M	4.46E-04
SB-124	2.21E-04
SB-125	1.51E-03
I-131	2.83E-03
XE-133	5.90E-02
XE-133M	1.00E-03
CS-134	9.22E-04
XE-135	2.22E-02
CS-136	4.40E-05
CS-137	7.56E-03
BA-140	1.73E-04
CE-141	2.16E-04
CE-144	5.00E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.41E+01
TOTAL LIQUID TRITIUM RELEASE	5.42E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	5.20E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.92E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:QUAD-CITIES

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
151	CHEM NUCLEAR CO	BARNWELL SC
16	CHEM NUCLEAR CO	RICHLAND WA
27	HACKE	RICHLAND WA
3	TRI-STATE	BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT	YEAR TOTAL
M3	1.35E+03
CI	4.06E+04
M3	
CI	
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:RANCHO SECO

LOCATION:25 MI SE SACRAMENTO, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:SACRAMENTO MUNICIPAL UTILITY

TYPE:PWR

LICENSED POWER (MWT):2772.00

DOCKET NO.:50-312

INITIAL CRITICALITY:09/16/74

COOLING WATER SOURCE:COOLING TOWERS-FOLSOM CANAL

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	2.43E+00
CO-60	4.39E-05
KR-85	9.86E+00
KR-85M	8.64E+00
KR-87	4.24E+00
KR-88	6.76E+00
I-131	2.35E-02
XE-131M	2.13E+00
I-132	6.30E-05
I-133	3.36E-03
XE-133	3.65E+03
XE-133M	7.71E+00
I-135	5.10E-03
XE-135	1.78E+02
XE-135M	6.54E+00
CS-137	8.03E-05
XE-138	3.83E+00
UNIDENTIFIED	6.00E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.97E+02
NA-24	5.95E-04
MN-54	2.45E-03
CO-58	1.13E-02
CO-60	1.94E-02
SR-89	4.04E-05
ZR-NB-95	1.26E-04
AG-110M	1.45E-03
I-131	1.23E-01
I-133	1.71E-02
XE-133	3.39E-02
CS-134	1.53E-01
I-135	1.87E-03
XE-135	4.97E-03
CS-136	4.28E-03
CS-137	3.01E-01

TOTAL AIRBORNE TRITIUM RELEASE	1.94E+02
TOTAL LIQUID TRITIUM RELEASE	2.97E+02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:RANCHO SECO

LOCATION:25 MI SE SACRAMENTO, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.70E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.22E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:RANCHO SECO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION	MODE OF TRANSPORTATION	DESTINATION
NUMBER OF SHIPMENTS	TRUCK(SOLE USE)	RICHLAND WA
30		

IRRADIATED FUEL SHIPMENTS(DISPOSITION)	MODE OF TRANSPORTATION	DESTINATION
NUMBER OF SHIPMENTS		
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE) ANNUAL

A

AG-110M	%	3.80E-01
CO-58	%	8.00E-01
CO-60	%	5.80E+00
CS-134	%	3.78E+00
CS-137	%	9.05E+00
FE-55	%	1.46E+01
H-3	%	5.37E+01
MN-54	%	6.40E-01
NI-63	%	1.12E+01

B

AG-110M	%	1.10E+00
CO-58	%	4.30E-01
CO-60	%	9.70E+00
CS-134	%	1.20E+00
CS-137	%	2.30E+00
FE-55	%	2.44E+01
H-3	%	4.15E+01
MN-54	%	8.50E-01
NI-63	%	1.85E+01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	2.57E+02
BOTTOMS, ETC.	CI	3.79E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	1.68E+02
EQUIPMENT, ETC.	CI	8.09E+00
C. IRRADIATED COMPONENTS, CONTROL	M3	
RODS, ETC.	CI	
D. OTHER	M3	
	CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:H.B.ROBINSON

LOCATION:4.5 MI WNW HARTSVILLE, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:CAROLINA POWER &LIGHT

TYPE:PWR

LICENSED POWER (MWT):2300.00

DOCKET NO.:50-261

INITIAL CRITICALITY:09/20/70

COOLING WATER SOURCE:ROBINSON INPOUNDMENT

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	8.83E-08
CO-60	2.21E-05
KR-85	6.91E-02
KR-85M	3.60E-02
I-131	2.24E-04
XE-131M	2.40E-02
I-133	1.48E-05
XE-133	4.71E+01
XE-133M	1.11E+00
XE-135	6.29E-01
CS-137	1.29E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.00E-01
CR-51	7.55E-04
MN-54	6.65E-04
CO-57	1.94E-06
CO-58	5.33E-03
CO-60	5.11E-02
SR-89	2.52E-04
SR-90	1.56E-04
SR-92	6.53E-05
NB-95	3.56E-04
NB-97	4.93E-05
ZR-97	1.36E-05
MO-99	7.51E-04
TC-99M	1.93E-04
AG-110M	3.47E-03
SN-113	7.57E-06
SB-124	3.61E-03
I-131	9.19E-03
TE-132	8.71E-07
I-133	8.87E-02
XE-133	1.83E-03
CS-134	1.07E-02
XE-135	1.40E-02
XE-135M	8.56E-04
CS-136	1.66E-04
CS-137	1.43E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:H.B.ROBINSON

LOCATION:4.5 MI WNW HARTSVILLE, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 2.22E+00
TOTAL LIQUID TRITIUM RELEASE 1.34E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.51E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	4.32E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:H.B.ROBINSON

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
118	SOLE USE VEHICLE	BARNWELL SC	

IRRADIATED FUEL SHIPMENTS(DISPOSITION)			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
0	N/A	N/A	

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
A			
AG-110M	%	3.00E+00	
CO-58	%	8.00E+00	
CO-60	%	3.20E+01	1.28E+01
CS-134	%		4.10E+00
CS-137	%		6.60E+00
H-3	%	2.50E+01	6.45E+01
NI-63	%	1.20E+01	2.90E+00
OTHERS	%	1.60E+01	6.70E+00
SB-124	%	4.00E+00	
SR-90	%		2.40E+00
B			
CO-58	%	1.90E+01	2.30E+00
CO-60	%	3.30E+01	3.27E+01
CR-51	%	1.60E+01	2.10E+00
CS-134	%		1.22E+01
CS-137	%		2.46E+01
FE-55	%	2.50E+01	2.55E+01
OTHERS	%	7.00E+00	6.00E-01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	2.57E+02
BOTTOMS, ETC.	CI	1.40E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	2.78E+03
EQUIPMENT, ETC.	CI	2.45E+01
C. IRRADIATED COMPONENTS, CONTROL	M3	0.00E+00
RODS, ETC.	CI	0.00E+00
D. OTHER	M3	1.68E+01
	CI	3.01E+01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SALEM 1

LOCATION:20 MI S WILMINGTON, DE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:PSE&G

TYPE:PWR

LICENSED POWER (MWT):3338.00

DOCKET NO.:50-272

INITIAL CRITICALITY:12/11/76

COOLING WATER SOURCE:DELAWARE RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

ALPHA	1.50E-05
KR-85	5.63E-02
KR-85M	1.42E+00
I-131	5.16E-04
I-133	8.62E-04
XE-133	1.27E+02
XE-135	1.25E+01
UNIDENTIFIED	5.41E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	3.30E+02
F-18	1.97E-03
NA-24	5.64E-03
CR-51	5.30E-02
MN-54	1.93E-01
CO-57	5.57E-03
CO-58	1.58E+00
FE-59	5.83E-03
CO-60	1.20E+00
SR-85	1.74E-03
SR-89	4.21E-04
SR-90	2.24E-05
NB-95	1.74E-02
ZR-95	1.78E-03
NB-97	2.04E-02
MO-99	1.90E-03
TC-99M	1.64E-03
SN-113	9.38E-04
SB-122	2.17E-03
SB-124	1.66E-02
SB-125	4.91E-03
I-131	4.46E-02
I-133	2.47E-02
XE-133	5.94E-01
CS-134	5.06E-02
I-135	1.15E-03
XE-135	1.66E-02
CS-137	5.84E-02
BA-140	2.11E-03
LA-140	1.57E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SALEM 1

LOCATION:20 MI S WILMINGTON, DE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.14E+02
TOTAL LIQUID TRITIUM RELEASE 3.30E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.55E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.74E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SALEM 2

LOCATION:20 MI S WILMINGTON, DE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:PSE&G

TYPE:PWR

LICENSED POWER (MWT):3338.00

DOCKET NO.:50-311

INITIAL CRITICALITY:08/02/80

COOLING WATER SOURCE:DELAWARE RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	2.67E-04
CO-60	1.77E-03
KR-85M	2.20E+00
SR-85	1.52E-03
I-131	1.30E-03
I-133	9.31E-05
XE-133	1.88E+02
CS-134	2.73E-04
XE-135	3.22E+00
CS-137	2.78E-04
RA-226	2.20E-03
UNIDENTIFIED	1.59E+03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.08E+02
F-18	9.94E-04
NA-24	4.44E-03
CR-51	3.63E-02
MN-54	1.61E-01
CO-57	3.91E-03
CO-58	1.30E+00
FE-59	7.56E-03
CO-60	9.79E-01
ZN-65	2.04E-03
KR-85	4.05E-01
SR-89	3.21E-04
SR-90	4.06E-05
NB-95	1.36E-02
ZR-95	1.19E-03
NB-97	2.12E-02
ZR-97	1.83E-04
MO-99	1.43E-03
TC-99M	1.35E-03
SN-113	1.18E-03
SB-122	3.09E-03
SB-124	2.96E-02
SB-125	3.57E-03
I-131	4.24E-02
I-132	3.68E-04
I-133	2.64E-02
XE-133	6.14E-01
CS-134	2.63E-02
I-134	6.16E-04

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SALEM 2

LOCATION:20 MI S WILMINGTON, DE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-135	4.43E-04
XE-135	1.03E-02
CS-137	4.81E-02
CS-138	1.35E-03
BA-140	6.65E-03
LA-140	2.98E-02

TOTAL AIRBORNE TRITIUM RELEASE	1.76E+02
TOTAL LIQUID TRITIUM RELEASE	3.08E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.29E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.55E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SALEM 1-2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
24	TRUCK
35	TRUCK

DESTINATION
BARNWELL SC
HANFORD WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
0	

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BA-140	%	5.53E+00	2.44E+00
C-14	%	3.00E-02	2.00E-02
CE-144	%	1.60E-01	7.00E-02
CO-57	%	5.40E-01	2.30E-01
CO-58	%	4.44E+01	6.40E+01
CO-60	%	1.46E+01	1.33E+01
CS-134	%	3.06E+00	2.43E+00
CS-137	%	3.64E+00	2.51E+00
FE-55	%	1.06E+01	4.48E+00
H-3	%	4.20E+00	8.60E-01
I-129	%	1.00E-02	
I-129/PU-238/PU-239/PU-240/AM-241/CM-242/ CM-243/CM-244	%		7.00E-02
LA-140	%	6.33E+00	2.78E+00
MN-54	%	2.99E+00	1.09E+00
NI-63	%	3.56E+00	5.57E+00
OTHER TRANSURANICS	%	7.00E-02	
PU-241	%	2.50E-01	1.10E-01
SR-90	%	1.00E-02	2.00E-02
TC-99	%	2.00E-02	2.00E-02

B

BA-140	%	5.53E+00	2.44E+00
C-14	%	3.00E-02	2.00E-02
CE-144	%	1.60E-01	7.00E-02
CO-57	%	5.40E-01	2.30E-01
CO-58	%	4.44E+01	6.40E+01
CO-60	%	1.46E+01	1.33E+01
CS-134	%	3.06E+00	2.43E+00
CS-137	%	3.64E+00	2.51E+00
FE-55	%	1.06E+01	4.48E+00
H-3	%	4.20E+00	8.60E-01
I-129	%	1.00E-02	
I-129/PU-238/PU-239/PU-240/AM-241/CM-242/ CM-243/CM-244	%		7.00E-02
LA-140	%	6.33E+00	2.78E+00
MN-54	%	2.99E+00	1.09E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
NI-63	%	3.56E+00	5.57E+00
OTHER TRANSURANICS	%	7.00E-02	
PU-241	%	2.50E-01	1.10E-01
SR-90	%	1.00E-02	2.00E-02
TC-99	%	2.00E-02	2.00E-02
D			
C-14	%		8.00E-01
CE-144	%		1.50E+00
CO-58	%		6.10E+00
CO-60	%		5.25E+01
CS-134	%		8.20E+00
CS-137	%		1.26E+01
FE-55	%		4.60E+00
H-3	%		2.40E+00
MN-54	%		5.00E+00
NI-63	%		6.30E+00

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.11E+02	
	CI	6.00E+02	
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.38E+03	
	CI	2.26E+01	
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00	
	CI	0.00E+00	
D. OTHER	M3	2.41E+01	
SOLIDIFIED OIL	CI	7.10E-01	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SAN ONOFRE 1

LOCATION:2.5 MI S SAN CLEMENTE, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:SOUTHERN CA EDISON&SAN DIEGO GAS&ELEC

TYPE:PWR

LICENSED POWER (MWT):1347.00

DOCKET NO.:50-206

INITIAL CRITICALITY:06/14/67

COOLING WATER SOURCE:PACIFIC OCEAN

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85	1.12E-01
KR-85M	1.37E-01
KR-87	2.31E-03
KR-88	2.65E-04
CD-109	1.74E-06
I-131	6.78E-06
XE-133	7.68E+01
XE-133M	3.21E-01
XE-135	8.77E+00
XE-135M	4.45E-05
CS-137	9.69E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	3.90E-04
MN-54	1.31E-02
CO-58	4.35E-05
CO-60	1.98E+00
SR-89	6.92E-04
SR-90	8.01E-03
TC-99M	1.87E-04
I-131	2.67E-03
I-133	9.53E-04
XE-133	2.28E-01
CS-134	1.39E-01
XE-135	1.86E-03
CS-137	5.99E-01
CE-144	4.28E-06

TOTAL AIRBORNE TRITIUM RELEASE N/D

TOTAL LIQUID TRITIUM RELEASE 3.39E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.02E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.92E+11

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SAN ONOFRE 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

27

2

MODE OF TRANSPORTATION

CHEM-NUCLEAR SYSTEMS INC

HANCK TRANSPORTATION

DESTINATION

RICHLAND WA

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS*

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

B

AG-110M

%

4.25E-01

C-14

%

6.82E-05

1.09E-02

CO-60

%

4.01E+01

3.97E+01

CS-134

%

4.81E+00

4.76E+00

CS-137

%

3.77E+01

3.73E+01

H-3

%

2.47E-03

1.07E-01

I-129

%

5.39E-05

5.48E-02

MN-54

%

4.66E-01

4.37E-01

NI-63

%

1.47E+01

1.46E+01

PU-241

%

2.18E+00

2.16E+00

RU-106

%

4.46E-01

TC-99

%

1.77E-05

1.81E-02

D

C-14

%

9.07E+00

CO-60

%

5.23E+01

CS-134

%

1.68E+00

CS-137

%

1.05E+01

H-3

%

1.77E+01

I-129

%

3.08E-01

MN-54

%

4.82E-02

NI-63

%

7.17E+00

PU-241

%

8.29E-01

SR-90

%

9.52E-02

TC-99

%

2.64E-01

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3

0.00E+00

CI

0.00E+00

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

1.94E+02

CI

1.51E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

0.00E+00

CI

0.00E+00

D. OTHER

M3

9.73E+01

LIQUIDS,SAND,RUBBLE,BIO WASTE

CI

2.39E-01

*INCLUDES SHIPMENTS FROM SAN ONOFRE 2-3

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SAN ONOFRE 2-3

LOCATION:2.5 MI S SAN CLEMENTE, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2	LICENSEE:SOUTHERN CA EDISON&SAN DIEGO GAS&ELEC
TYPE:PWR	LICENSED POWER (MWT):3410.00
DOCKET NO.:361	INITIAL CRITICALITY:07/26/82
COOLING WATER SOURCE:PACIFIC OCEAN	
UNIT NUMBER: 3	LICENSEE:SOUTHERN CA EDISON&SAN DIEGO GAS&ELEC
TYPE:PWR	LICENSED POWER (MWT):3390.00
DOCKET NO.:362	INITIAL CRITICALITY:08/29/83
COOLING WATER SOURCE:PACIFIC OCEAN	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.26E-04
AR-41	1.04E+01
SC-47	8.73E-05
CR-51	3.44E-04
MN-54	8.05E-05
FE-55	5.24E-04
CO-58	2.29E-03
CO-60	2.43E-04
BR-82	2.75E-04
KR-85	7.02E+01
KR-85M	1.85E+01
KR-87	9.13E+00
KR-88	2.38E+01
RB-88	1.04E-02
SR-89	5.49E-05
SR-90	1.59E-07
SR-92	8.25E-06
NB-94	2.45E-06
NB-95	2.42E-04
ZR-95	2.23E-05
ZR-97	3.34E-05
MO-99	5.75E-04
TC-99M	6.81E-04
I-131	4.08E-01
XE-131M	1.84E+02
I-132	1.03E-03
TE-132	1.40E-06
I-133	7.48E-02
XE-133	3.85E+04
XE-133M	1.06E+02
CS-134	5.11E-05
I-135	5.57E-03
XE-135	1.22E+03
XE-135M	4.15E+00
CS-136	6.18E-05
CS-137	3.30E-04
CS-138	1.20E-03
XE-138	1.25E+00
BA-139	1.13E-05
CE-139	7.00E-07

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BA-140	2.48E-06
LA-140	6.58E-09
LA-142	6.01E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.27E-02
AR-41	8.99E-03
CR-51	2.73E+00
MN-54	2.74E-01
FE-55	1.88E-01
CO-57	4.64E-03
CO-58	3.33E+00
FE-59	2.85E-01
CO-60	6.35E-01
ZN-65	1.97E-02
KR-85	9.43E-02
KR-85M	1.01E-02
KR-88	2.79E-02
RB-88	1.20E-02
SR-89	1.37E-03
Y-91M	1.36E-04
NB-95	5.65E-01
NB-95M	1.62E-04
ZR-95	4.17E-01
NB-97	2.41E-02
ZR-97	5.65E-05
MO-99	1.14E-01
TC-99M	1.61E-01
RU-103	5.74E-02
RU-106	1.08E-02
AG-110M	6.08E-05
SN-113	2.15E-02
SB-122	6.73E-03
SB-124	5.60E-02
SB-125	3.52E-02
I-131	1.08E+00
XE-131M	2.55E+00
I-132	8.63E-04
TE-132	2.38E-04
I-133	1.03E-01
XE-133	3.21E+02
XE-133M	5.58E+00
CS-134	5.01E-01
I-135	3.60E-03
XE-135	4.39E+00
XE-135M	2.36E-05
CS-136	5.33E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SAN ONOFRE 2-3

LOCATION:2.5 MI S SAN CLEMENTE, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-137	2.41E+00
CS-138	1.06E-03
BA-140	2.93E-03
LA-140	1.33E-02
CE-141	2.00E-02
CE-144	2.99E-02
TA-182	3.49E-04
NP-239	1.16E-02

TOTAL AIRBORNE TRITIUM RELEASE	4.44E+02*
TOTAL LIQUID TRITIUM RELEASE	4.55E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.43E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.27E+11

*REVIEW OF ASSAY DATA PRIOR TO AND FOLLOWING THE PARTICULAR DISCHARGE RESPONSIBLE FOR THE 1ST QUARTER 179CI RELEASE, INDICATES AN ERROR IN CONCENTRATION WAS MADE. RAW COUNTING DATA DOES NOT EXIST TO CONFIRM THIS. WE BELIEVE, HOWEVER, THAT THE APPROPRIATE 1ST QUARTER RELEASE WAS 3.61E-2CI, AND A YEARLY TOTAL OF 47.3 CI.

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION		
NUMBER OF SHIPMENTS*	MODE OF TRANSPORTATION	DESTINATION
2	CHEM-NUCLEAR SYSTEMS INC	RICHLAND WA

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
A			
C-14	%	1.46E-01	1.84E-01
CE-144	%		7.24E-03
CO-57	%	1.27E-01	2.13E-02
CO-58	%	4.03E+01	2.72E+01
CO-60	%	7.54E+00	5.48E+00
CR-51	%		3.52E-01
CS-134	%	3.61E+00	9.04E+00
CS-137	%	2.86E+01	4.10E+01
FE-59	%	2.26E-01	4.22E+00
H-3	%	7.64E-04	1.37E-03
I-129	%	1.65E-05	8.06E-04
MN-54	%	1.62E+01	9.85E+00
NB-95	%		2.99E-01
NI-63	%	3.25E+00	2.15E+00
SR-90	%	1.17E-02	5.24E-03
TC-99	%	8.93E-05	5.92E-04
ZN-65	%		3.70E-02
ZR-95	%		1.10E-01
B			
C-14	%	1.37E+01	9.89E-01
CO-58	%	4.31E+01	3.34E+01
CO-60	%	6.22E+00	8.92E+00
CR-51	%	1.48E+01	1.29E+01
CS-134	%		2.81E+00
CS-137	%	1.20E-02	1.45E+01
FE-59	%	2.50E+00	2.33E+00
H-3	%	2.30E+00	2.77E+00
I-129	%	1.94E-04	3.83E-02
I-131	%		6.07E+00
MN-54	%	2.49E+00	3.61E+00
NB-95	%	6.77E+00	5.54E+00
NI-63	%	4.03E+00	2.20E+00
TC-99	%	6.25E-04	6.72E-02
ZR-95	%	4.07E+00	3.92E+00
D			
C-14	%		8.18E-02
CO-57	%		6.92E-02
CO-58	%		3.68E+01
CO-60	%		9.73E+00
CR-51	%		2.95E+01
CS-134	%		4.23E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
CS-137	%		2.05E+00
FE-59	%		3.08E+00
H-3	%		1.74E-01
I-129	%		4.18E-04
I-131	%		8.57E-01
MN-54	%		3.86E+00
NB-95	%		5.67E+00
NI-63	%		3.71E+00
SB-124	%		6.32E-02
SB-125	%		8.06E-02
TC-99	%		2.04E-03
ZN-65	%		3.65E-01
ZR-95	%		3.48E+00

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	4.06E+01
	CI	4.73E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.04E+02
	CI	7.84E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	5.71E+01
	CI	6.84E+01

*JULY-DECEMBER SHIPMENTS ARE INCLUDED IN SAN ONOFRE 1 REPORT.

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SEQUOYAH

LOCATION:DAISY, TN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:TENNESSEE VALLEY AUTHORITY
TYPE:PWR	LICENSED POWER (MWT):2815.00
DOCKET NO.:50-327	INITIAL CRITICALITY:07/05/80
COOLING WATER SOURCE:TENNESSEE RIVER	
UNIT NUMBER: 2	LICENSEE:TENNESSEE VALLEY AUTHORITY
TYPE:PWR	LICENSED POWER (MWT):2815.00
DOCKET NO.:50-328	INITIAL CRITICALITY:11/05/81
COOLING WATER SOURCE:TENNESSEE RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.49E+00
CR-51	4.08E-08
MN-54	2.62E-05
CO-57	3.31E-07
CO-58	3.45E-04
CO-60	8.39E-05
KR-85	1.66E+01
KR-85M	1.36E+01
KR-87	4.06E+00
KR-88	9.25E-02
Y-88	6.75E-06
SR-89	1.04E-07
NB-95	1.73E-08
TC-99M	1.51E-02
I-131	5.04E-03
XE-131M	2.69E+01
I-133	2.42E-04
XE-133	5.26E+03
XE-133M	6.24E+01
CS-134	6.91E-06
XE-135	1.69E+02
XE-135M	2.45E-03
CS-137	6.27E-04
BA-140	4.08E-07
LA-140	4.08E-07
CE-141	3.07E-08
CE-144	4.54E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.55E-04
P-32	3.59E-02
AR-41	1.00E-04
CR-51	3.78E-02
MN-54	2.81E-01
FE-55	7.34E-01
CO-57	6.40E-03
CO-58	1.21E+00
FE-59	1.30E-02
CO-60	5.27E-01

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SEQUOYAH

LOCATION:DAISY, TN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ZN-65	8.05E-05
ZN-69M	5.28E-06
KR-85	2.27E-02
KR-85M	3.05E-03
KR-87	4.90E-07
SR-89	1.05E-03
SR-92	5.94E-06
ZR-NB-95	3.78E-02
NB-97	5.02E-06
ZR-97	3.86E-03
RU-103	1.25E-05
RU-105	3.71E-05
SB-124	2.23E-04
SB-125	2.17E-03
TE-129M	3.65E-04
I-131	9.33E-02
XE-131M	3.52E-02
TE-132	1.90E-05
I-133	3.30E-03
XE-133	3.24E+00
XE-133M	6.87E-02
CS-134	1.02E-01
XE-135	7.92E-02
CS-137	1.45E-01
BA-LA-140	1.32E-05
CE-141	1.17E-05
CE-143	1.14E-05
CE-144	4.61E-05

TOTAL AIRBORNE TRITIUM RELEASE	2.16E+02
TOTAL LIQUID TRITIUM RELEASE	1.82E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.62E+09
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.35E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SEQUOYAH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
11	HIGHWAY CARRIER	BARNWELL SC
14	HIGHWAY CARRIER	RICHLAND WA
10	MOTOR FREIGHT	BARNWELL SC
8	MOTOR FREIGHT	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0	N/A	N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
AM-241	%	1.79E-03	
C-14	%	1.74E-02	<1.00E+00
CM-242	%	1.38E-02	
CM-244	%	3.64E-03	
CO-58	%	4.21E+01	4.90E+01
CO-60	%	2.01E+01	2.10E+01
CR-51	%	1.23E-02	<1.00E+00
CS-134	%	5.32E+00	3.80E+00
CS-137	%	6.48E+00	8.40E+00
FE-59	%	5.79E-01	<1.00E+00
H-3	%	2.62E-01	<1.00E+00
I-129	%	5.71E-06	
I-131	%	1.01E+00	2.00E+00
MN-54	%	1.36E+01	1.20E+01
NB-95	%	2.11E-01	<1.00E+00
NI-63	%	2.96E+00	
OTHER	%	1.66E-01	3.20E+00
PU-238	%	9.08E-03	
PU-239	%	5.57E-03	
PU-241	%	2.65E-01	
PU-242	%	5.13E-04	
SR-90	%	6.61E+00	<1.00E+00
TC-99	%	1.06E-03	
ZR-95	%	5.28E-03	<1.00E+00

B

AM-241	%	4.83E-04	
C-14	%	1.72E-01	<1.00E+00
CM-242	%	2.57E-03	
CM-244	%	2.46E-04	
CO-58	%	3.36E+00	3.40E+00
CO-60	%	5.76E-01	<1.00E+00
CR-51	%	3.15E-01	<1.00E+00
CS-134	%	4.91E-02	<1.00E+00
CS-137	%	6.75E-02	<1.00E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SEQUOYAH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
FE-59	%	4.81E-02	<1.00E+00
H-3	%	9.34E+01	9.30E+01
I-129	%	2.57E-08	
I-131	%	3.10E-01	<1.00E+00
MN-54	%	1.05E+00	1.00E+00
NB-95	%	1.13E-01	<1.00E+00
NI-63	%	8.61E-02	
OTHER	%	1.12E-02	<1.00E+00
PU-238	%	8.14E-04	
PU-239	%	6.55E-05	
PU-241	%	1.67E-01	
PU-242	%	7.81E-05	
SR-90	%	1.33E-03	<1.00E+00
TC-99	%	1.12E-05	
ZR-95	%	7.28E-02	<1.00E+00

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.59E+02
	CI	2.40E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	8.07E+02
	CI	2.98E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	0.00E+00
	CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ST. LUCIE 1

LOCATION:8 MI S FT. PIERCE, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:FLORIDA POWER &LIGHT

TYPE:PWR

LICENSED POWER (MWT):2560.00

DOCKET NO.:50-335

INITIAL CRITICALITY:04/22/76

COOLING WATER SOURCE:ATLANTIC OCEAN

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-60	3.77E-05
KR-85	1.19E+01
KR-85M	4.42E+02
KR-87	1.30E+02
KR-88	1.44E+02
SR-89	1.51E-05
SR-90	3.22E-07
Y-90	3.22E-07
I-131	2.59E-01
XE-131M	8.83E+01
I-133	6.07E-01
XE-133	3.06E+04
XE-133M	1.62E+02
I-135	1.39E+00
XE-135	4.18E+03
XE-135M	1.86E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	9.67E-03
AR-41	9.91E-04
CR-51	1.63E-02
MN-54	2.56E-02
FE-55	1.09E-01
CO-58	2.01E-01
FE-59	2.16E-02
CO-60	4.15E-01
ZN-65	1.94E-04
RB-88	5.15E-04
SR-89	1.86E-02
SR-90	6.70E-04
Y-90	6.70E-04
NB-95	9.01E-03
ZR-95	4.38E-03
TC-99M	4.27E-03
SN-113	1.63E-04
SB-122	1.65E-02
SB-124	2.19E-03
SB-125	3.46E-02
I-131	3.94E-01
XE-131M	3.57E-02
I-132	2.57E-05
I-133	4.61E-02
XE-133	2.56E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:ST. LUCIE 1

LOCATION:8 MI S FT. PIERCE, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-133M	1.58E-02
CS-134	2.19E-01
I-135	2.56E-03
XE-135	2.44E-02
CS-136	1.97E-02
CS-137	3.91E-01
CS-138	2.01E-03
BA-140	1.95E-03
LA-140	8.25E-03
W-187	2.47E-04

TOTAL AIRBORNE TRITIUM RELEASE	8.07E+02
TOTAL LIQUID TRITIUM RELEASE	2.21E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.56E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.69E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ST. LUCIE 2

LOCATION:8 MI S FT. PIERCE, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:FLORIDA POWER & LIGHT

TYPE:PWR

LICENSED POWER (MWT):2700.00

DOCKET NO.:50-389

INITIAL CRITICALITY:06/02/83

COOLING WATER SOURCE:ATLANTIC OCEAN

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	4.74E+00
KR-85	4.00E-01
KR-85M	6.17E+01
KR-87	6.16E-02
KR-88	3.47E+01
SR-90	2.87E-06
Y-90	2.87E-06
I-131	2.83E-01
XE-131M	2.52E+00
I-133	1.22E-01
XE-133	6.93E+03
XE-133M	2.37E+01
XE-135	4.61E+02
XE-135M	1.49E+02

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	9.67E-03
AR-41	9.91E-04
CR-51	1.63E-02
MN-54	2.56E-02
FE-55	1.09E-01
CO-58	2.01E-01
FE-59	2.16E-02
CO-60	4.15E-01
ZN-65	1.94E-04
RB-88	5.15E-04
SR-89	1.86E-02
SR-90	6.70E-04
Y-90	6.70E-04
NB-95	9.01E-03
ZR-95	4.38E-03
TC-99M	4.27E-03
SN-113	1.63E-04
SB-122	1.65E-02
SB-124	2.19E-03
SB-125	3.46E-02
I-131	3.94E-01
XE-131M	3.57E-02
I-132	2.57E-05
I-133	4.61E-02
XE-133	2.56E+00
XE-133M	1.58E-02
CS-134	2.19E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:ST. LUCIE 2

LOCATION:8 MI S FT. PIERCE, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-135	2.56E-03
XE-135	2.44E-02
CS-136	1.97E-02
CS-137	3.91E-01
CS-138	2.01E-03
BA-140	1.95E-03
LA-140	8.25E-03
CE-144	N/A
W-187	2.47E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.90E+02
TOTAL LIQUID TRITIUM RELEASE	2.21E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.56E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.69E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ST. LUCIE 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

53

21

MODE OF TRANSPORTATION

SOLE USE TRUCK

SOLE USE TRUCK

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58

%

1.20E+01

CO-60

%

2.90E+01

1.40E+01

CS-134

%

1.30E+01

1.40E+01

CS-137

%

2.60E+01

3.00E+01

FE-55

%

6.50E+00

1.70E+01

B

CO-58

%

7.50E+00

CO-60

%

2.30E+01

2.90E+01

CS-134

%

6.30E+00

CS-137

%

1.30E+01

FE-55

%

3.00E+01

H-3

%

1.20E+01

2.40E+01

I-131

%

1.30E+01

4.10E+00

C

CO-58

%

1.90E+01

CO-60

%

4.20E+01

FE-55

%

2.90E+01

MN-54

%

3.70E+00

NI-63

%

3.30E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3

4.65E+01

CI

1.23E+03

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

1.09E+03

CI

7.08E+01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

8.37E+01

CI

6.23E+04

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SUMMER

LOCATION:26 MI NW OF COLUMBIA, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:SOUTH CAROLINA ELECTRIC & GAS CO.

TYPE:PWR

LICENSED POWER (MWT):2775.00

DOCKET NO.: 50-395

INITIAL CRITICALITY:10/22/82

COOLING WATER SOURCE:MONTICELLO RESERVOIR

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.22E-01
CO-58	7.12E-06
KR-87	2.63E-03
KR-88	1.40E-02
I-131	1.88E-06
I-133	1.40E-06
XE-133	6.56E+00
XE-133M	3.87E-02
XE-135	9.69E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	5.66E-02
AR-41	2.64E-05
SC-46	5.94E-05
CR-51	2.75E-01
MN-54	1.79E-01
FE-55	7.48E-02
MN-56	2.08E-05
NI-56	3.95E-06
CO-57	7.06E-03
CO-58	3.15E+00
FE-59	4.09E-02
CO-60	5.97E-01
ZN-65	3.86E-03
ZN-69M	1.09E-05
KR-85M	3.42E-04
KR-87	1.64E-05
KR-88	5.99E-04
RB-88	1.05E-03
SR-89	4.05E-04
ZR-NB-95	1.11E-01
NB-97	1.67E-05
ZR-97	3.97E-05
MO-99	1.43E-04
TC-99M	1.37E-03
AG-110M	2.40E-03
SN-113	1.14E-03
SB-124	8.08E-03
SB-125	9.73E-03
I-131	2.55E-03
I-132	3.71E-03
BA-133	7.19E-06
I-133	8.73E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SUMMER

LOCATION:26 MI NW OF COLUMBIA, SC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
XE-133	1.62E-02
XE-133M	1.15E-04
CS-134	8.93E-05
I-135	5.37E-04
XE-135	2.16E-02
CS-137	8.93E-06
BA-LA-140	1.88E-04
CE-144	9.70E-04
HF-181	7.24E-06
W-187	1.05E-03
NP-239	1.18E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.24E-01
TOTAL LIQUID TRITIUM RELEASE	2.25E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.86E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.16E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SUMMER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

34

MODE OF TRANSPORTATION

TRUCK

DESTINATION

BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

C-14+FE-59+BE-7+I-131

% 3.23E+00

CO-58

% 5.73E+01 5.25E+01

CO-60

% 1.10E+01 1.41E+01

CR-51+MN-54+NB-95+NI-63+FE-55+ZR-95

% 1.86E+01

H-3

% 9.12E+00 1.04E+01

MN-54+FE-55+CR-51+NI-63+C-14

% 2.05E+01

NB-95+ZR-95+FE-59

% 1.89E+00

B

C-14+ZR-95+CS-137

% 1.63E+00

CO-58

% 5.11E+01 4.12E+01

CO-60

% 1.43E+01

CR-51

% 2.34E+01

FE-55

% 2.77E+01

FE-55+CE-144+C-14+NI-63

% 2.75E+00

MN-54+CR-51+NI-63+NB-95+FE-59

% 1.47E+01

NB-95+CO-60+ZR-95+MN-54+FE-59

% 2.07E+01

D

CO-58

% 2.62E+01 3.04E+01

CO-60

% 1.15E+01

CR-51

% 1.15E+01

FE-55

% 1.21E+01 2.64E+01

LA-140

% 3.10E+01

MN-54

% 1.36E+01

NI-56+FE-59+W-187+BA-140+C-14+CE-139

% 4.04E+00

NI-63+CO-60+NB-95+ZR-95+MN-54

% 1.48E+01

ZR-95+CR-51+NB-95+NI-63+FE-59

% 1.78E+01

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3 1.81E+02

CI 1.22E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 2.92E+02

CI 2.27E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3 0.00E+00

CI 0.00E+00

D. OTHER

M3 7.14E+00

PROCESS FILTERS

CI 3.10E+01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SURRY

LOCATION:19 MI NW NEWPORT NEWS, VA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:VIRGINIA ELECTRIC &POWER
TYPE:PWR	LICENSED POWER (MWT):2441.00
DOCKET NO.:50-280	INITIAL CRITICALITY:07/01/72
COOLING WATER SOURCE:JAMES RIVER	
UNIT NUMBER: 2	LICENSEE:VIRGINIA ELECTRIC &POWER
TYPE:PWR	LICENSED POWER (MWT):2441.00
DOCKET NO.:50-281	INITIAL CRITICALITY:03/07/73
COOLING WATER SOURCE:JAMES RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	6.87E-03
CR-51	7.87E-08
MN-54	1.00E-05
CO-57	2.33E-08
CO-58	2.29E-04
CO-60	8.34E-04
ZN-65	1.27E-07
KR-85	1.46E-01
KR-85M	8.04E-01
KR-88	4.27E-01
RB-88	2.19E-02
SR-90	1.59E-06
SR-92	4.16E-06
NB-95	7.74E-07
TC-99M	3.74E-06
RU-103	3.27E-06
SB-125	1.56E-07
I-131	5.30E-02
XE-131M	1.86E+00
I-132	4.98E-03
I-133	3.55E-02
XE-133	6.65E+03
XE-133M	2.55E+01
CS-134	1.04E-03
I-135	1.66E-02
XE-135	2.78E+02
CS-137	3.63E-03
CS-138	6.17E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
C-14	2.54E-02
NA-22	2.42E-06
NA-24	1.27E-02
AR-41	3.86E-04
CR-51	3.75E-01
MN-54	4.53E-02
FE-55	1.08E-01
CO-57	4.07E-03
CO-58	1.53E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SURRY

LOCATION:19 MI NW NEWPORT NEWS, VA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-59	6.46E-03
CO-60	1.63E+00
ZN-65	3.86E-04
KR-85M	1.86E-03
KR-87	2.23E-05
KR-88	1.50E-03
RB-88	1.20E-02
SR-89	1.20E-03
SR-92	8.04E-03
NB-95	5.32E-02
ZR-95	3.98E-02
MO-99	7.89E-04
TC-99M	1.45E-03
RU-103	1.37E-02
AG-110M	2.23E-02
SB-124	9.66E-02
SB-125	9.27E-02
I-131	7.54E-01
XE-131M	2.64E-01
I-132	4.33E-03
TE-132	3.17E-03
I-133	7.64E-02
XE-133	1.71E+01
XE-133M	1.81E-01
CS-134	1.49E+00
I-134	3.44E-05
I-135	5.27E-03
XE-135	9.97E-01
XE-135M	1.77E-03
CS-136	4.52E-03
CS-137	3.34E+00
BA-140	5.72E-03
BA-LA-140	1.55E-02
LA-140	1.18E-02
CE-141	4.56E-03
CE-144	2.95E-02
ND-147	1.92E-03
BI-207	2.29E-05
NP-239	6.03E-04

TOTAL AIRBORNE TRITIUM RELEASE 3.85E+01
TOTAL LIQUID TRITIUM RELEASE 8.12E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.85E+09
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.28E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SURRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
30		BARNWELL SC
12	TRUCK	BARNWELL SC
12	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

*JAN-JUNE JULY-DEC

A

CO-58	%	N/A	1.61E+01
CO-60	%	N/A	4.16E+01
CR-51	%	N/A	1.20E+00
CS-134	%	N/A	4.79E+00
CS-137	%	N/A	1.52E+01
FE-55	%	N/A	8.30E+00
MN-54	%	N/A	2.21E+00
NI-63	%	N/A	8.13E+00

B

CO-58	%	N/A	3.78E+00
CO-60	%	N/A	2.02E+01
CS-134	%	N/A	1.32E+01
CS-137	%	N/A	2.59E+01
FE-55	%	N/A	2.23E+01
H-3	%	N/A	9.54E+00
NI-63	%	N/A	4.17E+00

D

CS-137	%	N/A	1.04E+00
H-3	%	N/A	9.73E+01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.85E+02
BOTTOMS, ETC.	CI	1.15E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	3.52E+02
EQUIPMENT, ETC.	CI	6.79E+00
C. IRRADIATED COMPONENTS, CONTROL	M3	0.00E+00
RODS, ETC.	CI	0.00E+00
D. OTHER	M3	7.86E+00
SOLIDIFIED OIL	CI	2.12E-01

*BREAKDOWN OF NUCLIDE COMPOSITION WAS NOT REQUIRED UNDER PREVIOUS ENVIRONMENTAL TECHNICAL SPECIFICATIONS.

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SUSQUEHANNA

LOCATION:7 MI NE OF BERWICK PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:PENNSYLVANIA POWER & LIGHT CO.
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-387	INITIAL CRITICALITY:09/10/82
COOLING WATER SOURCE:SUSQUEHANNA RIVER	
UNIT NUMBER: 2	LICENSEE:PENNSYLVANIA POWER & LIGHT CO.
TYPE:BWR	LICENSED POWER (MWT):3293.00
DOCKET NO.:50-388	INITIAL CRITICALITY:05/08/84
COOLING WATER SOURCE:SUSQUEHANNA RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.91E-05
AR-41	4.90E+00
CR-51	2.27E-03
MN-54	1.54E-04
CO-58	1.08E-04
FE-59	3.01E-05
CO-60	8.36E-05
KR-85M	1.81E+01
KR-87	1.39E-01
KR-88	1.77E+01
SR-89	1.73E-05
SR-90	1.41E-08
I-131	1.21E-02
I-133	1.03E-02
XE-133	7.64E+01
XE-133M	2.86E-01
XE-135	2.60E-01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.12E+01
NA-24	6.91E-02
CR-51	2.37E-02
MN-54	9.37E-03
CO-58	5.81E-03
FE-59	9.15E-04
CO-60	3.46E-02
ZN-65	8.92E-05
SR-92	1.28E-04
NB-97	5.69E-05
MO-99	2.06E-06
TC-99M	6.66E-05
AG-110	1.39E-04
AG-110M	8.90E-04
I-131	1.77E-05
XE-133	5.45E-03
XE-135	2.95E-03
XE-135M	2.33E-05
CS-136	3.31E-05
UNIDENTIFIED	3.38E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SUSQUEHANNA

LOCATION:7 MI NE OF BERWICK PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

TOTAL AIRBORNE TRITIUM RELEASE 3.67E+01
TOTAL LIQUID TRITIUM RELEASE 1.12E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.83E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.98E+09

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:SUSQUEHANNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
98	TRUCK	BARNWELL SC
22	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	9.92E+02
BOTTOMS, ETC.	CI	3.86E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	2.60E+02
EQUIPMENT, ETC.	CI	1.16E+01
C. IRRADIATED COMPONENTS, CONTROL	M3	
RODS, ETC.	CI	
D. OTHER	M3	4.82E+01
FUEL POOL CLEAN-UP (POWDEX)	CI	5.29E+02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:THREE MILE ISLAND 1

LOCATION:10 MI SE HARRISBURG, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:METROPOLITAN ED&JERSEY CENTRAL PWR&LGHT

TYPE:PWR

LICENSED POWER (MWT):2535.00

DOCKET NO.:50-289

INITIAL CRITICALITY:06/05/74

COOLING WATER SOURCE:SUSQUEHANNA RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

KR-85

3.62E-01

SR-90

1.27E-09

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

FE-55

5.19E-03

CO-60

2.76E-03

SR-90

1.62E-03

SB-125

2.98E-04

CS-134

2.46E-03

CS-137

2.17E-02

TOTAL AIRBORNE TRITIUM RELEASE 5.03E-05

TOTAL LIQUID TRITIUM RELEASE 1.72E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 3.90E+07

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 3.87E+10

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:THREE MILE ISLAND 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
5	TRACTOR/14/190M-CASK	BARNWELL SC
3	TRACTOR/CLOSED VAN	HANFORD WA
1	TRACTOR/CNSI 21/300 CASK	BARNWELL SC
2	TRACTOR/FLATBED/CASK/CLD VAN	BARNWELL SC
7	TRACTOR/FLATBED/CASK	BARNWELL SC
3	TRACTOR/FLATBED	BARNWELL SC
16	TRACTOR/FLATBED	HANFORD WA
2	TRACTOR/FLATBED/CASK	HANFORD WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
A			
	CS-134	% 8.10E+00	1.44E+01
	CS-137	% 3.32E+01	5.44E+01
	H-3	% 4.14E+01	5.34E+00
	NI-63	% 1.26E+01	2.10E+01
B			
	CO-60	% 1.45E+01	2.38E+00
	CS-134	% 5.99E+00	3.04E+00
	CS-137	% 5.59E+01	3.39E+01
	H-3	%	5.53E+01
	NI-63	% 1.90E+01	4.42E+00
	PU-241	% 1.40E+00	

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	2.36E+02
BOTTOMS, ETC.	CI	4.13E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	1.99E+02
EQUIPMENT, ETC.	CI	5.22E+00
C. IRRADIATED COMPONENTS, CONTROL	M3	
RODS, ETC.	CI	
D. OTHER	M3	
	CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:THREE MILE ISLAND 2

LOCATION:10 MI SE HARRISBURG, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:METROPOLITAN ED&JERSEY CENTRAL PWR&LGHT

TYPE:PWR

LICENSED POWER (MWT):2772.00

DOCKET NO.:50-320

INITIAL CRITICALITY:03/28/78

COOLING WATER SOURCE:SUSQUEHANNA RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85	2.07E+02
CS-134	1.37E-08
CS-137	4.54E-06
UNIDENTIFIED	1.11E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SR-90	3.63E-04*
CS-134	6.98E-06
CS-137	2.76E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.40E+01

TOTAL LIQUID TRITIUM RELEASE 1.56E-04

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.86E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.24E+10

*THIS VALUE INCLUDES SR-90 AND ANY OTHER ACTIVITY NOT SPECIFICALLY IDENTIFIED.

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:THREE MILE ISLAND 2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
2	TRACTOR/14/190M/CASK	HANFORD WA
1	TRACTOR/CASK	IDAHO FALLS ID
2	TRACTOR/CASK	RICHLAND WA
4	TRACTOR/CLOSED VAN	HANFORD WA
9	TRACTOR/FLATBED	HANFORD WA
4	TRACTOR/HN 100/CASK	HANFORD WA
4	TRACTOR/TRAILER	HANFORD WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE JULY-DEC

A

CS-134	%	3.76E+00	6.90E-01
CS-137	%	6.06E+01	1.50E+01
H-3	%		6.00E-03
RU-106	%	6.80E-01	3.16E-01
SR-90	%	3.38E+01	8.35E+01

B

CE-144	%		2.65E-01
CO-60	%		1.30E-03
CS-134	%	4.76E+00	3.48E+00
CS-137	%	9.25E+01	7.43E+01
NI-63	%		3.90E-03
RU-106	%		1.80E-01
SR-90	%	2.17E+00	1.99E+01

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
D. OTHER

UNIT YEAR TOTAL

M3	6.38E+01
CI	9.88E+03
M3	1.92E+02
CI	1.20E+01
M3	
CI	
M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:TMI 2/EPICOR

LOCATION:10 MI SE HARRISBURG, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

TYPE:PWR

DOCKET NO.:50-320

COOLING WATER SOURCE:SUSQUEHANNA RIVER

LICENSEE:METROPOLITAN ED&JERSEY CENTRAL PWR&LGHT

LICENSED POWER (MWT):2772.00

INITIAL CRITICALITY:03/28/78

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

KR-85

3.99E+01

UNIDENTIFIED

7.92E-07

TOTAL AIRBORNE TRITIUM RELEASE 3.00E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:TMI 2/EPICOR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE) JAN-JUNE JULY-DEC

A

CS-137	%	8.90E+00
SB-125	%	2.80E+01
SR-90	%	3.53E+01
TE-125M	%	6.30E+00

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3	4.53E+00
CI	2.35E-01

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3	
CI	

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3	
CI	

D. OTHER

M3	
CI	

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:TROJAN

LOCATION:35 MI NW PORTLAND, OR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

TYPE:PWR

DOCKET NO.:50-344

COOLING WATER SOURCE:COLUMBIA RIVER

LICENSEE:PORTLAND GENERAL ELECTRIC

LICENSED POWER (MWT):3411.00

INITIAL CRITICALITY:12/15/75

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	6.10E-01
CR-51	1.21E-04
MN-54	5.44E-09
CO-57	3.64E-06
CO-58	1.91E-04
CO-60	5.23E-05
KR-85	2.87E+00
KR-85M	2.84E-01
KR-87	1.24E-01
KR-88	1.73E-01
KR-89	8.45E-03
SR-89	<6.25E-04
SR-90	<2.94E-04
NB-95	4.03E-05
RU-103	1.16E-05
I-131	3.86E-03
XE-131M	3.44E+00
I-132	2.79E-02
I-133	6.09E-03
XE-133	7.92E+02
XE-133M	7.08E+00
CS-134	3.69E-06
I-135	3.37E-06
XE-135	2.79E+01
XE-135M	6.96E-01
CS-137	2.47E-04
XE-137	1.32E-01
XE-138	3.12E-01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	4.73E-04
NA-22	5.48E-06
CR-51	2.52E-02
MN-54	3.80E-03
CO-57	1.37E-04
CO-58	4.96E-02
FE-59	2.05E-03
CO-60	8.21E-02
KR-85M	5.63E-04
KR-88	2.11E-04
RB-88	5.54E-04
SR-89	1.35E-02
SR-90	1.55E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:TROJAN

LOCATION:35 MI NW PORTLAND, OR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NB-95	2.42E-02
ZR-95	1.43E-02
MO-99	2.52E-04
TC-99M	2.64E-04
RU-103	8.78E-03
RU-106	4.66E-02
AG-110M	2.22E-03
SN-113	4.44E-04
SB-124	2.88E-04
SB-125	8.33E-03
SB-127	5.84E-05
I-131	2.91E-03
XE-131M	1.67E-03
I-132	1.45E-03
TE-132	3.46E-04
I-133	2.87E-03
XE-133	5.04E-01
XE-133M	1.02E-02
CS-134	6.04E-03
I-135	9.75E-05
XE-135	4.70E-02
CS-136	4.62E-04
CS-137	1.89E-02
BA-140	2.61E-03
LA-140	2.37E-03
CE-141	1.19E-03
CE-144	2.20E-02
ND-147	4.68E-04
NP-239	1.76E-05
UNIDENTIFIED	3.23E-03

TOTAL AIRBORNE TRITIUM RELEASE 4.86E+01

TOTAL LIQUID TRITIUM RELEASE 1.87E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.51E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	4.55E+10

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: TROJAN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
14	EXCLUSIVE TRUCK	RICHLAND WA	

IRRADIATED FUEL SHIPMENTS(DISPOSITION)			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
0	N/A	N/A	

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
BA-140	%		3.90E-02
C-14	%	1.91E+00	7.40E-01
CE-144	%	6.41E+00	3.26E+00
CO-58	%	2.60E-01	2.07E+01
CO-60	%	2.34E+01	2.13E+01
CR-51	%		1.21E+00
CS-134	%	3.15E+00	5.30E-01
CS-136	%		1.00E-02
CS-137	%	1.02E+01	1.69E+00
FE-55	%	1.87E+01	1.90E+01
H-3	%	1.81E+01	6.86E+00
I-131	%	2.00E-02	2.00E-02
MN-54	%	1.13E+00	1.43E+00
NB-95	%		2.67E+00
NI-63	%	1.17E+01	1.07E+01
PU-241	%	1.80E+00	8.10E-01
RU-103	%		5.20E-01
RU-106	%	2.00E+00	5.89E+00
SB-125	%	9.00E-02	5.20E-01
SR-89	%	5.00E-01	9.80E-02
SR-90	%	5.90E-01	1.40E-01
ZR-95	%		1.83E+00

B

C-14	%		2.00E-02
CE-141	%		4.60E-01
CE-144	%	3.89E+00	4.24E+00
CO-58	%	6.80E+00	1.47E+01
CO-60	%	1.63E+01	1.66E+01
CR-51	%	1.15E+01	4.93E+00
CS-134	%	8.60E-01	
CS-137	%	1.91E+01	3.40E-01
FE-55	%	2.45E+01	2.13E+01
FE-59	%	3.70E-01	1.90E-01
H-3	%	1.81E+00	1.81E+00
MN-54	%	1.00E+00	8.70E-01
NB-95	%	7.30E-01	7.03E+00
NI-63	%	8.17E+00	8.30E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:TROJAN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
PU-241	%	7.90E-01	8.50E-01
RU-103	%	1.60E-01	3.83E+00
RU-106	%	1.63E+00	8.29E+00
SB-125	%	1.00E-01	5.70E-01
SN-113	%	5.30E-02	
SR-89	%	5.50E-01	1.10E-01
SR-90	%	1.05E+00	1.20E-01
ZR-95	%	6.60E-01	5.48E+00

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.08E+02
	CI	1.48E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.22E+02
	CI	4.37E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	0.00E+00
	CI	0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: TURKEY POINT

LOCATION: 10 MI E FLORIDA CITY, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3	LICENSEE: FLORIDA POWER & LIGHT
TYPE: PWR	LICENSED POWER (MWT): 2200.00
DOCKET NO.: 50-250	INITIAL CRITICALITY: 10/20/72
COOLING WATER SOURCE: CLOSED CANAL SYSTEM	
UNIT NUMBER: 4	LICENSEE: FLORIDA POWER & LIGHT
TYPE: PWR	LICENSED POWER (MWT): 2200.00
DOCKET NO.: 50-251	INITIAL CRITICALITY: 06/11/73
COOLING WATER SOURCE: CLOSED CANAL SYSTEM	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	4.51E+00
CR-51	3.15E-05
MN-54	4.05E-06
CO-58	1.51E-04
CO-60	1.14E-04
BR-82	9.75E-04
KR-85	4.55E+01
KR-85M	7.92E-01
KR-87	7.98E-02
KR-88	5.89E-01
SR-89	8.75E-06
SR-90	1.89E-07
NB-95	1.22E-06
RU-103	1.04E-06
AG-110M	1.04E-06
SN-117M	5.84E-07
I-131	2.72E-02
XE-131M	1.62E+01
I-133	1.91E-02
XE-133	1.15E+04
XE-133M	1.40E+01
CS-134	1.85E-05
I-135	7.69E-03
XE-135	1.58E+01
XE-135M	7.69E-05
CS-136	3.55E-06
CS-137	5.37E-05
BA-140	1.11E-05
LA-140	1.44E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.56E-03
CR-51	9.48E-03
MN-54	2.04E-03
CO-57	6.95E-05
CO-58	7.22E-02
FE-59	4.60E-04
CO-60	6.95E-02
ZN-65	2.59E-04

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: TURKEY POINT

LOCATION: 10 MI E FLORIDA CITY, FL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85M	3.82E-03
KR-87	9.93E-03
KR-88	7.65E-03
Y-88	7.38E-05
SR-89	1.43E-03
SR-90	9.59E-05
NB-95	1.82E-03
ZR-95	3.60E-04
MO-99-TC-99M	8.56E-04
RU-103	2.70E-04
AG-110M	1.75E-03
SB-124	1.78E-03
SB-125	2.51E-02
I-131	3.29E-03
XE-131M	1.29E-01
TE-132	9.04E-05
XE-133	3.46E+00
XE-133M	5.66E-02
CS-134	1.22E-02
XE-135	6.48E-02
CS-136	4.59E-05
CS-137	2.39E-02
LA-140	1.67E-04

TOTAL AIRBORNE TRITIUM RELEASE	3.26E-01
TOTAL LIQUID TRITIUM RELEASE	8.91E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.70E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.97E+12

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:TURKEY POINT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
41	
17	

DESTINATION
BARNWELL SC
HANFORD WA

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3		1.26E+02
BOTTOMS, ETC.	CI		1.86E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3		7.22E+02
EQUIPMENT, ETC.	CI		5.04E+01
C. IRRADIATED COMPONENTS, CONTROL	M3		2.38E+00
RODS, ETC.	CI		7.68E-01
D. OTHER	M3		0.00E+00
	CI		0.00E+00

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:VERMONT YANKEE

LOCATION:5 MI S BRATTLEBORO, VT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:VERMONT YANKEE NUCLEAR POWER

TYPE:BWR

LICENSED POWER (MWT):1593.00

DOCKET NO.:50-271

INITIAL CRITICALITY:03/24/72

COOLING WATER SOURCE:CONNECTICUT RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

MN-54	<2.28E-04
CO-58	<1.26E-04
CO-60	2.31E-03
ZN-65	<7.88E-04
KR-85M	<1.51E+01
KR-87	<5.86E+01
KR-88	<5.00E+01
SR-89	4.44E-05
SR-90	<1.73E-05
I-131	4.13E-03
I-133	<8.62E-04
XE-133	<6.29E+02
CS-134	<3.29E-04
I-135	<2.24E-02
XE-135	<1.01E+02
XE-135M	<4.51E+02
CS-137	1.02E-04
XE-138	<1.82E+03
BA-LA-140	<9.11E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.19E+01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

29

7

MODE OF TRANSPORTATION

TRUCK

TRUCK

DESTINATION

BARNWELL SC

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

N/A

DESTINATION

N/A

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

BA-140

%

2.00E-02

CO-58

%

1.93E+00

2.59E+00

CO-60

%

4.58E+01

3.52E+01

CS-134

%

9.50E-01

5.22E+00

CS-137

%

1.18E+01

2.15E+01

CU-64

%

1.77E+00

FE-59

%

7.00E-02

7.00E-01

I-131

%

1.03E+00

MN-54

%

5.43E+00

9.97E+00

NB-95

%

8.53E+00

1.66E+00

NI-63

%

9.60E-01

8.10E-01

ZN-65

%

1.48E+01

1.96E+01

ZR-95

%

7.28E+00

6.30E-01

B

CO-58

%

5.48E-01

CO-60

%

5.63E+01

4.77E+01

CS-134

%

5.18E+00

4.50E+00

CS-137

%

2.14E+01

3.25E+01

MN-54

%

4.88E+00

4.50E+00

ZN-65

%

7.57E+00

7.17E+00

ZR-95

%

5.48E-01

5.40E-01

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

UNIT YEAR TOTAL

M3

1.32E+02

CI

2.78E+02

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

2.17E+02

CI

7.11E+00

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

0.00E+00

CI

0.00E+00

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:WNP-2

LOCATION:12 MI NW OF RICHLAND WA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:WASHINGTON PUBLIC POWER SUPPLY SYSTEM

TYPE:BWR

LICENSED POWER (MWT):3323.00

DOCKET NO.:50-397

INITIAL CRITICALITY:01/19/84

COOLING WATER SOURCE:MECHANICAL TOWERS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	9.00E-02
AR-41	3.35E+00
CR-51	1.92E-02
MN-54	1.09E-02
CO-58	4.62E-02
FE-59	8.62E-03
CO-60	6.12E-02
ZN-65	2.91E-02
KR-85	6.40E-02
KR-85M	8.72E-01
KR-87	1.16E+01
KR-88	1.48E+01
SR-89	3.05E-04
SR-90	3.51E-04
ZR-95	4.16E-03
MO-99	1.91E-02
I-131	1.18E-02
XE-131M	4.20E-02
I-133	1.28E-01
XE-133	1.27E+01
XE-133M	2.50E+01
CS-134	3.49E-03
XE-135	2.71E+01
XE-135M	2.89E+00
CS-137	4.26E-03
XE-138	1.30E+02
BA-LA-140	7.57E-03
CE-141	3.74E-03
CE-144	1.11E-02

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	5.40E-01
NA-24	8.90E-05
CO-58	1.19E-03
CU-64	1.20E-02
ZN-65	8.90E-04
AS-76	1.30E-04

TOTAL AIRBORNE TRITIUM RELEASE 9.06E-02

TOTAL LIQUID TRITIUM RELEASE 5.40E-01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:WNP-2

LOCATION:12 MI NW OF RICHLAND WA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.65E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.66E+07

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:WNP-2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

19

3

MODE OF TRANSPORTATION

FLAT BED TRAILER

FLAT BED TRUCK

DESTINATION

RICHLAND WA

RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS

0

MODE OF TRANSPORTATION

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

CO-58

%

2.00E+01

3.27E+01

CO-60

%

2.10E+00

1.83E+00

CR-51

%

7.10E+01

5.82E+01

FE-59

%

2.10E+00

1.14E+00

MN-54

%

8.10E-01

ZN-65

%

4.83E+00

B

CO-58

%

2.40E+01

CO-60

%

1.40E+00

CR-51

%

7.10E+01

FE-59

%

1.30E-01

MN-54

%

5.70E-01

ZN-65

%

1.90E+00

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.

M3

3.21E+02

CI

3.52E+01

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3

6.63E+01

CI

5.45E-01

C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.

M3

CI

D. OTHER

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:YANKEE ROWE

LOCATION:20 MI NW GREENFIELD, MA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:YANKEE ATOMIC ELECTRIC

TYPE:PWR

LICENSED POWER (MWT): 600.00

DOCKET NO.:50-29

INITIAL CRITICALITY:08/19/60

COOLING WATER SOURCE:DEERFIELD RIVER

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
C-14	3.10E+00
AR-37	1.23E+01
AR-41	<2.71E+00
CR-51	<5.37E-05
MN-54	9.98E-06
CO-58	<2.43E-06
FE-59	<1.30E-05
CO-60	<7.35E-06
ZN-65	<1.61E-05
KR-85	7.92E+00
KR-85M	<2.00E+01
KR-87	<1.73E+01
KR-88	<2.75E+01
SR-89	<1.27E-05
SR-90	<2.73E-06
ZR-NB-95	<5.20E-06
MO-99	<4.40E-05
RU-103	<3.32E-06
AG-110M	<9.75E-06
SB-124	<9.24E-06
SB-125	4.52E-06
I-131	<6.24E-03
XE-131M	1.79E+01
TE-132	<1.79E-05
I-133	<3.03E-03
XE-133	1.09E+03
XE-133M	1.74E+01
CS-134	8.72E-05
I-135	<5.45E-04
XE-135	2.65E+02
XE-135M	<2.58E+02
CS-137	9.53E-05
XE-138	<1.32E+01
BA-LA-140	<2.63E-05
CE-141	<7.09E-06
CE-144	<3.15E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
C-14	4.74E-03
CR-51	<6.44E-04
MN-54	3.84E-04
FE-55	<3.10E-02
CO-58	<5.22E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:YANKEE ROWE

LOCATION:20 MI NW GREENFIELD, MA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-59	<8.63E-05
CO-60	<1.97E-04
ZN-65	<1.60E-04
SE-75	<9.62E-05
SR-89	<6.52E-04
SR-90	<9.41E-05
ZR-NB-95	<7.61E-05
MO-99	<4.32E-04
TC-99M	<4.88E-05
RU-103	<5.38E-05
AG-110M	<9.34E-05
SB-124	<8.38E-05
SB-125	<4.53E-04
I-131	5.17E-03
I-133	<5.83E-04
XE-133	<3.79E+00
CS-134	1.28E-03
XE-135	<1.35E-02
CS-137	1.87E-03
BA-LA-140	<2.37E-04
CE-141	<7.32E-05
CE-144	<4.21E-04
UNIDENTIFIED	<2.08E-05

TOTAL AIRBORNE TRITIUM RELEASE 9.45E+00
TOTAL LIQUID TRITIUM RELEASE 1.64E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.03E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.03E+11

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:YANKEE ROWE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
14	TRUCK	BARNWELL SC	

IRRADIATED FUEL SHIPMENTS(DISPOSITION)			
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION	
0	N/A	N/A	

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE) JAN-MAR APRIL-JUNE JULY-SEPT OCT-DEC

A					
CO-60	%	3.60E+00			
CR-51	%		4.60E+00		
CS-134	%	1.55E+01	4.40E+00	5.34E+00	6.00E+00
CS-137	%	1.67E+01	4.90E+00	6.11E+00	6.00E+00
FE-55	%	2.31E+01	2.96E+01	2.44E+01	1.90E+01
H-3	%	2.98E+01	3.82E+01	3.05E+01	4.10E+01
MN-54	%	4.70E+00			
SR-89	%			1.22E+01	1.10E+01
B					
CO-58	%				4.40E+00
CO-60	%	1.80E+00	2.30E+00		
CR-51	%	8.70E+00	1.57E+01	1.82E+01	1.33E+01
FE-55	%	4.20E+01	4.20E+01	4.88E+01	4.12E+01
FE-59	%	4.00E+00	3.90E+00	4.50E+00	4.40E+00
H-3	%	2.07E+01	2.00E+01	2.15E+01	2.97E+01
D					
CO-60	%				1.92E+01
CS-134	%				5.40E+00
CS-137	%				1.35E+01
FE-55	%	0.00E+00			4.43E+01
NI-63	%				1.08E+01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3	5.05E+01
BOTTOMS, ETC.	CI	7.38E+00
B. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3	1.43E+02
EQUIPMENT, ETC.	CI	4.26E+01
C. IRRADIATED COMPONENTS, CONTROL	M3	0.00E+00
RODS, ETC.	CI	0.00E+00
D. OTHER	M3	6.37E+00
LSA CONTAINER	CI	1.13E+02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION:ZION 1&2

LOCATION:6 MI N WAUKEGAN, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:COMMONWEALTH EDISON
TYPE:PWR	LICENSED POWER (MWT):3250.00
DOCKET NO.:50-295	INITIAL CRITICALITY:06/19/73
COOLING WATER SOURCE:LAKE MICHIGAN	
UNIT NUMBER: 2	LICENSEE:COMMONWEALTH EDISON
TYPE:PWR	LICENSED POWER (MWT):3250.00
DOCKET NO.:50-304	INITIAL CRITICALITY:12/24/73
COOLING WATER SOURCE:LAKE MICHIGAN	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	3.67E-04
AR-41	7.52E+00
MN-54	3.83E-07
MN-56	4.40E-07
CO-58	5.40E-04
FE-59	1.70E-06
CO-60	1.81E-03
SE-75	1.20E-07
BR-82	1.38E-04
KR-85	5.41E+00
KR-85M	6.51E+00
KR-87	1.64E+00
KR-88	1.67E+02
RB-88	3.00E-02
SR-89	1.10E-06
SR-90	3.00E-04
SR-91	2.64E-07
SR-92	4.25E-07
NB-95	1.60E-07
ZR-95	2.20E-07
MO-99	3.60E-03
TC-99M	8.11E-05
AG-110M	6.96E-07
SB-122	1.33E-05
SB-124	3.30E-09
I-131	4.79E-03
XE-131M	3.00E+00
I-132	1.30E-03
I-133	1.25E-03
XE-133	2.90E+03
XE-133M	8.26E+00
CS-134	3.56E-04
I-134	7.78E-04
I-135	3.31E-04
XE-135	1.17E+02
XE-135M	3.88E-01
CS-136	5.07E-06
CS-137	3.45E-04
CS-138	1.87E-02
XE-138	5.20E-02

N/A=NOT APPLICABLE
N/D=NOT DETECTED
N/R=NOT REPORTED

INSTALLATION: ZION 1&2

LOCATION: 6 MI N WAUKEGAN, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

BA-139

7.50E-07

BA-140

5.80E-07

LA-140

1.10E-05

W-187

3.90E-07

TOTAL AIRBORNE TRITIUM RELEASE 8.70E+01

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:ZION 1

LOCATION:6 MI N WAUKEGAN, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1

LICENSEE:COMMONWEALTH EDISON

TYPE:PWR

LICENSED POWER (MWT):3250.00

DOCKET NO.:50-295

INITIAL CRITICALITY:06/19/73

COOLING WATER SOURCE:LAKE MICHIGAN

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.66E-02
AR-41	1.10E-03
CR-51	7.88E-02
MN-54	3.34E-02
CO-57	4.50E-03
CO-58	2.87E+00
FE-59	8.71E-03
CO-60	1.37E+00
KR-87	1.30E-03
KR-88	2.10E-02
SR-89	1.45E-03
SR-90	1.93E-04
ZR-95	1.58E-03
MO-99	5.80E-04
AG-110M	3.11E-02
SN-113	1.20E-04
SB-122	4.90E-03
SB-124	4.22E-01
SB-125	3.87E-01
I-131	3.32E-01
XE-131M	1.60E-04
I-133	3.90E-03
XE-133	4.17E-01
XE-133M	6.28E-04
CS-134	3.98E-01
I-134	4.60E-03
I-135	4.30E-05
XE-135	1.01E-03
CS-136	2.42E-01
CS-137	5.41E-01
CS-138	2.88E-01
LA-140	6.61E-05
TOTAL LIQUID TRITIUM RELEASE	1.74E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 6.79E+07

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 1.17E+12

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:ZION 2

LOCATION:6 MI N WAUKEGAN, IL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2

LICENSEE:COMMONWEALTH EDISON

TYPE:PWR

LICENSED POWER (MWT):3250.00

DOCKET NO.:50-304

INITIAL CRITICALITY:12/24/73

COOLING WATER SOURCE:LAKE MICHIGAN

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.07E-02
AR-41	5.00E-04
CR-51	1.80E-02
MN-54	2.09E-02
CO-57	1.50E-03
CO-58	2.30E+00
FE-59	4.59E-03
CO-60	1.55E+00
KR-88	6.70E-03
SR-89	4.40E-03
SR-90	6.50E-04
NB-95	6.40E-04
ZR-95	5.30E-04
TC-99M	1.70E-04
AG-110M	5.53E-02
SB-124	5.60E-01
SB-125	6.11E-01
I-131	4.81E-01
XE-131M	8.60E-03
I-132	1.90E-04
I-133	1.07E-02
XE-133	2.04E+00
XE-133M	1.42E-02
CS-134	5.31E-01
I-134	7.68E-03
XE-135	5.21E-03
CS-136	4.95E-02
CS-137	5.76E-01
CS-138	2.26E-01
LA-140	1.54E-02
W-187	1.50E-03
TOTAL LIQUID TRITIUM RELEASE	5.12E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 1.71E+08

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 1.13E+12

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION: ZION 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1984
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
69

DESTINATION

TYPE OF WASTE

- A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR
BOTTOMS, ETC.
- B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.
- C. IRRADIATED COMPONENTS, CONTROL
RODS, ETC.
- D. OTHER

UNIT YEAR TOTAL

M3 6.43E+02

CI 2.62E+03

M3

CI

M3

CI

M3

CI

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED