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Radioactive Materials Released from Nuclear Power Plants

Annual Report 1983

Prepared by J. Tichler, K. Norden

Brookhaven National Laboratory

Prepared for
U.S. Nuclear Regulatory
Commission

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Radioactive Materials Released from Nuclear Power Plants

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Annual Report 1983

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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.

ABSTRACT

Releases of radioactive materials in airborne and liquid effluents from commercial light water reactors during 1983 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 1983 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 1983. 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 Inspection and Enforcement, 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, 1983. 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.

Data from prior years used in the comparison tables were obtained from the eleven previous annual summaries.¹

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.

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 1983. 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 1983 are summarized in Tables 9 and 10. A comparison for the years 1972 through 1983 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 1983 and previous years from 1970. Tables 13 and 14 present a summary of net electrical energy generated by each plant during 1978-1983. 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 1978-1983 are stored in a computerized data base. Individuals interested in obtaining the more detailed summaries should contact the Office of Management and Program Analysis 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 is planned and results from normal operation or is the result of anticipated operational occurrences, i.e., unplanned releases of radioactive materials from miscellaneous actions such as equipment failure, operator error, or procedure error that are not of such consequence so 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.

Joan Congemi was responsible for most of the data entry in this report, for most of the proofreading, and for running all the computer jobs which generate the reports.

TABLE 1

AIRBORNE EFFLUENTS COMPARISON BY YEAR

BOILING WATER REACTORS FACILITY	FISSION AND ACTIVATION GASES (TOTAL CURIES)									
	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	5.08E+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										
MILLSTONE 1		2.78E+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
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)			
	1980	1981	1982	1983
FACILITY				
BIG ROCK POINT	2.15E+04	1.97E+04	1.29E+04	1.10E+04
BROWNS FERRY	<1.66E+05	4.52E+04	2.76E+05	4.79E+05
BRUNSWICK	6.93E+04	5.22E+05	4.65E+05	4.87E+05
COOPER	5.03E+03	2.48E+03	1.42E+04	1.54E+03
DRESDEN 1	7.03E+01	N/D	N/D	N/D
DRESDEN 2-3	4.30E+04	3.74E+04	1.04E+04	8.43E+03
DUANE ARNOLD	2.70E+03	<4.87E+02	9.99E+01	4.81E+02
EDWIN I. HATCH 1	3.82E+04	2.77E+04	4.23E+03	1.96E+04
EDWIN I. HATCH 2	2.95E+02	2.06E+02	1.04E+03	1.28E+04
GRAND GULF				4.51E+01
HUMBOLDT BAY	<4.40E-05	<4.40E-05	0.00E+00+	0.00E+00+
JAMES A. FITZPATRICK	7.68E+04	2.00E+05	2.11E+05	8.57E+04
LACROSSE	4.71E+03	5.03E+03	4.26E+03	7.08E+03
LASALLE			3.46E+00	1.17E+01
MILLSTONE 1	1.19E+04	1.43E+04	8.33E+03	6.34E+03
MONTICELLO	3.83E+03	3.74E+03	7.22E+03	3.21E+03
NINE MILE POINT	5.87E+02	6.10E+02	5.11E+01	2.68E+02
OYSTER CREEK	3.12E+04	5.28E+04	2.29E+04	2.14E+03
PEACH BOTTOM	1.53E+04	1.58E+04	1.31E+04	3.48E+04
PILGRIM	2.62E+04	<5.30E+03	<1.94E+04	2.01E+04
QUAD-CITIES	2.15E+04	3.20E+04	1.17E+04	1.20E+04
SUSQUEHANNA			<5.61E+02	1.03E+02
VERMONT YANKEE	1.63E+03	<3.17E+03	<3.07E+03	<3.13E+03
FORT ST. VRAIN*	9.13E+01	4.34E+01	2.96E+02	1.51E+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
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
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							1.57E+03	2.28E+03	7.64E+02	3.59E+02
MILLSTONE 2									1.51E+04	6.28E+03
NORTH ANNA									4.33E+04	4.79E+04
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	5.78E+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										
SUMNER										
SURRY			<1.00E+00	8.68E+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	4.68E+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	6.58E+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

FACILITY	FISSION AND ACTIVATION GASES (TOTAL CURIES)			
	1980	1981	1982	1983
ARKANSAS ONE 1	3.80E+04	3.73E+03	2.10E+03	9.83E+02
ARKANSAS ONE 2	9.37E+03	4.35E+03	9.78E+03	1.34E+03
BEAVER VALLEY	8.64E+01	8.06E+02	1.31E+02	1.98E+02
CALVERT CLIFFS	2.96E+03	2.18E+03	8.00E+03	9.75E+03
CRYSTAL RIVER	3.65E+04	3.96E+04	6.85E+03	3.38E+03
DAVIS-BESSE	<3.35E+03	1.01E+03	5.35E+02	9.15E+02
DONALD C. COOK	3.76E+03	5.42E+03	3.88E+03	3.28E+02
FORT CALHOUN	2.97E+02	1.22E+03	3.46E+02	8.79E+02
H. B. ROBINSON	5.82E+02	5.13E+02	1.75E+02	2.93E+02
HADDAM NECK	2.68E+03	1.83E+03	7.54E+02	2.76E+03
INDIAN POINT 1-2	9.38E+03	9.13E+03	7.27E+03	9.58E+03
INDIAN POINT 3	1.11E+03	6.57E+03	2.58E+03	5.60E+02
JOSEPH M. FARLEY 1	1.92E+04	2.21E+02	3.81E+04	2.20E+04
JOSEPH M. FARLEY 2		2.60E+00	3.54E+03	8.47E+02
KEWAUNEE	1.22E+02	1.18E+02	1.66E+02	<2.25E+02
MAINE YANKEE	3.87E+03	3.28E+02	1.53E+02	3.92E+01
MCGUIRE 1		1.58E-01	1.65E-03	1.60E+03
MCGUIRE 2				1.60E+03
MILLSTONE 2	1.33E+03	2.24E+03	9.09E+03	9.06E+03
NORTH ANNA	3.50E+03	5.30E+03	4.34E+03	2.22E+04
OCONEE	1.92E+04	1.63E+04	2.41E+04	2.40E+04
PALISADES	1.40E+02	3.00E+03	7.38E+03	3.00E+03
POINT BEACH	6.41E+02	6.11E+02	9.93E+02	7.68E+02
PRAIRIE ISLAND	2.60E+02	4.65E+01	5.47E+02	2.76E+02
R. E. GINNA	8.61E+02	5.46E+02	1.95E+03	7.12E+02
RANCHO SECO	1.58E+03	1.37E+03	1.48E+03	6.89E+02
SALEM 1	7.82E+01	1.06E+03	2.34E+02	1.25E+02
SALEM 2	7.74E+00	6.09E+02	1.11E+03	7.44E+02
SAN ONOFRE 1	1.05E+03	4.17E+02	8.61E+01	1.06E+01
SAN ONOFRE 2-3			6.40E+00	7.43E+03
SEQUOYAH	3.01E+03	9.03E+03	5.74E+03	3.92E+03
ST. LUCIE 1	8.97E+03	2.30E+04	2.33E+04	2.16E+04
ST. LUCIE 2				1.25E+03
SUMMER			1.40E+02	3.88E+02
SURRY	6.17E+03	1.41E+04	2.11E+04	5.49E+03
THREE MILE ISLAND 1	4.64E-03	5.81E-02	7.56E-03	2.01E+01
THREE MILE ISLAND 2	4.72E+04	2.88E+02	4.89E+02	1.73E+02
TMI 2/EPICOR	2.16E+00	1.84E+02	4.26E+02	3.61E+01
TROJAN	3.91E+02	1.16E+03	8.64E+02	2.29E+02
TURKEY POINT	4.24E+03	4.33E+03	2.00E+04	1.61E+04
YANKEE ROWE	7.07E+01	1.72E+02	1.55E+02	7.51E+02
ZION	5.78E+03	6.91E+03	1.61E+04	6.34E+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	7.28E-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										
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
MONTECELLO		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
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
BIG ROCK POINT	2.94E-02	6.10E-03	4.71E-03	3.35E-03
BROWNS FERRY	1.05E-01	0.00E+00	1.89E-01	2.83E-01
BRUNSWICK	2.12E+00	8.89E-01	1.99E+00	6.25E+00
COOPER	<1.52E-01	<1.09E-02	<1.55E-01	<2.30E-02
DRESDEN 1	1.48E-02	9.94E-03	3.36E-04	7.58E-04
DRESDEN 2-3	1.10E+01	9.87E+00	9.50E-01	6.32E-01
DUANE ARNOLD	8.50E-02	3.25E-02	1.03E-02	1.50E-02
EDWIN I. HATCH 1	4.29E-01	2.12E-01	1.84E-01	6.98E-02
EDWIN I. HATCH 2	1.33E-02	9.42E-03	6.83E-02	1.95E-02
GRAND GULF				4.50E-05
HUMBOLDT BAY	5.11E-04	<3.82E-04	1.09E-04	2.68E-04
JAMES A. FITZPATRICK	1.25E-01	2.80E-01	7.71E-01	3.80E-01
LACROSSE	1.32E-02	1.69E-02	8.35E-03	1.08E-02
LASALLE			4.16E-03	1.80E-02
MILLSTONE 1	3.32E-01	1.48E-01	2.09E-01	6.25E-02
MONTICELLO	2.83E-02	3.45E-02	8.85E-02	4.10E-02
NINE MILE POINT	2.55E-02	1.49E-02	2.71E-02	1.07E-02
OYSTER CREEK	1.25E+00	2.24E+00	1.04E+00	1.90E-02
PEACH BOTTOM	2.94E-02	<4.19E-02	3.90E-02	4.60E-02
PILGRIM	1.04E-01	<6.87E-02	<4.44E-02	<4.69E-02
QUAD-CITIES	5.90E-01	1.27E+00	4.12E-01	4.36E-01
SUSQUEHANNA			<8.70E-04	9.43E-04
VERMONT YANKEE	1.70E-02	4.53E-03	1.45E-03	4.14E-03
FORT ST. VRAIN*	1.25E-06	1.40E-06	2.61E-01	7.40E-07

* 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
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	5.89E-03
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	<1.00E-02	1.74E-03	5.21E-03	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
MCQUIRE 1										
MCQUIRE 2										
MILLSTONE 2							1.00E-02	1.25E-02	4.47E-03	2.97E-03
NORTH ANNA									2.97E-03	9.79E-03
OCONEE				1.00E-02	3.00E-02	1.00E-02	2.72E-01	5.35E-01	3.19E-02	5.71E-02
PALISADES			<1.00E-02	3.10E-01	1.00E-02	3.80E-01	4.16E-02	1.63E-02	2.22E-01	2.28E-01
POINT BEACH		<1.00E-02	3.00E-02	5.50E-01	1.60E-01	7.00E-02	1.85E-02	5.02E-03	2.07E-02	2.48E-02
PRAIRIE ISLAND				<1.00E-02	<1.00E-02	2.12E-02	1.14E-02	7.56E-03	2.88E-02	1.35E-02
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	8.96E-04	3.86E-03
RANCHO SECO						<1.00E-02	<1.00E-02	5.02E-03	1.04E-02	1.88E-02
SALEM 1							N/D	2.34E-07	3.21E-02	5.75E-03
SALEM 2									4.01E-02	7.68E-03
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										
SUMNER										
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	1.03E-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
ARKANSAS ONE 1	1.66E-01	5.58E-03	9.07E-04	1.15E-03
ARKANSAS ONE 2	6.90E-03	1.41E-02	4.92E-03	5.78E-03
BEAVER VALLEY	1.91E-03	6.85E-03	4.56E-03	5.25E-02
CALVERT CLIFFS	7.44E-02	4.69E-02	1.84E-01	1.02E-01
CRYSTAL RIVER	6.77E-03	1.78E-02	3.22E-03	1.58E-03
DAVIS-BESSE	2.01E-03	5.79E-02	5.28E-03	7.37E-03
DONALD C. COOK	6.88E-02	3.55E-01	1.28E-01	5.75E-02
FORT CALHOUN	2.42E-03	3.59E-03	1.56E-03	1.59E-03
H. B. ROBINSON	1.13E-03	3.32E-04	5.70E-04	1.31E-02
HADDAM NECK	8.01E-03	<1.28E-02	<5.41E-04	<1.02E-02
INDIAN POINT 1-2	6.42E-02	4.42E-02	4.17E-02	2.06E-02
INDIAN POINT 3	2.53E-02	3.63E-03	<4.28E-03	<1.53E-04
JOSEPH M. FARLEY 1	2.37E-03	6.24E-01	9.09E-02	4.60E-02
JOSEPH M. FARLEY 2		3.22E-03	6.51E-05	5.06E-05
KEWAUNEE	2.61E-04	1.21E-04	5.97E-05	<2.16E-04
MAINE YANKEE	1.88E-03	6.13E-04	1.26E-04	7.22E-05
MCGUIRE 1		1.21E-11	9.51E-04	1.89E-03
MCGUIRE 2				1.89E-03
MILLSTONE 2	1.94E-02	1.06E-01	3.19E-01	5.73E-02
NORTH ANNA	1.26E-02	4.81E-01	3.49E-02	3.28E-01
OCONEE	1.33E-01	3.24E-01	2.55E-01	1.13E-01
PALISADES	2.76E-02	4.15E-02	2.30E-02	3.44E-02
POINT BEACH	1.28E-03	2.03E-01	8.46E-03	1.82E-02
PRAIRIE ISLAND	1.83E-03	4.49E-04	3.74E-03	1.40E-02
R. E. GINNA	9.00E-03	5.88E-03	1.36E-02	1.53E-02
RANCHO SECO	9.96E-03	4.65E-03	2.62E-02	2.26E-03
SALEM 1	2.17E-01	4.84E-01	7.85E-03	6.25E-02
SALEM 2	5.44E-05	6.31E-03	4.54E-03	3.53E-02
SAN ONOFRE 1	8.41E-01	1.18E-02	4.66E-07	5.44E-06
SAN ONOFRE 2-3			3.35E-05	1.56E-01
SEQUOYAH	2.57E-03	1.30E-02	1.23E-01	2.22E-03
ST. LUCIE 1	6.20E-02	7.69E-02	4.15E-01	2.13E-01
ST. LUCIE 2				1.27E-02
SUMMER			0.00E+00	4.74E-05
SURRY	1.85E-02	6.53E-02	5.98E-02	8.34E-02
THREE MILE ISLAND 1	2.93E-04	5.05E-04	1.65E-04	6.55E-05
THREE MILE ISLAND 2	5.67E-04	3.69E-05	6.46E-05	2.79E-05
TMI 2/EPICOR	6.83E-06	2.63E-06	3.71E-06	1.80E-06
TROJAN	2.51E-02	7.67E-02	1.45E-02	6.12E-03
TURKEY POINT	7.05E-02	2.94E-02	2.20E-01	1.44E-01
YANKEE ROWE	9.56E-05	2.13E-04	<5.75E-04	3.11E-03
ZION	3.00E-03	1.25E-02	8.57E-02	2.28E-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	2.56E+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										
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	4.85E+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
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
BIG ROCK POINT	6.18E+00	3.13E+00	2.98E+00	2.22E+01
BROWNS FERRY	2.18E+01	2.42E+01	2.39E+01	3.20E+01
BRUNSWICK	1.28E+01	2.26E+01	4.88E+01	1.04E+02
COOPER	8.77E+00	<8.37E+00	<9.08E+00	<7.60E+00
DRESDEN 1	N/R	0.00E+00	0.00E+00	N/R
DRESDEN 2-3	6.20E+01	6.05E+00	1.36E+00	1.45E-03
DUANE ARNOLD	N/R	0.00E+00	2.25E-05	N/R
EDWIN I. HATCH 1	1.42E+01	1.16E+01	1.03E+02	9.47E+01
EDWIN I. HATCH 2	1.07E+01	9.28E+00	3.68E+01	3.40E+01
GRAND GULF				3.89E-03
HUMBOLDT BAY	9.70E-02	<1.62E-01	5.99E-02	5.38E-02
JAMES A. FITZPATRICK	2.81E+00	4.11E+00	6.55E-01	2.72E+00
LACROSSE	7.20E+01	7.74E+01	5.92E+01	1.24E+02
LASALLE			9.28E-01	4.25E+00
MILLSTONE 1	2.73E+01	2.62E+00	6.21E+00	8.38E+00
MONTICELLO	0.00E+00	4.17E-03	2.70E-05	0.00E+00
NINE MILE POINT	N/R	5.05E+00	5.82E+00	7.89E+00
OYSTER CREEK	1.54E+02	2.67E+01	4.95E+00	8.76E+00
PEACH BOTTOM	3.73E+01	3.68E+01	2.37E+01	2.02E+01
PILGRIM	4.00E+01	3.41E+01	5.91E+00	1.56E+01
QUAD-CITIES	1.03E+01	1.19E+01	7.80E+00	3.88E+00
SUSQUEHANNA			<8.55E-01	8.98E+00
VERMONT YANKEE	N/R	3.70E-01	0.00E+00	N/R
FORT ST. VRAIN*	2.06E+02	2.19E+02	2.62E+02	3.69E+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
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
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										
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							1.33E+01	2.42E+02	1.28E+02	1.28E+02
ST. LUCIE 1										
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
ARKANSAS ONE 1	2.12E+02	4.42E+02	2.06E+02	1.09E+02
ARKANSAS ONE 2	2.89E+02	2.44E+02	1.39E+02	2.38E+02
BEAVER VALLEY	3.98E+01	1.40E+02	1.84E+02	4.60E+02
CALVERT CLIFFS	4.91E+02	1.00E+03	4.35E+02	7.56E+02
CRYSTAL RIVER	1.95E+02	2.71E+02	1.82E+02	1.99E+02
DAVIS-BESSE	1.08E+02	1.57E+02	5.68E+01	1.14E+02
DONALD C. COOK	7.82E+02	9.15E+02	1.23E+03	8.85E+02
FORT CALHOUN	5.44E+01	2.42E+02	3.08E+02	1.53E+02
H. B. ROBINSON	1.89E+02	1.86E+02	9.51E+01	2.40E+02
HADDAM NECK	3.29E+03	5.29E+03	4.05E+03	3.90E+03
INDIAN POINT 1-2	2.76E+02	2.41E+02	1.72E+02	3.43E+02
INDIAN POINT 3	4.27E+02	6.42E+02	1.94E+02	3.19E+01
JOSEPH M. FARLEY 1	5.70E+02	1.65E+02	3.37E+02	4.12E+02
JOSEPH M. FARLEY 2		6.34E+02	3.59E+02	3.17E+02
KEWAUNEE	2.33E+02	2.51E+02	3.18E+02	2.92E+02
MAINE YANKEE	2.18E+02	2.16E+02	1.85E+02	2.87E+02
MCGUIRE 1		6.25E+00	1.60E+02	1.49E+02
MCGUIRE 2				1.49E+02
MILLSTONE 2	2.68E+02	3.71E+02	2.91E+02	1.21E+02
NORTH ANNA	4.03E+02	1.28E+03	5.71E+02	1.61E+03
OCONEE	7.12E+02	5.07E+02	3.54E+02	1.28E+03
PALISADES	7.47E+01	2.78E+02	1.79E+02	2.35E+02
POINT BEACH	7.61E+02	6.52E+02	5.03E+02	5.39E+02
PRAIRIE ISLAND	5.43E+02	5.62E+02	6.00E+02	5.20E+02
R. E. GINNA	1.60E+02	2.40E+02	3.08E+02	3.50E+02
RANCHO SECO	1.47E+02	8.35E+01	6.46E+01	7.43E+01
SALEM 1	0.00E+00	4.93E+02	7.22E+02	2.08E+02
SALEM 2	N/R	8.42E+02	5.25E+02	2.23E+02
SAN ONOFRE 1	1.03E+03	2.97E+02	5.45E+02	1.57E+01
SAN ONOFRE 2-3			8.92E+00	2.38E+02
SEQUOYAH	3.23E-01	7.65E+01	9.34E+02	7.35E+02
ST. LUCIE 1	2.72E+02	3.25E+02	3.21E+02	3.48E+02
ST. LUCIE 2				3.77E+01
SUMMER			3.19E-01	2.27E+02
SURRY	3.85E+02	5.31E+02	9.10E+02	7.17E+02
THREE MILE ISLAND 1	3.26E+01	7.11E+00	3.91E+00	3.09E+00
THREE MILE ISLAND 2	6.10E-04	5.06E-02	7.20E-02	3.75E-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
TURKEY POINT	7.49E+02	1.95E+02	6.27E+02	7.12E+02
YANKEE ROWE	5.84E+01	1.03E+02	1.86E+02	1.68E+02
ZION 1	7.45E+02	6.04E+02	6.76E+02	1.74E+02
ZION 2		2.66E+02	3.77E+02	2.56E+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										
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
FORT ST. VRAIN*										1.89E-04

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

TABLE 7

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

FACILITY	MIXED FISSION AND ACTIVATION PRODUCTS			
	1980	1981	1982	1983
BOILING WATER REACTORS				
BIG ROCK POINT	7.82E-01	3.91E-01	2.60E-01	7.82E-02
BROWNS FERRY	9.38E+00	2.24E+00	5.36E+01	1.28E+01
BRUNSWICK	1.26E+00	2.20E+00	2.32E+00	1.08E+00
COOPER	<1.10E+01	<3.61E+00	<5.44E+00	<1.23E+01
DRESDEN 1	N/R	0.00E+00	0.00E+00	0.00E+00
DRESDEN 2-3	7.16E-01	6.12E-02	1.91E-02	1.24E-02
DUANE ARNOLD	N/R	0.00E+00	4.16E-06	0.00E+00
EDWIN I. HATCH 1	6.83E-02	3.73E-01	7.00E-01	9.09E-01
EDWIN I. HATCH 2	4.57E-02	1.63E-01	1.83E-01	3.29E-01
GRAND GULF				4.42E-03
HUMBOLDT BAY	1.39E-01	1.55E-01	3.46E-01	9.89E-02
JAMES A. FITZPATRICK	1.51E+00	2.51E+00	6.50E-01	7.71E-01
LACROSSE	2.13E+00	2.26E-01	5.83E+00	3.75E+00
LASALLE			9.82E-01	8.80E+00
MILLSTONE 1	7.24E-01	3.94E-01	1.15E+00	8.08E-01
MONTICELLO	0.00E+00	3.11E-06	5.80E-07	0.00E+00
NINE MILE POINT	N/R	5.35E+00	2.51E-03	1.11E-02
OYSTER CREEK	5.06E-01	2.48E-01	8.10E-02	3.83E-03
PEACH BOTTOM	1.90E+00	1.97E+00	9.33E+00	2.24E+00
PILGRIM	2.73E+00	1.94E+00	8.72E-01	9.35E-01
QUAD-CITIES	1.31E+01	3.27E+00	4.03E-01	1.37E-01
SUSQUEHANNA			<1.99E-01	2.49E+00
VERMONT YANKEE	N/R	1.02E-02	0.00E+00	0.00E+00
FORT ST. VRAIN*	6.37E-05	3.64E-04	4.34E-04	1.73E-02

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

TABLE 8

LIQUID EFFLUENTS COMPARISON BY YEAR (CURIES)

FACILITY	MIXED FISSION AND ACTIVATION PRODUCTS									
	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
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	4.18E-01
DAVIS-BESSE								2.60E-02	9.01E-02	4.28E-02
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										
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)

FACILITY	MIXED FISSION AND ACTIVATION PRODUCTS			
	1980	1981	1982	1983
ARKANSAS ONE 1	3.42E+00	7.50E+00	5.80E+00	4.30E+00
ARKANSAS ONE 2	4.13E+00	2.95E+00	5.90E+00	3.70E+00
BEAVER VALLEY	1.04E-01	1.44E-01	1.47E-01	6.09E-02
CALVERT CLIFFS	4.53E+00	2.68E+00	5.26E+00	2.24E+00
CRYSTAL RIVER	1.48E-01	1.29E-01	1.07E-01	1.50E-01
DAVIS-BESSE	2.07E-01	7.92E-01	2.19E-01	5.39E-01
DONALD C. COOK	1.37E+00	1.88E+00	1.90E+00	6.83E-01
FORT CALHOUN	5.04E-01	1.65E-01	1.79E-01	1.42E-01
H. B. ROBINSON	3.58E-01	1.84E+00	1.20E+00	8.23E-01
HADDAM NECK	2.76E-01	7.12E-01	6.93E-02	4.80E-01
INDIAN POINT 1-2	1.26E+00	5.67E+00	2.41E+00	4.02E+00
INDIAN POINT 3	2.90E+00	2.62E+00	5.46E-01	5.44E-01
JOSEPH M. FARLEY 1	6.18E-02	1.31E-01	5.94E-02	5.75E-02
JOSEPH M. FARLEY 2		2.69E-02	2.90E-02	2.04E-02
KEWAUNEE	6.17E-01	8.15E-01	1.52E+00	5.43E-01
MAINE YANKEE	2.97E-01	4.36E-01	7.03E-01	1.99E-01
MCGUIRE 1		3.94E-01	1.75E+00	1.87E+00
MCGUIRE 2				1.87E+00
MILLSTONE 2	2.81E+00	4.18E+00	1.39E+01	7.81E+00
NORTH ANNA	1.05E+00	6.76E-01	1.32E+00	5.88E+00
OCONEE	1.54E+00	1.75E+00	1.04E+00	1.43E+00
PALISADES	8.73E-03	3.31E-02	1.27E-01	7.48E-02
POINT BEACH	6.29E-01	1.01E+00	2.95E+00	1.27E+00
PRAIRIE ISLAND	1.32E-02	9.12E-03	2.23E-03	3.16E-02
R. E. GINNA	1.96E-02	3.85E-02	6.17E-01	1.93E-01
RANCHO SECO	3.78E-03	5.92E-01	2.16E-01	2.81E-01
SALEM 1	2.65E+00	2.80E+00	3.22E+00	2.97E+00
SALEM 2	3.89E-01	1.51E+00	3.21E+00	2.85E+00
SAN ONOFRE 1	1.12E+01	<5.53E+00	2.15E+00	1.22E+00
SAN ONOFRE 2-3			6.32E-01	2.79E+00
SEQUOYAH	N/R	2.76E+00	9.82E+00	4.61E+00
ST. LUCIE 1	2.36E+00	2.46E+00	3.07E+00	2.99E+00
ST. LUCIE 2				4.37E-01
SUMMER			1.24E-04	1.47E+00
SURRY	3.85E+00	6.11E+00	8.68E+00	1.45E+01
THREE MILE ISLAND 1	1.83E-01	8.69E-02	5.29E-02	8.12E-02
THREE MILE ISLAND 2	1.45E-05	2.22E-05	4.25E-05	9.03E-05
TMI 2/EPICOR		N/R	0.00E+00	0.00E+00
TROJAN	7.87E-01	9.94E-01	8.56E-01	3.10E-01
TURKEY POINT	6.78E-01	3.03E-01	1.68E+00	1.13E+00
YANKEE ROWE	1.75E-02	1.43E-02	9.53E-03	1.30E-02
ZION 1	4.74E-01	1.61E+00	7.22E-01	1.50E+00
ZION 2		1.05E+00	1.65E+00	1.15E+00

N/R = NOT REPORTED

TABLE 9

BOILING WATER REACTORS

SOLID WASTE SUMMARY 1983

FACILITY	VOLUME (CUBIC METERS)	ACTIVITY (CURIES)	NO. OF SHIPMENTS
BIG ROCK POINT	1.01E+02	2.74E+02	7
BROWNS FERRY	3.72E+03	6.90E+03	292
BRUNSWICK	3.51E+03	8.36E+03	255
COOPER	5.03E+02	8.53E+02	76
DRESDEN	1.42E+03	2.91E+03	282
DUANE ARNOLD	6.81E+02	1.44E+03	103
EDWIN I. HATCH 1&2	1.87E+03	2.27E+03	152
GRAND GULF	3.12E+02	7.21E+00	25
HUMBOLDT BAY	2.78E+01	1.75E+04	4
JAMES A. FITZPATRICK	7.11E+02	7.03E+02	76
LACROSSE	1.20E+01	1.88E+02	4
LASALLE	6.83E+02	3.01E+01	62
MILLSTONE 1	6.93E+02	6.81E+02	51
MONTICELLO	3.57E+02	4.43E+04	50
NINE MILE POINT	7.21E+02	5.42E+04	73
OYSTER CREEK	1.00E+03	5.61E+02	79
PEACH BOTTOM	2.68E+03	2.24E+04	337
PILGRIM	6.65E+02	1.48E+03	69
QUAD-CITIES	1.58E+03	5.85E+03	293
SUSQUEHANNA	1.26E+03	2.84E+02	129
VERMONT YANKEE	4.15E+02	5.75E+04	55
FORT ST. VRAIN*	2.39E+01	1.84E+01	9

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 10

PRESSURIZED WATER REACTORS

SOLID WASTE SUMMARY 1983

FACILITY	VOLUME (CUBIC METERS)	ACTIVITY (CURIES)	NO. OF SHIPMENTS
ARKANSAS ONE 1&2	7.06E+02	2.09E+03	75
BEAVER VALLEY	2.19E+02	4.75E+02	30
CALVERT CLIFFS	5.06E+02	1.07E+02	32
CRYSTAL RIVER	5.40E+02	1.55E+03	59
DAVIS-BESSE	1.13E+02	6.37E+02	11
DONALD C. COOK	6.68E+02	2.01E+03	57
FORT CALHOUN	4.65E+02	7.00E+02	39
H. B. ROBINSON	1.09E+03	4.82E+01	63
HADDAM NECK	6.52E+02	1.52E+03	54
INDIAN POINT 1-2	1.29E+03	2.12E+03	78
INDIAN POINT 3	3.16E+02	7.32E+02	23
JOSEPH M. FARLEY	4.41E+02	1.05E+03	34
KEWAUNEE	5.52E+01	6.85E+02	13
MAINE YANKEE	3.37E+02	1.03E+02	21
MCGUIRE	2.44E+02	2.82E+01	26
MILLSTONE 2	4.48E+01	2.58E+02	9
NORTH ANNA	5.39E+02	1.87E+03	53
OCONEE	1.16E+03	2.84E+03	126
PALISADES	5.75E+02	2.58E+04	29
POINT BEACH	7.11E+02	1.12E+03	52
PRAIRIE ISLAND	2.39E+02	1.92E+02	9
R. E. GINNA	3.36E+02	5.21E+02	11
RANCHO SECO	2.72E+02	2.25E+02	13
SALEM 1&2	2.07E+03	2.99E+02	117
SAN ONOFRE 1	3.33E+02	2.27E+02	20
SAN ONOFRE 2-3	1.89E+02	7.98E+00	8
SEQUOYAH	6.93E+02	2.30E+03	31
ST. LUCIE	6.20E+02	9.39E+04	60
SUMMER	9.25E+01	1.37E+01	5
SURRY	3.08E+03	3.56E+03	190
THREE MILE ISLAND 1	6.05E+02	6.84E+02	64
THREE MILE ISLAND 2	3.16E+02	5.17E+05	32
TMI 2/EPICOR	2.23E+02	4.62E+04	61
TROJAN	2.28E+02	1.67E+03	16
TURKEY POINT	1.21E+03	9.26E+02	75
YANKEE ROWE	1.58E+02	5.12E+00	12
ZION	9.21E+02	2.97E+03	48

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									
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
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 FACILITY	VOLUME(CUBIC METERS) - ACTIVITY(CURIES)							
	1980		1981		1982		1983	
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
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
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
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
DRESDEN	1.18E+03	4.48E+03	1.14E+03	4.59E+03	8.99E+02	1.66E+05+	1.42E+03	2.91E+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
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
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
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
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
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
LASALLE					0.00E+00	0.00E+00	6.83E+02	3.01E+01
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
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
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
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
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
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
QUAD-CITIES	1.67E+03	4.07E+03	1.72E+03	5.18E+03	1.46E+03	3.98E+03	1.58E+03	5.85E+03
SUSQUEHANNA					4.51E+01	6.52E-02	1.26E+03	2.84E+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
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

* HIGH TEMPERATURE GAS COOLED REACTOR

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

** INCLUDED WITH UNIT 1 TOTALS FOR 1983

TABLE 12

SOLID WASTE COMPARISON BY YEAR

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

Year	Facility	Volume (Cubic Meters)	Activity (Curies)	
1975	ARKANSAS ONE 1&2	4.30E+01	4.26E+02	
	BEAVER VALLEY	1.18E+02	1.22E+02	
	CALVERT CLIFFS	2.67E+02	8.18E+02	
	CRYSTAL RIVER	3.09E+02	9.83E+02	
	DAVIS-BESSE	4.48E+02	3.48E+02	
	DONALD C. COOK	0.00E+00	0.00E+00	
	FORT CALHOUN	0.00E+00	0.00E+00	
	HADDAM NECK	6.84E+02	8.28E+01	
	INDIAN POINT 1-2	6.97E+02	6.46E+02	
	INDIAN POINT 3	7.67E+02	1.68E+03	
	JOSEPH M. FARLEY	9.19E+02	1.06E+03	
	KEMUNEE	9.19E+02	1.45E+03	
1976	MAINE YANKEE	5.94E+02	3.37E+01	
	MCGUIRE	4.94E+01	3.66E+02	
	MILLSTONE 2	3.37E+01	7.98E+01	
	NORTH ANNA	1.84E+02	1.53E+04	
	OCONEE	5.04E+02	5.81E+02	
	PALISADES	1.80E+02	1.55E+02	
	PRAIRIE ISLAND	2.90E+02	1.55E+02	
	R. E. GINNA	2.22E+03	1.68E+03	
	RANCHO SECO	1.07E+03	7.37E+03	
	SALEM 1&2	7.83E+02	7.17E+01	
	SAN ONOFRE 1	4.43E+02	8.71E+01	
	SAN ONOFRE 2-3	6.81E+01	7.17E+02	
1977	SEQUOYAH	1.99E+02	3.40E+03	
	SURRY	1.52E+02	1.51E+03	
	SUMMER	2.80E+02	5.96E+01	
	THREE MILE ISLAND 1	1.11E+02	1.29E+02	
	THREE MILE ISLAND 2	2.80E+02	5.96E+01	
	TROJAN	1.11E+02	1.29E+02	
	TURKEY POINT	2.80E+02	5.96E+01	
	YANKEE ROWE	1.11E+02	1.29E+02	
	ZION	2.80E+02	5.96E+01	
	1978	ARKANSAS ONE 1&2	4.30E+01	4.26E+02
		BEAVER VALLEY	1.18E+02	1.22E+02
		CALVERT CLIFFS	2.67E+02	8.18E+02
CRYSTAL RIVER		3.09E+02	9.83E+02	
DAVIS-BESSE		4.48E+02	3.48E+02	
DONALD C. COOK		0.00E+00	0.00E+00	
FORT CALHOUN		0.00E+00	0.00E+00	
HADDAM NECK		6.84E+02	8.28E+01	
INDIAN POINT 1-2		6.97E+02	6.46E+02	
INDIAN POINT 3		7.67E+02	1.68E+03	
JOSEPH M. FARLEY		9.19E+02	1.06E+03	
KEMUNEE		9.19E+02	1.45E+03	
1979	MAINE YANKEE	5.94E+02	3.37E+01	
	MCGUIRE	4.94E+01	3.66E+02	
	MILLSTONE 2	3.37E+01	7.98E+01	
	NORTH ANNA	1.84E+02	1.53E+04	
	OCONEE	5.04E+02	5.81E+02	
	PALISADES	1.80E+02	1.55E+02	
	PRAIRIE ISLAND	2.90E+02	1.55E+02	
	R. E. GINNA	2.22E+03	1.68E+03	
	RANCHO SECO	1.07E+03	7.37E+03	
	SALEM 1&2	7.83E+02	7.17E+01	
	SAN ONOFRE 1	4.43E+02	8.71E+01	
	SAN ONOFRE 2-3	6.81E+01	7.17E+02	
SEQUOYAH	1.99E+02	3.40E+03		
SURRY	1.52E+02	1.51E+03		
SUMMER	2.80E+02	5.96E+01		
THREE MILE ISLAND 1	1.11E+02	1.29E+02		
THREE MILE ISLAND 2	2.80E+02	5.96E+01		
TROJAN	1.11E+02	1.29E+02		
TURKEY POINT	2.80E+02	5.96E+01		
YANKEE ROWE	1.11E+02	1.29E+02		
ZION	2.80E+02	5.96E+01		

N/R = NOT REPORTED

TABLE 12

SOLID WASTE COMPARISON BY YEAR

PRESSURIZED WATER REACTORS

VOLUME(CUBIC METERS) - ACTIVITY(CURIES)

FACILITY	1980		1981		1982		1983	
	N/R	N/R	N/R	N/R	N/R	N/R		
ARKANSAS ONE 1&2							7.06E+02	2.09E+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
CALVERT CLIFFS	2.51E+02	1.48E+04	5.00E+02	9.88E+01	1.57E+02	9.16E+02	5.06E+02	1.07E+02
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
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
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
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
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
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
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
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
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
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
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
MCGUIRE			1.98E+01	1.31E+01	9.91E+01	6.43E+00	2.44E+02	2.82E+01
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
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
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
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
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
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
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
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
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
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
SAN ONOFRE 2-3					0.00E+00	0.00E+00	1.89E+02	7.98E+00
SEQUOYAH	N/R	N/R	1.61E+02	2.92E+01	3.58E+02	2.28E+02	6.93E+02	2.30E+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
SUMMER					0.00E+00	0.00E+00	9.25E+01	1.37E+01
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
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
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
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
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
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
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
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

N/R = NOT REPORTED

TABLE 13
NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS		MEGAWATT HOURS									
FACILITY	INITIAL CRITICALITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	09/27/62									4.01E+05	1.14E+05
BROWNS FERRY	08/17/73									1.69E+07	2.04E+07
BROWNS FERRY	07/20/74										
BROWNS FERRY	08/08/76										
BRUNSWICK	10/08/76									9.91E+06	6.82E+06
BRUNSWICK	03/20/75										
COOPER	02/21/74									4.89E+06	4.99E+06
DRESDEN 1	10/15/59									7.59E+05	0.00E+00
DRESDEN 2	01/07/70									9.53E+06	8.42E+06
DRESDEN 3	01/31/71										
DUANE ARNOLD	03/23/74									1.23E+06	2.90E+06
EDWIN I. HATCH 1	09/12/74									4.77E+06	5.10E+06
EDWIN I. HATCH 2	07/04/78										
GRAND GULF	08/18/82										
HUMBOLDT BAY	02/16/63									0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74									4.20E+06	2.96E+06
LACROSSE	07/11/67									1.74E+05	2.01E+05
LASALLE	06/21/82										
MILLSTONE 1	10/26/70									4.65E+06	4.22E+06
MONTICELLO	12/10/70									3.86E+06	4.40E+06
NINE MILE POINT	09/05/69									4.47E+06	3.00E+06
OYSTER CREEK	05/03/69									3.65E+06	4.56E+06
PEACH BOTTOM	09/16/73									1.38E+07	1.47E+07
PEACH BOTTOM	08/07/74										
PILGRIM	06/16/72									4.38E+06	4.84E+06
QUAD-CITIES	10/18/71									9.15E+06	8.76E+06
QUAD-CITIES	04/26/72										
SUSQUEHANNA	09/10/82										
VERMONT YANKEE	03/24/72									3.24E+06	3.45E+06
FORT ST. VRAIN*	01/31/74									6.09E+05	1.24E+05

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 13

NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS		MEGAWATT HOURS			
FACILITY	INITIAL CRITICALITY	1980	1981	1982	1983
BIG ROCK POINT	09/27/62	4.05E+05	4.70E+05	3.60E+05	3.49E+05
BROWNS FERRY	08/17/73	6.06E+06	4.41E+06	7.88E+06	2.18E+06
BROWNS FERRY	07/20/74	5.62E+06	7.47E+06	4.45E+06	6.39E+06
BROWNS FERRY	08/08/76	6.94E+06	6.26E+06	4.89E+06	5.39E+06
BRUNSWICK	10/08/76	3.94E+06	2.56E+06	2.92E+06	1.39E+06
BRUNSWICK	03/20/75	1.86E+05	3.28E+06	1.91E+06	3.94E+06
COOPER	02/21/74	3.79E+06	3.85E+06	5.28E+06	3.34E+06
DRESDEN 1	10/15/59	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DRESDEN 2	01/07/70	4.58E+06	3.41E+06	5.12E+06	3.40E+06
DRESDEN 3	01/31/71	4.33E+06	5.18E+06	3.89E+06	4.15E+06
DUANE ARNOLD	03/23/74	2.80E+06	2.22E+06	2.28E+06	2.32E+06
EDWIN I. HATCH 1	09/12/74	4.79E+06	2.76E+06	2.88E+06	3.96E+06
EDWIN I. HATCH 2	07/04/78	3.64E+06	4.48E+06	3.73E+06	3.81E+06
GRAND GULF	08/18/82				0.00E+00
HUMBOLDT BAY	02/18/63	0.00E+00	0.00E+00	0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74	4.33E+06	4.78E+06	4.96E+06	4.63E+06
LACROSSE	07/11/67	2.15E+06	2.41E+05	1.38E+05	2.01E+05
LASALLE	06/21/82			4.61E+05	1.64E+06
MILLSTONE 1	10/26/70	3.40E+06	2.52E+06	4.08E+06	5.35E+06
MONTICELLO	12/10/70	3.45E+06	3.26E+06	2.42E+06	4.15E+06
NINE MILE POINT	09/05/69	4.54E+06	3.27E+06	1.13E+06	2.80E+06
OYSTER CREEK	05/03/69	1.96E+06	2.63E+06	2.01E+06	2.05E+05
PEACH BOTTOM	09/16/73	4.34E+06	6.63E+06	4.79E+06	4.45E+06
PEACH BOTTOM	08/07/74	7.23E+06	3.13E+06	8.53E+06	2.42E+06
PILGRIM	06/16/72	3.04E+06	3.44E+06	3.29E+06	4.71E+06
QUAD-CITIES	10/18/71	3.44E+06	5.73E+06	3.24E+06	5.78E+06
QUAD-CITIES	04/26/72	3.61E+06	3.77E+06	5.06E+06	3.15E+06
SUSQUEHANNA	09/10/82			3.21E+05	3.54E+06
VERMONT YANKEE	03/24/72	2.98E+06	3.57E+06	4.17E+06	2.87E+06
FORT ST. VRAIN*	01/31/74	6.78E+05	7.55E+05	5.69E+05	7.48E+05

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 14
NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS FACILITY	INIT. CRITICALITY	MEGAWATT HOURS										
		1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	
ARKANSAS ONE 1	08/06/74										5.25E+06	3.32E+06
ARKANSAS ONE 2	12/05/78										3.98E+03	8.81E+05
BEAVER VALLEY	05/10/78										2.48E+06	1.79E+06
CALVERT CLIFFS	10/07/74										9.91E+06	9.68E+06
CALVERT CLIFFS	11/30/78											
CRYSTAL RIVER	01/14/77										2.59E+06	3.76E+06
DAVIS-BESSE	08/12/77										2.61E+06	3.13E+06
DONALD C. COOK	01/18/75										1.01E+07	1.16E+07
DONALD C. COOK	07/01/78											
FORT CALHOUN	08/06/73										2.85E+06	3.67E+06
H. B. ROBINSON	09/20/70										3.98E+06	4.00E+06
HADDAM NECK	07/24/67										4.71E+06	4.12E+06
INDIAN POINT 1	08/02/62										4.37E+06	4.80E+06
INDIAN POINT 2	05/22/73											
INDIAN POINT 3	04/06/76										5.46E+06	4.79E+06
JOSEPH M. FARLEY 1	08/09/77										5.92E+06	1.74E+06
JOSEPH M. FARLEY 2	05/05/81											
KEWAUNEE	03/07/74										3.89E+06	3.44E+06
MAINE YANKEE	10/23/72										5.35E+06	4.54E+06
MCGUIRE 1	08/08/81											
MCGUIRE 2	08/05/83											
MILLSTONE 2	10/17/75										4.50E+06	4.36E+06
NORTH ANNA	04/05/78										3.66E+06	4.19E+06
NORTH ANNA	06/12/80											
OCONEE	04/19/73										1.59E+07	1.32E+07
OCONEE	11/11/73											
OCONEE	09/05/74											
PALISADES	05/24/71										2.62E+06	3.43E+06
POINT BEACH	11/02/70										7.65E+06	6.77E+06
POINT BEACH	05/30/72											
PRAIRIE ISLAND	12/01/73										7.73E+06	7.10E+06
PRAIRIE ISLAND	12/17/74											
R. E. GINNA	11/08/69										3.22E+06	2.96E+06
RANCHO SECO	09/16/74										4.99E+06	5.71E+06
SALEM 1	12/11/76										4.53E+06	2.04E+06
SALEM 2	08/02/80											
SAN ONOFRE 1	06/14/67										2.68E+06	3.36E+06
SAN ONOFRE 2	07/26/82											
SAN ONOFRE 3	08/29/83											
SEQUOYAH	07/05/80											
SEQUOYAH	07/26/82											
ST. LUCIE	04/22/76										5.00E+06	4.88E+06
ST. LUCIE	06/02/83											
SUMMER	10/22/82											
SURRY	07/01/72										1.01E+07	2.87E+06
SURRY	03/07/73											
THREE MILE ISLAND 1	06/05/74										5.67E+06	8.48E+05
THREE MILE ISLAND 2	03/28/78										5.77E+05	N/R
TMI 2/EPICOR	03/28/78											
TROJAN	12/15/75										1.67E+06	5.27E+06
TURKEY POINT	10/20/72										8.29E+06	6.71E+06
TURKEY POINT	06/11/73											
YANKEE ROWE	08/19/80										1.19E+06	1.23E+06
ZION 1	06/19/73										1.35E+07	1.03E+07
ZION 2	12/24/73											

N/R = NOT REPORTED

TABLE 14
NET ELECTRICAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS		MEGAWATT HOURS			
FACILITY	INIT. CRITICALITY	1980	1981	1982	1983
ARKANSAS ONE 1	08/08/74	3.78E+06	4.90E+06	3.72E+06	3.22E+06
ARKANSAS ONE 2	12/05/78	3.65E+06	4.32E+06	3.81E+06	4.43E+06
BEAVER VALLEY	05/10/76	3.01E+05	4.66E+06	2.69E+06	4.68E+06
CALVERT CLIFFS	10/07/74	4.53E+06	6.11E+06	5.36E+06	5.57E+06
CALVERT CLIFFS	11/30/76	6.41E+06	5.42E+06	5.00E+06	6.11E+06
CRYSTAL RIVER	01/14/77	3.35E+06	4.01E+06	4.92E+06	3.77E+06
DAVIS-BESSE	08/12/77	2.09E+06	4.36E+06	3.22E+06	4.88E+06
DONALD C. COOK	01/18/75	6.46E+06	6.78E+06	5.35E+06	5.29E+06
DONALD C. COOK	07/01/78	6.70E+06	6.36E+06	7.00E+06	7.01E+06
FORT CALHOUN	08/06/73	2.01E+06	2.15E+06	3.48E+06	2.75E+06
H. B. ROBINSON	09/20/70	3.21E+06	3.50E+06	2.25E+06	3.35E+06
HADDAM NECK	07/24/67	3.56E+06	4.06E+06	4.54E+06	3.78E+06
INDIAN POINT 1	06/02/62	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INDIAN POINT 2	05/22/73	4.26E+06	3.06E+06	4.45E+06	5.90E+06
INDIAN POINT 3	04/06/76	3.07E+06	3.03E+06	1.44E+06	6.07E+04
JOSEPH M. FARLEY 1	08/09/77	4.60E+06	2.62E+06	5.22E+06	5.26E+06
JOSEPH M. FARLEY 2	06/05/81		2.92E+06	5.30E+06	5.98E+06
KEWAUNEE	03/07/74	3.63E+06	3.77E+06	3.82E+06	3.71E+06
MAINE YANKEE	10/23/72	4.40E+06	5.21E+06	4.52E+06	0.00E+00
MCGUIRE 1	08/08/81		1.91E+04	4.30E+06	4.63E+06
MCGUIRE 2	08/05/83				0.00E+00
MILLSTONE 2	10/17/75	4.88E+06	6.09E+06	5.01E+06	2.45E+06
NORTH ANNA	04/05/78	5.63E+06	4.64E+06	2.40E+06	5.31E+06
NORTH ANNA	06/12/80	3.50E+05	5.65E+06	4.05E+06	5.80E+06
OCONEE	04/19/73	5.12E+06	3.00E+06	5.15E+06	5.67E+06
OCONEE	11/11/73	3.88E+06	5.19E+06	3.44E+06	5.14E+06
OCONEE	09/05/74	5.22E+06	5.64E+06	2.12E+06	7.10E+06
PALISADES	05/24/71	2.38E+06	3.46E+06	3.35E+06	3.77E+06
POINT BEACH	11/02/70	2.48E+06	2.61E+06	2.70E+06	2.38E+06
POINT BEACH	05/30/72	3.59E+06	3.72E+06	3.61E+06	3.02E+06
PRAIRIE ISLAND	12/01/73	3.11E+06	3.84E+06	3.92E+06	3.89E+06
PRAIRIE ISLAND	12/17/74	3.47E+06	3.09E+06	3.86E+06	3.72E+06
R. E. GINNA	11/08/69	3.09E+06	3.32E+06	2.41E+06	3.04E+06
RANCHO SECO	09/16/74	4.42E+06	2.63E+06	3.37E+06	2.85E+06
SALEM 1	12/11/76	5.68E+06	6.19E+06	4.09E+06	5.38E+06
SALEM 2	08/02/80	0.00E+00	1.63E+06	7.94E+06	7.44E+05
SAN ONOFRE 1	06/14/67	8.17E+05	7.79E+05	5.10E+05	0.00E+00
SAN ONOFRE 2	07/26/82			1.26E+05	3.76E+06
SAN ONOFRE 3	08/29/83				9.97E+05
SEQUOYAH	07/05/80	5.18E+05	2.53E+06	4.91E+06	7.34E+06
SEQUOYAH	07/26/82				6.69E+06
ST. LUCIE	04/22/76	5.20E+06	4.95E+06	6.78E+06	1.07E+06
ST. LUCIE	06/02/83				2.40E+06
SUMNER	10/22/82			1.91E+05	4.33E+06
SURRY	07/01/72	2.47E+06	2.38E+06	5.48E+06	3.52E+06
SURRY	03/07/73	2.24E+06	5.15E+06	5.49E+06	4.09E+06
THREE MILE ISLAND 1	06/05/74	0.00E+00	0.00E+00	0.00E+00	0.00E+00
THREE MILE ISLAND 2	03/28/78	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TMI 2/EPICOR	03/28/78	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TROJAN	12/15/75	6.07E+06	6.42E+06	4.80E+06	4.08E+06
TURKEY POINT	10/20/72	4.39E+06	9.12E+05	3.77E+06	4.33E+06
TURKEY POINT	06/11/73	3.85E+06	4.50E+06	3.84E+06	2.97E+06
YANKEE ROWE	08/19/60	2.92E+05	8.85E+05	8.82E+05	1.34E+06
ZION 1	06/19/73	6.51E+06	6.19E+06	4.70E+06	4.02E+06
ZION 2	12/24/73	5.28E+06	5.26E+06	5.16E+06	6.18E+06

TABLE 15

THERMAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS		MEGAWATT HOURS									
FACILITY	INITIAL CRITICALITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
BIG ROCK POINT	09/27/82	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	3.96E+05
BROWNS FERRY	08/17/73				1.37E+06	1.64E+07	8.75E+06	1.34E+07	5.37E+07	5.32E+07	6.31E+07
BROWNS FERRY	07/20/74										
BROWNS FERRY	08/08/76										
BRUNSWICK	10/08/76						4.72E+06	7.81E+06	1.59E+07	3.07E+07	2.12E+07
BRUNSWICK	03/20/75										
COOPER	02/21/74					6.90E+06	1.24E+07	1.19E+07	1.45E+07	1.54E+07	1.58E+07
DRESDEN 1	10/15/59	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	0.00E+00
DRESDEN 2	01/07/70	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	2.77E+07
DRESDEN 3	01/31/71										
DUANE ARNOLD	03/23/74						7.42E+06	8.02E+06	9.32E+06	3.96E+06	9.07E+06
EDWIN I. HATCH 1	09/12/74						9.75E+06	1.38E+07	1.22E+07	3.37E+07	1.62E+07
EDWIN I. HATCH 2	07/04/78										
GRAND GULF	08/18/82										
HUMBOLDT BAY	02/16/63	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	0.00E+00
JAMES A. FITZPATRICK	11/17/74						6.81E+06	1.26E+07	1.18E+07	1.30E+07	8.97E+06
LACROSSE	07/11/67	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	7.48E+05
LASALLE	06/21/82										
MILLSTONE 1	10/26/70	2.60E+05	1.11E+07	9.69E+06	5.96E+06	1.12E+07	1.21E+07	1.18E+07	1.48E+07	1.43E+07	1.30E+07
MONTECELLO	12/10/70		4.37E+06	1.10E+07	9.90E+06	8.28E+06	8.88E+06	1.23E+07	1.10E+07	1.18E+07	1.35E+07
NINE MILE POINT	09/05/69	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	9.67E+06
OYSTER CREEK	05/03/69	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	1.38E+07
PEACH BOTTOM	09/16/73					1.23E+07	3.34E+07	3.72E+07	2.86E+07	4.39E+07	4.58E+07
PEACH BOTTOM	08/07/74										
PILGRIM	06/16/72			2.65E+06	1.25E+07	6.00E+06	8.10E+06	7.60E+06	8.26E+06	1.33E+07	1.47E+07
QUAD-CITIES	10/18/71			1.25E+07	3.17E+07	2.61E+07	2.31E+07	2.59E+07	2.68E+07	3.14E+07	3.00E+07
QUAD-CITIES	04/26/72										
SUSQUEHANNA	09/10/82										
VERMONT YANKEE	03/24/72			1.48E+06	6.08E+06	8.20E+06	1.13E+07	1.02E+07	1.11E+07	1.00E+07	1.08E+07
FORT ST. VRAIN*	01/31/74									2.04E+06	4.78E+05

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 15

THERMAL ENERGY GENERATION COMPARISON BY YEAR

BOILING WATER REACTORS		MEGAWATT HOURS			
FACILITY	INITIAL CRITICALITY	1980	1981	1982	1983
BIG ROCK POINT	09/27/62	1.40E+06	1.63E+06	1.20E+06	1.14E+06
BROWNS FERRY	08/17/73	1.92E+07	1.36E+07	2.49E+07	6.78E+06
BROWNS FERRY	07/20/74	1.74E+07	2.31E+07	1.38E+07	1.97E+07
BROWNS FERRY	08/08/76	2.13E+07	1.95E+07	1.55E+07	1.70E+07
BRUNSWICK	10/08/76	1.23E+07	8.29E+06	9.48E+06	4.53E+06
BRUNSWICK	03/20/75	5.38E+06	1.04E+07	6.30E+06	1.23E+07
COOPER	02/21/74	1.36E+07	1.39E+07	1.64E+07	1.05E+07
DRESDEN 1	10/15/59	0.00E+00	0.00E+00	0.00E+00	0.00E+00
DRESDEN 2	01/07/70	1.57E+07	1.13E+07	1.69E+07	1.13E+07
DRESDEN 3	01/31/71	1.42E+07	1.71E+07	1.27E+07	1.37E+07
DUANE ARNOLD	03/23/74	8.87E+06	7.05E+06	7.32E+06	7.38E+06
EDWIN I. HATCH 1	09/12/74	1.54E+07	8.97E+06	9.42E+06	1.29E+07
EDWIN I. HATCH 2	07/04/78	1.16E+07	1.47E+07	1.18E+07	1.19E+07
GRAND GULF	08/18/82				0.00E+00
HUMBOLDT BAY	02/16/63	0.00E+00	0.00E+00	0.00E+00	0.00E+00
JAMES A. FITZPATRICK	11/17/74	1.30E+07	1.42E+07	1.51E+07	1.42E+07
LACROSSE	07/11/67	8.00E+05	9.11E+05	5.27E+05	7.60E+05
LASALLE	06/21/82			2.09E+06	5.86E+06
MILLSTONE 1	10/26/70	1.04E+07	8.60E+06	1.36E+07	1.64E+07
MONTICELLO	12/10/70	1.07E+07	1.01E+07	7.68E+06	1.30E+07
NINE MILE POINT	09/05/69	1.41E+07	1.01E+07	3.42E+06	8.72E+06
OYSTER CREEK	05/03/69	6.27E+06	8.44E+06	6.79E+06	9.23E+05
PEACH BOTTOM	09/16/73	1.37E+07	2.08E+07	1.53E+07	1.40E+07
PEACH BOTTOM	08/07/74	2.26E+07	9.85E+06	2.65E+07	7.82E+06
PILGRIM	06/16/72	9.20E+06	1.05E+07	9.90E+06	1.42E+07
QUAD-CITIES	10/18/71	1.17E+07	1.88E+07	1.12E+07	1.89E+07
QUAD-CITIES	04/26/72	1.22E+07	1.27E+07	1.67E+07	1.08E+07
SUSQUEHANNA	09/10/82			1.16E+06	1.12E+07
VERMONT YANKEE	03/24/72	9.38E+06	1.13E+07	1.31E+07	9.12E+06
FORT ST. VRAIN*	01/31/74	2.23E+06	2.23E+06	1.86E+06	2.58E+06

* HIGH TEMPERATURE GAS COOLED REACTOR

TABLE 16
THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS		MEGAWATT HOURS									
FACILITY	INIT. CRITICALITY	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
ARKANSAS ONE 1	08/08/74					1.99E+08	1.54E+07	1.21E+07	1.84E+07	1.64E+07	1.05E+07
ARKANSAS ONE 2	12/05/78									4.45E+04	3.45E+06
BEAVER VALLEY	05/10/78							1.97E+06	1.01E+07	8.80E+06	6.11E+06
CALVERT CLIFFS	10/07/74						1.40E+07	1.98E+07	2.97E+07	3.14E+07	3.15E+07
CALVERT CLIFFS	11/30/78										
CRYSTAL RIVER	01/14/77								1.26E+07	7.97E+06	1.17E+07
DAVIS-BESSE	08/12/77								1.86E+06	8.52E+06	1.00E+07
DONALD C. COOK	01/18/75						1.46E+07	2.15E+07	1.55E+07	3.29E+07	3.68E+07
DONALD C. COOK	07/01/78										
FORT CALHOUN	08/08/73				2.03E+06	7.58E+06	6.71E+06	7.15E+06	9.40E+06	8.98E+06	1.16E+07
H. B. ROBINSON	09/20/70	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	1.30E+07
HADDAM NECK	07/24/67	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	1.32E+07
INDIAN POINT 1	08/02/62				1.47E+06	1.15E+07	1.64E+07	7.60E+06	3.50E+07	1.48E+07	1.61E+07
INDIAN POINT 2	05/22/73										
INDIAN POINT 3	04/06/76									1.70E+07	1.57E+07
JOSEPH M. FARLEY 1	08/09/77									1.95E+07	5.77E+06
JOSEPH M. FARLEY 2	05/05/81										
KEWAUNEE	03/07/74					5.03E+06	1.08E+07	1.08E+07	1.11E+07	1.24E+07	1.09E+07
MAINE YANKEE	10/23/72			1.44E+06	1.08E+07	1.14E+07	1.47E+07	1.94E+07	1.65E+07	1.69E+07	1.41E+07
MCGUIRE 1	08/08/81										
MCGUIRE 2	08/05/83										
MILLSTONE 2	10/17/75						6.40E+05	1.52E+07	1.42E+07	1.44E+07	1.38E+07
NORTH ANNA	04/05/78									1.22E+07	1.41E+07
NORTH ANNA	06/12/80										
OCONEE	04/19/73				6.62E+06	1.70E+07	4.68E+07	3.97E+07	4.00E+07	4.84E+07	4.37E+07
OCONEE	11/11/73										
OCONEE	09/05/74										
PALISADES	05/24/71			5.91E+06	7.80E+06	4.00E+05	8.91E+06	9.66E+06	1.73E+07	9.44E+06	1.20E+07
POINT BEACH	11/02/70	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	2.08E+07
POINT BEACH	05/30/72										
PRAIRIE ISLAND	12/01/73				1.28E+05	5.26E+06	2.25E+07	2.06E+07	2.46E+07	2.52E+07	1.12E+08
PRAIRIE ISLAND	12/17/74										
R. E. GINNA	11/08/69	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	9.35E+06
RANCHO SECO	09/16/74						4.11E+06	6.91E+06	1.81E+07	1.59E+07	1.79E+07
SALEM 1	12/11/76							5.00E+04	6.70E+06	1.43E+07	6.60E+06
SALEM 2	08/02/80										
SAN ONOFRE 1	06/14/67	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	1.05E+07
SAN ONOFRE 2	07/26/82										
SAN ONOFRE 3	08/29/83										
SEQUOYAH	07/05/80										
SEQUOYAH	07/26/82										
ST. LUCIE	04/22/76							3.50E+05	1.75E+07	1.64E+07	1.60E+07
ST. LUCIE	06/02/83										
SUMNER	10/22/82										
SURRY	07/01/72			1.29E+06	2.26E+07	1.92E+07	2.90E+07	2.51E+07	3.10E+07	3.27E+07	9.32E+06
SURRY	03/07/73										
THREE MILE ISLAND 1	06/05/74					6.20E+06	1.76E+07	1.39E+07	1.76E+07	1.83E+07	2.83E+06
THREE MILE ISLAND 2	03/28/78									3.16E+06	N/R
TMI 2/EPICOR	03/28/78										
TROJAN	12/15/75								7.54E+06	2.12E+07	5.63E+06
TURKEY POINT	10/20/72			2.90E+05	1.53E+07	2.55E+07	2.78E+07	2.68E+07	2.70E+07	2.81E+07	2.28E+07
TURKEY POINT	06/11/73										
YANKEE ROWE	08/19/60	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	4.17E+06
ZION 1	06/19/73				2.73E+06	1.69E+07	3.28E+07	3.11E+07	3.66E+07	4.30E+07	3.31E+07
ZION 2	12/24/73										

N/R = NOT REPORTED

TABLE 16
THERMAL ENERGY GENERATION COMPARISON BY YEAR

PRESSURIZED WATER REACTORS		MEGAWATT HOURS			
FACILITY	INIT. CRITICALITY	1980	1981	1982	1983
ARKANSAS ONE 1	08/08/74	1.29E+07	1.54E+07	1.22E+07	1.02E+07
ARKANSAS ONE 2	12/05/78	1.18E+07	1.39E+07	1.25E+07	1.43E+07
BEAVER VALLEY	05/10/76	1.13E+06	1.55E+07	8.88E+06	1.51E+07
CALVERT CLIFFS	10/07/74	1.52E+07	1.96E+07	1.68E+07	1.75E+07
CALVERT CLIFFS	11/30/76	2.05E+07	1.71E+07	1.62E+07	1.96E+07
CRYSTAL RIVER	01/14/77	1.04E+07	1.27E+07	1.52E+07	1.14E+07
DAVIS-BESSE	08/12/77	6.71E+06	1.40E+07	1.03E+07	1.57E+07
DONALD C. COOK	01/18/75	2.02E+07	2.11E+07	1.69E+07	1.68E+07
DONALD C. COOK	07/01/78	2.14E+07	2.04E+07	2.22E+07	2.22E+07
FORT CALHOUN	08/06/73	6.48E+06	6.98E+06	1.09E+07	9.14E+06
H. B. ROBINSON	09/20/70	1.07E+07	1.19E+07	7.67E+06	1.13E+07
HADDAM NECK	07/24/67	1.14E+07	1.31E+07	1.45E+07	1.22E+07
INDIAN POINT 1	08/02/62	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INDIAN POINT 2	05/22/73	1.50E+07	1.05E+07	1.51E+07	1.96E+07
INDIAN POINT 3	04/06/76	1.15E+07	1.14E+07	5.06E+06	2.82E+05
JOSEPH M. FARLEY 1	08/09/77	1.54E+07	8.96E+06	1.75E+07	1.78E+07
JOSEPH M. FARLEY 2	05/05/81		9.47E+06	1.75E+07	1.99E+07
KEWAUNEE	03/07/74	1.15E+07	1.21E+07	1.23E+07	1.19E+07
MAINE YANKEE	10/23/72	1.41E+07	1.67E+07	1.47E+07	1.83E+07
MCGUIRE 1	08/08/81		8.50E+04	1.34E+07	1.39E+07
MCGUIRE 2	08/05/83				0.00E+00
MILLSTONE 2	10/17/75	1.55E+07	1.92E+07	1.60E+07	7.88E+06
NORTH ANNA	04/05/78	1.89E+07	1.51E+07	7.95E+06	1.68E+07
NORTH ANNA	06/12/80	1.12E+06	1.77E+07	1.29E+07	1.87E+07
OCONEE	04/19/73	1.52E+07	9.00E+06	1.57E+07	1.72E+07
OCONEE	11/11/73	1.20E+07	1.59E+07	1.06E+07	1.58E+07
OCONEE	09/05/74	1.59E+07	1.72E+07	6.53E+06	2.14E+07
PALISADES	05/24/71	8.19E+06	1.17E+07	1.12E+07	1.27E+07
POINT BEACH	11/02/70	8.09E+06	8.51E+06	8.60E+06	7.59E+06
POINT BEACH	05/30/72	1.11E+07	1.15E+07	1.13E+07	9.38E+06
PRAIRIE ISLAND	12/01/73	1.06E+07	1.25E+07	1.27E+07	1.24E+07
PRAIRIE ISLAND	12/17/74	1.14E+07	1.01E+07	1.26E+07	1.19E+07
R. E. GINNA	11/08/69	9.93E+06	1.07E+07	7.68E+06	9.67E+06
RANCHO SECO	09/16/74	1.39E+07	8.92E+06	1.09E+07	9.16E+06
SALEM 1	12/11/76	1.84E+07	2.02E+07	1.31E+07	1.67E+07
SALEM 2	08/02/80	0.00E+00	5.11E+06	2.54E+07	2.95E+06
SAN ONOFRE 1	06/14/67	2.55E+06	2.59E+06	1.59E+06	0.00E+00
SAN ONOFRE 2	07/26/82			9.28E+05	1.23E+07
SAN ONOFRE 3	08/29/83			0.00E+00	3.55E+06
SEQUOYAH	07/05/80	1.67E+06	8.06E+06	1.52E+07	2.22E+07
SEQUOYAH	07/26/82				2.03E+07
ST. LUCIE	04/22/76	1.70E+07	1.61E+07	2.18E+07	3.53E+06
ST. LUCIE	06/02/83				7.66E+06
SUMMER	10/22/82			7.95E+05	1.38E+07
SURRY	07/01/72	8.67E+06	7.94E+06	1.83E+07	1.22E+07
SURRY	03/07/73	7.26E+06	1.68E+07	1.79E+07	1.35E+07
THREE MILE ISLAND 1	06/05/74	0.00E+00	0.00E+00	0.00E+00	0.00E+00
THREE MILE ISLAND 2	03/28/78	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TMI 2/EPICOR	03/28/78	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TROJAN	12/15/75	1.97E+07	2.10E+07	1.56E+07	1.34E+07
TURKEY POINT	10/20/72	1.47E+07	3.03E+06	1.22E+07	1.41E+07
TURKEY POINT	06/11/73	1.32E+07	1.48E+07	1.27E+07	9.83E+06
YANKEE ROWE	08/19/60	1.13E+06	3.63E+06	3.69E+06	4.69E+06
ZION 1	06/19/73	2.22E+07	1.98E+07	1.52E+07	1.34E+07
ZION 2	12/24/73	1.75E+07	1.77E+07	1.71E+07	2.00E+07

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APPENDIX A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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)
NA-24	3.96E-05
K-40	5.26E-05
AR-41	1.87E-05
CO-58	2.00E-04
FE-59	2.67E-05
CO-60	6.70E-05
KR-85M	9.98E-05
KR-88	7.54E-06
RB-88	3.12E-06
SR-89	1.40E-05
NB-95	2.97E-05
RU-106	1.94E-04
AG-110M	7.54E-06
SB-122	8.75E-06
I-131	4.07E-04
XE-131M	3.91E-02
I-132	1.57E-04
BA-133	1.59E-07
I-133	3.14E-04
XE-133	9.64E+02
XE-133M	1.20E-01
CS-134	1.72E-04
I-134	1.14E-04
I-135	4.29E-04
XE-135	1.80E+01
XE-135M	2.57E-04
CS-137	5.17E-04
CS-138	1.05E-07
BI-214	1.52E-03
RA-226	1.03E-05
TH-228	1.99E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BE-7	9.79E-04
NA-24	5.60E-04
CR-51	8.01E-02
MN-54	1.00E-01
CO-57	1.14E-02
CO-58	1.28E+00
FE-59	8.98E-03
CO-60	1.47E+00
ZN-65	5.82E-04
SE-75	1.30E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85	4.61E-03
KR-85M	2.35E-03
KR-87	3.08E-05
KR-88	4.32E-04
SR-89	1.21E-01
SR-90	7.01E-05
SR-91	6.61E-06
SR-92	7.35E-04
NB-95	7.78E-02
ZR-95	4.07E-02
NB-97	7.06E-03
ZR-97	1.68E-03
MO-99	3.66E-03
RU-103	1.55E-02
RU-106	4.45E-02
AG-110M	7.77E-02
I-131	3.80E-02
XE-131M	3.32E-01
I-132	1.49E-04
BA-133	6.66E-05
I-133	1.09E-03
XE-133	6.70E+01
XE-133M	4.80E-01
CS-134	2.40E-01
I-135	6.85E-05
XE-135	2.33E-01
CS-136	2.56E-04
CS-137	7.10E-01
CS-138	3.04E-05
BA-140	8.99E-05
LA-140	1.78E-02
CE-144	1.07E-02
W-187	7.34E-05

TOTAL AIRBORNE TRITIUM RELEASE	4.50E+00
TOTAL LIQUID TRITIUM RELEASE	1.09E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.75E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.19E+12

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
TYPE: PWR
DOCKET NO.: 50-368
COOLING WATER SOURCE: COOLING TOWER

LICENSEE: ARKANSAS POWER & LIGHT
LICENSED POWER (MWT): 2815.00
INITIAL CRITICALITY: 12/05/78

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BE-7	1.75E-06
K-40	4.76E-05
CR-51	2.70E-06
MN-54	2.54E-07
CO-57	1.21E-07
CO-58	1.60E-05
CO-60	7.59E-06
KR-85	2.31E-02
KR-85M	1.22E-02
KR-88	1.54E-05
Y-88	8.05E-08
SR-89	3.40E-06
NB-95	1.01E-06
RU-103	6.98E-07
CD-109	1.63E-06
AG-110M	1.26E-07
I-131	5.47E-03
XE-131M	3.80E+00
I-133	3.12E-04
XE-133	1.25E+03
XE-133M	1.10E+01
CS-134	1.03E-06
I-135	4.03E-06
XE-135	6.70E+01
CS-137	1.17E-05
RA-226	1.17E-06
TH-228	1.63E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BE-7	7.00E-03
NA-24	2.52E-02
CR-51	1.83E-01
MN-54	3.32E-02
CO-57	2.07E-03
CO-58	7.30E-01
FE-59	1.29E-02
CO-60	3.41E-01
NI-65	6.01E-05
ZN-65	4.91E-04
SE-75	8.37E-05
KR-85	6.63E-03
KR-85M	1.56E-03
KR-87	8.91E-05

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-88	6.94E-04
SR-89	6.10E-04
SR-90	1.73E-04
SR-91	4.60E-05
SR-92	2.69E-04
NB-95	4.62E-02
ZR-95	3.21E-02
NB-97	3.10E-03
ZR-97	6.32E-04
MO-99	6.08E-03
RU-103	1.71E-02
RU-106	1.77E-02
AG-110M	2.18E-02
I-131	2.36E-01
XE-131M	1.83E-01
I-132	1.55E-03
I-133	7.28E-02
XE-133	1.90E+01
XE-133M	1.09E-01
CS-134	5.70E-01
I-134	5.44E-05
I-135	2.03E-02
XE-135	4.30E-01
CS-136	2.83E-03
CS-137	1.20E+00
CS-138	2.28E-03
BA-140	6.15E-04
LA-140	6.80E-02
CE-144	4.18E-03
W-187	6.86E-04
NP-239	1.28E-03

TOTAL AIRBORNE TRITIUM RELEASE	2.80E+00
TOTAL LIQUID TRITIUM RELEASE	2.38E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	9.54E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.19E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
23	TRUCK	BARNWELL SC
52	TRUCK	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			
	CO-58	% 1.90E+01	1.80E-01
	CO-60	% 5.80E+00	9.90E-01
	CS-134	% 2.00E+01	3.00E+01
	CS-137	% 5.30E+01	6.70E+01
B			
	CO-58	% N/D	1.05E+01
	CO-60	% 2.00E+01	1.00E+00
	CS-134	% 2.90E+01	2.63E+01
	CS-137	% 5.10E+01	6.12E+01
D			
	CO-58	% N/D	1.05E+01
	CO-60	% 2.00E+01	1.00E+00
	CS-134	% 2.90E+01	2.63E+01
	CS-137	% 5.10E+01	6.12E+01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.52E+02
	CI	1.96E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	5.38E+02
	CI	7.95E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	1.57E+01
SOLIDIFIED OIL	CI	5.04E+01

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 1983
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)
N-13	2.93E-04
AR-41	1.79E-04
CR-51	1.05E-05
MN-54	1.53E-03
CO-58	1.65E-04
CO-60	3.18E-04
KR-85	1.17E+01
KR-85M	2.12E-05
SR-89	1.03E-05
SR-90	6.46E-06
I-131	4.90E-02
XE-131M	4.28E+00
I-133	1.19E-03
XE-133	1.80E+02
XE-133M	7.24E-01
CS-134	1.35E-04
XE-135	7.46E-01
XE-135M	2.37E-04
CS-137	1.76E-04
CE-141	2.00E-06
UNIDENTIFIED	2.57E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	5.50E-07
CR-51	1.13E-02
MN-54	1.88E-04
CO-57	1.14E-05
CO-58	9.72E-03
FE-59	1.73E-05
CO-60	1.70E-02
KR-85	4.91E-03
KR-85M	3.00E-07
SR-89	2.03E-05
SR-90	3.06E-06
ZR-NB-95	4.92E-04
NB-97	1.04E-03
MO-99	4.58E-05
TC-99M	3.72E-03
AG-110M	6.17E-04
SB-124	2.05E-03
SB-125	1.14E-03
I-131	3.27E-03
XE-131M	2.53E-03

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
I-133	1.01E-03
XE-133	3.23E-01
XE-133M	7.91E-04
CS-134	4.47E-03
I-134	1.62E-06
XE-135	4.11E-02
CS-137	4.47E-03
BA-LA-140	7.31E-05
CE-141	1.70E-04
UNIDENTIFIED	1.02E-04

TOTAL AIRBORNE TRITIUM RELEASE	1.91E+01
TOTAL LIQUID TRITIUM RELEASE	4.60E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.52E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION		
NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
30	TRUCK	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			
CO-58	%		3.61E+01
CO-60	%	3.84E+01	4.88E+01
CS-134	%	2.01E+01	
CS-137	%	3.64E+01	7.10E+00
B			
CO-58	%		2.54E+01
CO-60	%	5.96E+01	5.42E+01
CS-134	%	1.31E+01	
CS-137	%	2.45E+01	

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	7.91E+01
	CI	4.72E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.40E+02
	CI	2.34E+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:BIG ROCK POINT

LOCATION:4 MI NE CHARLEVOIX, MI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-155
COOLING WATER SOURCE:LAKE MICHIGAN

LICENSEE:CONSUMERS POWER
LICENSED POWER (MWT): 240.00
INITIAL CRITICALITY:09/27/62

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	1.35E+03
CR-51	1.40E-04
MN-54	9.00E-05
MN-56	6.81E-04
CO-58	1.75E-06
CO-60	1.68E-04
ZN-65	4.66E-05
BR-82	7.30E-03
KR-83M	1.61E+02
KR-85	1.57E-01
KR-85M	2.19E+02
KR-87	8.38E+02
KR-88	5.91E+02
KR-89	3.28E+02
KR-90	3.51E+02
SR-91	2.91E-04
NB-95	1.22E-06
AG-110M	2.53E-05
I-131	1.81E-03
XE-131M	2.27E-01
I-132	1.22E-02
I-133	1.22E-02
XE-133	3.55E+02
XE-133M	6.47E+00
CS-134	9.59E-07
I-134	8.06E-03
I-135	3.14E-02
XE-135	9.54E+02
XE-135M	5.86E+02
CS-137	1.70E-04
XE-137	5.24E+02
CS-138	1.27E+00
XE-138	4.26E+03
BA-139	5.27E-03
XE-139	4.70E+02
BA-140	5.85E-04
LA-140	2.72E-03
HG-203	8.91E-07
UNIDENTIFIED	3.02E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.49E-06
CR-51	8.67E-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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	1.16E-02
CO-58	2.16E-04
FE-59	2.09E-03
CO-60	1.56E-02
ZN-65	1.70E-03
SR-89	3.52E-05
SR-90	7.12E-05
SR-92	6.15E-06
AG-110M	1.05E-04
SB-124	4.96E-05
CS-134	6.39E-04
CS-137	2.49E-02
UNIDENTIFIED	2.03E-02

TOTAL AIRBORNE TRITIUM RELEASE	1.93E+01
TOTAL LIQUID TRITIUM RELEASE	2.22E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.77E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.44E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
5	TRUCK	BARNWELL SC
2	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 BOTTOMS, ETC.	M3	2.08E+01
	CI	2.71E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	8.03E+01
	CI	2.91E+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: BROWNS FERRY

LOCATION: 10 MI NW DECATUR, AL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	4.09E+01
AR-41	1.68E+03
MN-54	2.99E-03
CO-58	2.52E-03
FE-59	6.43E-03
CO-60	1.15E-02
ZN-65	1.53E-02
KR-85	5.04E+03
KR-85M	5.56E+04
KR-87	2.85E+04
KR-88	6.07E+04
SR-89	3.72E-03
SR-90	3.68E-04
NB-95	2.00E-02
ZR-95	1.25E-02
I-131	1.96E-01
I-133	7.08E-02
XE-133	2.66E+05
CS-134	4.33E-03
I-135	3.99E-02
XE-135	6.73E+03
XE-135M	3.17E+04
CS-137	4.80E-03
XE-138	2.41E+04
BA-140	7.39E-03
LA-140	2.29E-02

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.20E+01
F-18	1.65E-03
NA-24	1.29E-01
CR-51	3.54E-02
MN-54	1.27E-02
MN-56	1.12E-03
CO-58	4.37E-03

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
FE-59	5.07E-03
CO-60	2.13E-01
CU-64	4.53E-02
ZN-65	6.92E-01
AS-74	4.88E-03
AS-76	4.40E-02
BR-82	6.32E-03
SR-89	1.31E-02
SR-90	3.56E-03
NB-95	4.94E-03
ZR-95	4.94E-03
MO-99	6.55E-03
TC-99M	6.55E-03
AG-110M	1.62E-02
SB-122	1.20E-02
SB-124	3.33E-03
SB-125	7.73E-03
I-131	8.83E-02
I-133	5.65E-02
XE-133	1.75E+00
CS-134	7.96E-01
I-135	1.10E-02
XE-135	3.80E-01
CS-136	4.43E-03
CS-137	9.81E-01
BA-140	3.68E-03
LA-140	3.68E-03
CE-141	1.70E-01
SM-153	1.46E-02

TOTAL AIRBORNE TRITIUM RELEASE 4.09E+01
TOTAL LIQUID TRITIUM RELEASE 3.20E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.18E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.15E+11

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

INSTALLATION: BROWNS FERRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
196	SOLE USE TRUCK	BARNWELL SC
96	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)

A

		JAN-JUNE	JULY-DEC
AG-110M	%	1.36E+00	2.34E+00
CO-58	%	5.78E-01	8.37E-01
CO-60	%	8.00E+00	8.85E+00
CR-51	%	1.35E+01	1.62E+01
CS-134	%	1.73E+01	1.03E+01
CS-137	%	1.88E+01	1.19E+01
FE-59	%	1.05E-01	7.49E-02
I-131	%	6.69E+00	5.24E-01
LA-140	%	2.03E+00	7.40E-02
MN-54	%	8.95E-01	1.10E+00
NB-95	%	2.17E-01	2.37E-01
OTHERS	%	2.03E+00	5.48E+00
SB-124	%	3.68E-02	9.31E-03
SR-90	%	9.53E-03	1.34E-02
ZN-65	%	2.80E+01	4.18E+01
ZR-95	%	4.18E-01	1.85E-01

B

AG-110M	%	1.20E+00	1.07E+00
CO-58	%	6.79E-01	4.61E-01
CO-60	%	9.46E+00	6.27E+00
CR-51	%	1.17E+01	1.15E+01
CS-134	%	1.02E+01	4.45E+00
CS-137	%	1.30E+01	6.09E+00
FE-59	%	2.39E-01	1.01E-01
I-131	%	4.69E+00	7.99E-01
LA-140	%	1.14E+00	4.25E-01
MN-54	%	1.04E+00	8.21E-01
NB-95	%	5.72E-01	1.79E-01
OTHERS	%	1.36E+00	2.05E+00
SB-124	%	6.11E-02	1.93E-01
SR-90	%	1.23E-02	1.96E-01
ZN-65	%	4.42E+01	6.53E+01
ZR-95	%	4.32E-01	1.67E-01

D

AG-110M	%	9.92E-01	1.04E+00
CO-58	%	4.86E-01	5.01E-01

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

INSTALLATION: BROWNS FERRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
CO-60	%	8.48E+00	8.06E+00
CR-51	%	8.04E+00	1.21E+01
CS-134	%	9.56E+00	6.49E+00
CS-137	%	1.25E+01	7.90E+00
FE-59	%	1.70E-01	7.39E-02
I-131	%	7.11E+00	1.07E+00
LA-140	%	2.90E+00	3.77E-01
MN-54	%	9.75E-01	8.84E-01
NB-95	%	9.50E-01	1.11E-02
OTHERS	%	2.92E+00	2.67E+00
SB-124	%	4.14E-02	1.58E-02
SR-90	%	9.62E-03	8.88E-03
ZN-65	%	4.42E+01	5.87E+01
ZR-95	%	5.78E-01	5.12E-02

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	8.28E+02
	CI	6.15E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	7.76E+02
	CI	6.98E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	2.11E+03
	CI	4.75E+01

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	1.30E+01
AR-41	1.25E+02
CR-51	4.14E-02
MN-54	3.27E-03
CO-58	1.86E-03
FE-59	5.57E-02
CO-60	5.32E-03
ZN-65	1.57E-05
KR-85	1.01E+04
KR-85M	1.24E+04
KR-87	4.15E+04
KR-88	3.32E+04
SR-89	1.76E-01
SR-90	1.49E-04
ZR-NB-95	3.64E-05
RU-103	3.30E-07
I-131	2.92E+00
I-132	1.79E+00
I-133	1.91E+01
XE-133	2.82E+04
XE-133M	2.21E+04
CS-134	1.11E-04
I-134	3.03E-01
I-135	1.51E+01
XE-135	6.06E+04
XE-135M	6.24E+04
CS-137	4.73E-03
XE-138	2.12E+05
BA-LA-140	8.79E-02
CE-144	3.99E-04
UNIDENTIFIED	6.36E+03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.64E-02
NA-24	4.05E-03
AR-41	2.05E-04
CR-51	3.83E-01
MN-54	9.62E-02
CO-57	3.14E-06

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	1.27E-02
FE-59	2.62E-03
CO-60	2.49E-01
ZN-65	5.99E-04
AS-76	2.16E-03
KR-85M	1.63E-04
RB-88	6.92E-04
SR-89	3.85E-02
SR-90	2.64E-03
SR-91	9.00E-04
Y-91M	4.73E-03
SR-92	3.76E-03
Y-92	2.48E-03
NB-95M	1.98E-04
ZR-NB-95	4.38E-05
NB-97	1.88E-02
ZR-97	N/D
MO-99	1.29E-03
TC-99M	5.81E-03
TC-101	2.20E-03
RU-103	7.77E-05
TC-104	2.69E-03
RH-105	7.00E-02
RU-105	4.74E-03
AG-110M	8.76E-03
AG-111	1.62E-03
I-131	1.07E-02
XE-131M	2.14E-03
TE-132	3.65E-04
I-133	6.58E-03
XE-133	2.44E-01
XE-133M	6.32E-03
CS-134	1.72E-02
I-135	5.61E-04
XE-135	5.33E-01
XE-135M	1.15E-03
CS-136	6.53E-05
CS-137	3.80E-02
CS-138	1.47E-04
BA-139	9.56E-04
BA-LA-140	1.72E-02
CE-141	6.64E-05
LA-142	7.88E-05
CE-144	3.53E-05
NP-239	3.10E-03
UNIDENTIFIED	4.84E-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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.30E+01
TOTAL LIQUID TRITIUM RELEASE 1.04E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.52E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.02E+12

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

INSTALLATION:BRUNSWICK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
226	SOLE USE VEHICLE	BARNWELL SC
29	SOLE USE VEHICLE	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	%	1.10E+00	1.40E+00
CO-58	%	3.80E+00	4.90E+00
CO-60	%	5.33E+01	5.04E+01
CR-51	%	1.44E+01	1.23E+01
CS-134	%	3.30E+00	2.80E+00
CS-137	%	4.90E+00	8.30E+00
FE-59	%	6.00E-01	1.00E+00
I-131	%	1.40E+00	2.80E+00
LA-140	%	1.50E+00	2.40E+00
MN-54	%	1.53E+01	1.29E+01
ZN-65	%	4.00E-01	8.00E-01

B

BA-140	%	1.10E+00	1.40E+00
CO-58	%	3.80E+00	4.90E+00
CO-60	%	5.33E+01	5.04E+01
CR-51	%	1.44E+01	1.23E+01
CS-134	%	3.30E+00	2.80E+00
CS-137	%	4.90E+00	8.30E+00
FE-59	%	6.00E-01	1.00E+00
I-131	%	1.40E+00	2.80E+00
LA-140	%	1.50E+00	2.40E+00
MN-54	%	1.53E+01	1.29E+01
ZN-65	%	4.00E-01	8.00E-01

C

CO-58	%	2.20E+00	
CO-60	%	3.28E+01	
CR-51	%	9.60E+00	
CS-134	%	1.68E+01	
CS-137	%	2.13E+01	
FE-59	%	5.00E-01	
MN-54	%	1.61E+01	
ZN-65	%	7.00E-01	

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

INSTALLATION:BRUNSWICK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	9.81E+02
	CI	7.13E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.53E+03
	CI	1.97E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	1.70E+00
	CI	1.03E+03
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 1983
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	5.06E-01
CO-58	1.90E-05
BR-82	3.63E-05
KR-85	2.98E+00
KR-85M	7.68E+00
KR-87	2.30E-01
KR-88	9.97E-01
RB-88	2.98E-01
SR-89	<1.28E-04
SR-90	<8.20E-06
I-131	9.52E-02
XE-131M	5.13E+01
I-132	2.70E-02
I-133	7.68E-02
XE-133	9.53E+03
XE-133M	3.79E+01
CS-134	2.70E-03
I-135	6.66E-03
XE-135	1.28E+02
CS-137	4.53E-03
CS-138	6.85E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	6.38E-03
CR-51	7.26E-02
MN-54	1.47E-02
CO-57	7.28E-04
CO-58	6.05E-01
CO-60	8.01E-02
KR-85	8.20E-02
KR-85M	7.69E-05
SR-89	<4.96E-03
SR-90	<7.56E-04
NB-95	2.94E-02
ZR-95	1.39E-02
NB-97	2.10E-03
ZR-97	2.61E-04
MO-99	7.87E-03
RU-103	1.93E-03

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
AG-110M	7.74E-02
SN-113	9.63E-04
SB-122	1.36E-02
SB-124	7.35E-02
SB-125	3.28E-01
I-131	<3.33E-01
I-133	5.82E-02
XE-133	<2.17E+00
XE-133M	1.61E-03
CS-134	1.81E-01
XE-135	9.15E-03
CS-136	9.38E-04
CS-137	3.15E-01
BA-140	1.79E-03
LA-140	4.65E-03
CE-144	6.84E-04
UNIDENTIFIED	<1.38E-02

TOTAL AIRBORNE TRITIUM RELEASE	4.15E+01
TOTAL LIQUID TRITIUM RELEASE	7.56E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.93E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.35E+12

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

INSTALLATION: CALVERT CLIFFS

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
18	MOTOR SURFACE TRANSIT	BARNWELL SC
14	MOTOR SURFACE TRANSIT	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	%	3.30E+01	2.30E+01
CO-60	%	6.20E+00	1.44E+01
CS-134	%	1.86E+01	1.66E+01
CS-137	%	3.39E+01	3.14E+01
MN-54	%	3.10E+00	4.95E+00
NB-95	%		3.06E+00
SB-122	%	9.00E-01	1.30E+00
SB-125	%	2.30E+00	2.14E+00
SR-90	%	1.40E+00	1.30E+00
ZR-95	%		1.09E+00

B

AG-110M	%		1.46E+00
CO-58	%	3.76E+01	4.69E+01
CO-60	%	3.75E+01	2.96E+01
CS-134	%	3.78E+00	3.69E+00
CS-137	%	1.21E+01	8.39E+00
MN-54	%	2.95E+00	2.59E+00
NB-95	%	1.23E+00	1.75E+00
SB-125	%	2.37E+00	3.30E+00
ZR-95	%	7.25E-01	

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.85E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	CI	1.06E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	4.77E+02
	CI	1.35E+00
D. OTHER	M3	0.00E+00
	CI	

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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)
NA-24	2.68E-04
AR-41	2.10E+00
CR-51	1.38E-03
MN-54	2.50E-03
CO-58	1.95E-02
CO-60	3.70E-03
KR-85	1.37E+01
KR-85M	1.16E-01
SR-85	7.53E-05
KR-87	1.72E-01
KR-88	1.27E-01
Y-88	3.60E-06
SR-89	2.36E-06
SR-90	2.73E-06
SR-92	4.53E-06
NB-95	1.15E-03
ZR-95	1.51E-04
RU-106	5.00E-04
AG-110M	9.14E-06
I-130	5.25E-04
I-131	2.18E-02
XE-131M	6.91E-01
I-133	2.07E-02
XE-133	3.00E+02
XE-133M	1.44E-01
CS-134	2.46E-03
I-134	3.44E-03
I-135	1.79E-02
XE-135	1.13E+01
CS-137	4.36E-03
CS-138	9.40E-04
XE-138	1.99E-01
CE-139	9.04E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BE-7	8.53E-04
NA-24	5.49E-04
CR-51	1.04E-02
MN-54	1.31E-02

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-55	9.44E-02
CO-57	4.25E-04
CO-58	1.84E-01
CO-60	1.28E-01
ZN-65	1.24E-03
KR-85M	1.85E-05
SR-85	1.18E-04
SR-89	1.86E-04
SR-90	5.17E-05
SR-92	1.47E-02
ZR-NB-95	1.12E-02
ZR-97	1.14E-03
TC-99M	4.44E-04
RU-103	4.39E-04
RU-106	2.58E-03
AG-110M	2.31E-02
SB-124	4.04E-03
SB-125	1.31E-03
I-130	8.22E-04
I-131	6.87E-03
I-133	3.60E-02
XE-133	4.16E-01
XE-133M	4.41E-03
CS-134	3.28E-02
I-134	5.37E-03
I-135	2.90E-02
XE-135	1.10E-01
CS-137	7.21E-02
CS-138	1.58E-03
BA-LA-140	1.43E-03
CE-144	7.46E-04

TOTAL AIRBORNE TRITIUM RELEASE 3.64E+01
 TOTAL LIQUID TRITIUM RELEASE 8.85E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.42E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.84E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
47	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)

		JAN-JUNE	JULY-DEC
A			
	CO-58	% 1.00E+00	3.20E+01
	CO-60	% 4.00E+00	2.30E+01
	CS-134	% 3.50E+01	1.20E+01
	CS-137	% 6.00E+01	3.30E+01
B			
	CO-58	% 8.20E+01	9.30E+01
	CO-60	% 3.00E+00	7.00E+00
	CS-137	% 1.50E+01	0.00E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	3.11E+02
	CI	1.94E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.57E+02
	CI	7.39E+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:COOPER

LOCATION:70 MI S OMAHA, NB

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-298
COOLING WATER SOURCE:MISSOURI RIVER

LICENSEE:NEBRASKA PUBLIC PWR&IOWA PWR&LIGHT
LICENSED POWER (MWT):2381.00
INITIAL CRITICALITY:02/21/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	4.10E-05
MN-54	7.73E-05
CO-58	2.67E-05
CO-60	8.00E-04
ZN-65	4.15E-06
KR-83M	1.57E+01
KR-85	1.79E+01
KR-85M	7.22E+02
KR-87	6.17E+01
KR-88	3.10E+02
KR-89	1.12E+00
SR-89	1.17E-04
SR-90	9.60E-05
I-131	<1.82E-02
XE-131M	5.80E+00
I-133	<1.58E-02
XE-133	2.11E+02
XE-133M	1.40E+00
CS-134	<1.21E-04
I-135	<3.54E-02
XE-135	1.03E+02
XE-135M	1.35E+01
CS-137	<2.37E-04
XE-137	3.03E+00
XE-138	7.27E+01
BA-LA-140	<3.37E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.11E-02
CR-51	<4.55E-01
MN-54	<8.17E-01
CO-58	<4.45E-01
FE-59	<2.12E-02
CO-60	<3.18E+00
ZN-65	<7.16E-02
SR-89	<1.52E-01
SR-90	<4.95E-03
SR-92	<1.03E-03
ZR-NB-95	<5.34E-02
MO-99	<1.15E-01
TC-99M	<2.45E-02
AG-110M	6.75E-02
SB-124	<4.38E-02

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

INSTALLATION:COOPER

LOCATION:70 MI S OMAHA, NB

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
I-131	<2.85E-01
XE-133	<6.06E-02
CS-134	<2.54E+00
XE-135	<2.17E-02
CS-136	1.19E-02
CS-137	<3.04E+00
BA-LA-140	<7.58E-02
CE-141	<3.75E-02
UNIDENTIFIED	<8.26E-01

TOTAL AIRBORNE TRITIUM RELEASE 3.75E+00
TOTAL LIQUID TRITIUM RELEASE <7.60E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.34E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.21E+10

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

INSTALLATION: COOPER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
76	SOLE USE VEHICLE	BEATTY NV

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
AG-110M	%	1.36E+00	1.58E-01
BA-LA-140	%	7.95E-01	3.42E-01
CE-141	%	2.24E-02	
CO-58	%	4.89E+00	3.56E+00
CO-60	%	3.39E+01	3.66E+01
CR-51	%	2.24E+01	2.73E+01
CS-134	%	1.02E+01	1.22E+01
CS-136	%	1.64E-02	1.47E-03
CS-137	%	1.32E+01	1.28E+01
I-131	%	9.97E-01	1.52E-02
MN-54	%	1.06E+01	5.69E+00
ZN-65	%	1.54E+00	1.26E+00
ZR-NB-95	%	6.60E-02	8.03E-02

B

AG-110M	%	1.69E+00	1.14E+00
BA-LA-140	%	6.50E-01	5.98E-01
CO-58	%	4.67E+00	5.95E+00
CO-60	%	4.96E+01	4.49E+01
CR-51	%	2.64E+00	6.79E+00
CS-134	%	9.88E+00	1.05E+01
CS-137	%	1.39E+01	1.32E+01
I-131	%	1.20E+00	1.02E+00
MN-54	%	1.45E+01	1.48E+01
ZN-65	%	1.10E+00	1.00E+00
ZR-NB-95	%	1.60E-01	9.55E-02

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.82E+02
	CI	8.51E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.21E+02
	CI	1.89E+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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	N/D
CR-51	N/D
MN-54	N/D
CO-57	N/D
CO-58	2.79E-05
FE-59	N/D
CO-60	4.37E-06
ZN-65	N/D
KR-85	2.60E+03
KR-85M	N/D
KR-87	N/D
KR-88	2.24E-01
KR-89	N/D
SR-89	1.69E-06
SR-90	1.34E-07
NB-95	1.83E-05
ZR-95	N/D
AG-110M	N/D
SB-126	N/D
I-131	9.01E-04
XE-131M	4.95E+00
I-133	8.80E-04
XE-133	7.14E+02
XE-133M	6.72E+00
CS-134	7.68E-05
I-135	N/D
XE-135	4.60E+01
XE-135M	2.06E+00
CS-137	2.20E-04
XE-137	6.00E+00
XE-138	6.69E-03
BA-LA-140	N/D
CE-141	6.97E-08

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.40E-05
CR-51	1.10E-03
MN-54	1.09E-03
CO-57	4.27E-05
CO-58	4.79E-02
FE-59	1.01E-03
CO-60	2.10E-02
CU-64	1.01E-03

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS
NUCLIDES RELEASED

	ACTIVITY (CI)
NI-65	4.13E-06
ZN-65	2.06E-05
AS-76	1.85E-05
KR-85	1.09E-02
KR-85M	7.92E-05
SR-89	3.50E-04
SR-90	3.94E-04
NB-95M	2.04E-05
ZR-NB-95	5.77E-04
ZR-NB-97	6.06E-06
MO-99	1.73E-05
TC-99M	1.42E-04
RU-103	5.39E-04
AG-110M	5.64E-03
SB-124	4.63E-03
SB-125	3.55E-02
SB-126	3.95E-05
I-131	1.31E-03
XE-131M	9.34E-05
I-132	2.46E-05
I-133	1.80E-04
XE-133	1.91E+00
XE-133M	2.53E-02
CS-134	1.15E-02
I-135	4.02E-05
XE-135	5.18E-02
CS-136	1.28E-04
CS-137	1.28E-02
BA-LA-140	1.59E-03
CE-141	9.68E-07
CE-144	1.03E-03
W-187	9.11E-05
NP-239	8.27E-06

TOTAL AIRBORNE TRITIUM RELEASE 2.32E+01
TOTAL LIQUID TRITIUM RELEASE 1.99E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.13E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.34E+09

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

INSTALLATION:CRYSTAL RIVER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS 59
MODE OF TRANSPORTATION TRUCK

DESTINATION
BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS 0
MODE OF TRANSPORTATION N/A

DESTINATION

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

JAN-JUNE

JULY-DEC

A

AG-110M	%		1.00E+00
CO-58	%	2.98E+01	2.04E+01
CO-60	%	3.56E+00	5.20E+00
CR-51	%	4.80E+00	7.98E-01
CS-134	%	1.22E+01	1.77E+01
CS-137	%	2.93E+01	3.85E+01
I-131	%	1.80E-01	7.20E+00
MN-54	%	5.91E+00	
NB-95	%	6.20E+00	

B

AG-110M	%	1.10E-01	
CO-58	%	3.79E+01	6.23E+01
CO-60	%	1.10E+01	5.28E+00
CR-51	%	7.20E-01	6.52E+00
CS-134	%	1.30E+01	3.25E+00
CS-137	%	2.29E+01	7.90E+00
CU-64	%	5.00E-01	
I-131	%	4.03E+00	
MN-54	%	1.60E-01	1.74E-01
NB-95	%		3.90E+00
NB-97	%		1.79E+00
ZR-97	%	5.40E-01	

C

CO-58	%	6.62E+01	
CO-60	%	1.85E+01	

TYPE OF WASTE

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.82E+02
	CI	8.58E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.57E+02
	CI	6.04E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	2.12E-01
	CI	8.99E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-346
COOLING WATER SOURCE:LAKE ERIE

LICENSEE:TOLEDO ED AND CLEVELAND ELEC ILLUMINATING
LICENSED POWER (MWT):2772.00
INITIAL CRITICALITY:08/12/77

AIRBORNE EFFLUENTS
NUCLIDES RELEASED

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.24E+01
CO-58	3.38E-05
KR-85	2.06E+01
KR-85M	6.05E-01
KR-88	2.27E+00
I-131	7.34E-03
XE-131M	3.49E+00
I-133	2.38E-03
XE-133	8.55E+02
XE-133M	1.04E+00
XE-135	2.95E+01
CS-137	5.85E-06
XE-138	3.28E+00

LIQUID EFFLUENTS
NUCLIDES RELEASED

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	3.80E-02
MN-54	3.48E-03
CO-58	2.13E-01
FE-59	5.70E-03
CO-60	5.55E-02
ZN-65	1.07E-04
ZR-95	5.81E-03
MO-99	6.58E-05
TC-99M	5.00E-04
AG-110M	1.87E-01
SB-124	9.57E-05
I-131	1.78E-02
I-133	9.80E-04
CS-134	4.52E-03
CS-136	1.21E-04
CS-137	3.76E-03
BA-139	2.23E-04
LA-140	9.24E-04
CE-141	1.57E-04
W-187	9.40E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.24E+01
TOTAL LIQUID TRITIUM RELEASE 1.14E+02

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 1983
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.55E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.88E+10

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

INSTALLATION:DAVIS-BESSE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
11	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)

A

		JAN-JUNE	JULY-DEC
CO-58	%		2.46E+01
CO-60	%	8.51E+01	
CS-134	%	2.80E+00	2.19E+01
CS-137	%	8.41E+00	4.56E+01

B

AG-110M	%	1.30E+01	9.80E+00
CO-58	%	5.47E+01	5.47E+01
CO-60	%	1.15E+01	

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.54E+01
	CI	6.31E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	8.81E+01
	CI	5.88E+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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	1.47E-02
MN-54	3.35E-03
CO-58	1.65E-03
FE-59	4.90E-04
CO-60	3.55E-02
ZN-65	7.16E-04
KR-85	2.25E-01
KR-85M	3.67E+01
SR-89	9.68E-03
SR-90	6.20E-05
NB-95	4.47E-05
ZR-95	5.03E-05
RU-103	5.84E-04
AG-110M	8.66E-05
SB-124	1.07E-04
SB-125	6.70E-05
I-131	3.63E-01
I-133	2.16E+00
XE-133	6.37E+02
CS-134	8.54E-05
I-135	4.77E+00
XE-135	3.71E+03
XE-135M	5.00E+02
CS-136	4.02E-04
CS-137	2.43E-03
XE-138	3.55E+03
BA-140	1.83E-01
CE-141	5.38E-03
CE-144	8.94E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	4.26E-04
CO-60	5.74E-03
SR-89	4.13E-04
SR-90	1.75E-04
RU-103	6.08E-04
CS-134	8.80E-05
CS-137	4.96E-03

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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 2.58E+02
TOTAL LIQUID TRITIUM RELEASE 1.45E-03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.91E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.37E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
149	MOTOR FREIGHT	BARNWELL SC
133	MOTOR FREIGHT	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 BOTTOMS, ETC.	M3	7.47E+02	
	CI	2.87E+03	
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	6.73E+02	
	CI	4.22E+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:DUANE ARNOLD

LOCATION:8 MI NW CEDAR RAPIDS, IA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	3.89E+00
N-13	1.77E+01
AR-41	1.80E+01
CR-51	5.61E-04
MN-54	3.03E-04
CO-58	1.60E-04
FE-59	4.96E-05
CO-60	7.28E-03
KR-85	<2.98E-02
KR-85M	4.29E+00
KR-87	7.60E+00
KR-88	1.10E+01
SR-89	5.19E-04
SR-90	<2.40E-06
I-131	2.35E-03
I-133	3.95E-03
XE-133	1.45E+01
CS-134	1.52E-05
I-135	3.99E-03
XE-135	2.16E+02
XE-135M	5.54E+01
CS-137	5.19E-06
CS-138	4.35E-05
XE-138	1.37E+02
BA-140	7.95E-05
UNIDENTIFIED	3.64E-03

TOTAL AIRBORNE TRITIUM RELEASE 3.89E+00

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

INSTALLATION:DUANE ARNOLD

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
89	
14	

DESTINATION
BARNWELL SC
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	1.85E+02
CI	1.42E+03
M3	4.95E+02
CI	2.29E+01
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 1983
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	9.95E+00
CR-51	8.96E-05
CO-58	2.34E-05
CO-60	1.30E-05
KR-85	9.65E+00
KR-85M	5.71E+01
KR-87	2.27E+01
KR-88	9.29E+01
I-131	4.59E-02
XE-131M	8.02E+03
I-133	2.70E-02
XE-133	1.16E+04
XE-133M	8.69E+00
CS-134	2.30E-09
XE-135	2.10E+03
XE-135M	1.25E+01
CS-137	5.77E-09
XE-138	1.54E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	4.24E+02
NA-24	7.21E-07
CR-51	2.34E-03
MN-54	2.21E-04
FE-55	5.38E-03
CO-57	1.25E-06
CO-58	5.36E-03
FE-59	1.65E-05
CO-60	7.90E-03
ZN-65	1.27E-06
AS-76	3.69E-07
NB-95	7.61E-03
ZR-95	5.45E-03
ZR-97	5.91E-04
MO-99	3.09E-05
TC-99M	3.25E-04
RU-103	2.87E-03
RU-106	5.09E-04
AG-110M	1.87E-03
SB-124	2.18E-07
I-131	3.86E-04
I-132	1.76E-03
TE-132	2.45E-05

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-133	2.17E-04
XE-133	6.72E+00
CS-134	1.10E-03
I-135	2.74E-05
XE-135	8.09E-03
CS-136	2.46E-05
CS-137	1.74E-03
LA-140	1.27E-03
CE-141	1.40E-03
CE-144	4.54E-03
NP-239	4.50E-03

TOTAL AIRBORNE TRITIUM RELEASE	1.40E+02
TOTAL LIQUID TRITIUM RELEASE	4.12E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.00E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.63E+10

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
TYPE: PWR
DOCKET NO.: 50-364
COOLING WATER SOURCE:

LICENSEE: ALABAMA POWER
LICENSED POWER (MWT): 2652.00
INITIAL CRITICALITY: 05/05/81

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	6.98E+01
MN-54	9.51E-07
CO-58	2.15E-06
CO-60	4.90E-06
KR-85	2.54E-01
KR-85M	1.84E-02
KR-88	1.06E-01
ZR-95	1.62E-08
I-131	4.08E-05
XE-131M	3.36E-01
I-133	1.36E-03
XE-133	6.45E+02
XE-133M	2.72E-01
XE-135	1.31E+02
XE-137	2.65E-03
CE-141	2.57E-09

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.17E+02
NA-24	4.83E-04
CR-51	1.03E-03
MN-54	1.05E-04
FE-55	6.37E-04
CO-58	2.70E-03
FE-59	3.92E-06
CO-60	1.47E-03
AS-76	8.09E-07
SR-91	1.96E-06
NB-95	2.93E-03
ZR-95	2.16E-03
ZR-97	4.67E-05
TC-99M	8.68E-05
RU-103	1.40E-03
RU-106	7.08E-05
AG-110M	6.29E-04
SB-124	1.51E-05
I-131	2.44E-04
I-132	9.48E-04
TE-132	2.02E-04
I-133	1.78E-04
XE-133	3.14E+00
CS-134	2.86E-04
I-135	1.44E-05

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTSLIQUID EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

XE-135	1.81E-03
CS-136	6.67E-06
CS-137	3.90E-04
BA-140	1.67E-05
LA-140	4.11E-04
CE-141	6.64E-04
CE-144	1.57E-03
NP-239	1.14E-03

TOTAL AIRBORNE TRITIUM RELEASE	3.97E+02
TOTAL LIQUID TRITIUM RELEASE	3.17E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.70E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.28E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
18	CHEM-NUCLEAR TRANSPORT	BARNWELL SC
16	HITTMAN TRANSPORT	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)

A

		JAN-JUNE	JULY-DEC
CO-58	%	2.70E+00	2.20E+01
CO-60	%	9.54E+01	4.10E+01
CS-134	%		8.90E+00
CS-137	%		2.10E+01
MN-54	%		2.80E+00
NB-95	%		1.20E+00

B

CE-144	%	5.50E+00	3.30E+00
CO-58	%	2.45E+01	3.50E+01
CO-60	%	4.48E+01	2.80E+01
CR-51	%		1.20E+01
CS-134	%		1.60E+00
CS-137	%	1.12E+01	5.20E+00
I-131	%	1.11E+01	2.20E+00
MN-54	%		7.40E+00
NB-95	%		1.60E+00

C

CO-60	%		1.00E+02
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TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	3.53E+01
	CI	1.00E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.05E+02
	CI	4.33E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	1.00E+00
	CI	5.10E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.: 50-333
COOLING WATER SOURCE: LAKE ONTARIO

LICENSEE: POWER AUTHORITY OF THE STATE OF NEW YORK
LICENSED POWER (MWT): 2436.00
INITIAL CRITICALITY: 11/17/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	1.45E+03
AR-41	3.15E+01
CR-51	4.59E-03
MN-54	4.20E-03
CO-58	3.48E-04
CO-60	3.67E-03
ZN-65	1.75E-04
KR-85M	4.44E+03
KR-87	6.13E+03
KR-88	9.40E+03
SR-89	5.55E-02
SR-90	2.10E-04
ZR-NB-95	2.39E-05
I-131	2.82E-01
XE-131M	1.42E+04
I-133	1.91E+00
XE-133	6.68E+03
XE-133M	1.06E+03
CS-134	9.27E-04
I-135	9.14E-01
XE-135	2.63E+04
XE-135M	4.13E+03
CS-137	8.86E-04
XE-138	1.19E+04
BA-LA-140	2.76E-02
CE-141	6.55E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.01E-03
CR-51	2.83E-03
MN-54	1.04E-01
CO-58	2.49E-02
FE-59	4.40E-03
CO-60	4.86E-01
ZN-65	5.27E-03
AS-76	3.40E-06
KR-85M	3.52E-05
SR-90	1.38E-04
ZR-NB-95	1.45E-04
MO-99	7.61E-04
TC-99M	2.40E-04
AG-110M	9.49E-05
SB-124	7.62E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-131	1.95E-03
I-133	2.16E-03
XE-133	6.81E-04
CS-134	5.11E-02
I-135	6.20E-04
XE-135	7.03E-04
CS-137	7.77E-02
BA-LA-140	4.49E-04
CE-141	1.03E-04
CE-144	5.68E-05
NP-239	3.55E-03

TOTAL AIRBORNE TRITIUM RELEASE	1.47E+01
TOTAL LIQUID TRITIUM RELEASE	2.72E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	9.86E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.79E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
59	TRUCK	BARNWELL SC
17	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
CE-144	%	7.00E-01	6.00E-01
CO-58	%	3.40E+00	1.70E+00
CO-60	%	6.90E+01	6.72E+01
CS-134	%	7.00E+00	7.40E+00
CS-137	%	9.90E+00	1.16E+01
MN-54	%	8.40E+00	1.11E+01
ZN-65	%		1.10E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.18E+02
	CI	6.23E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.93E+02
	CI	8.02E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	
D. OTHER	M3	0.00E+00
	CI	

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1	LICENSEE:OMAHA PUBLIC POWER
TYPE: PWR	LICENSED POWER (MWT):1420.00
DOCKET NO.:50-285	INITIAL CRITICALITY:08/06/73
COOLING WATER SOURCE:MISSOURI RIVER	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.40E+00
AR-41	<2.04E+00
KR-85	<1.58E+01
KR-85M	<2.33E-01
KR-87	<5.42E-02
KR-88	<2.23E-01
I-131	9.04E-04
XE-131M	<7.24E-01
I-133	<1.15E-03
XE-133	<8.49E+02
XE-133M	<5.14E+00
CS-134	<4.27E-06
I-135	<2.43E-05
XE-135	<5.79E+00
XE-135M	<1.27E-02
CS-137	<5.84E-06
XE-138	<4.03E-02
BA-140	<1.02E-05
LA-140	<2.89E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.53E+02
CR-51	<1.58E-02
MN-54	<2.63E-03
CO-57	<3.04E-03
CO-58	<1.68E-02
FE-59	<3.42E-03
CO-60	<5.01E-03
ZN-65	<3.65E-03
NB-95	<2.40E-03
ZR-95	<3.22E-03
MO-99	<1.03E-02
TC-99M	<1.07E-02
RU-103	<1.82E-03
SN-117M	<1.92E-03
SB-124	<3.24E-03
I-131	<2.68E-03
I-133	<1.95E-03
XE-133	<5.59E-01
CS-134	<1.27E-02
XE-135	<1.43E-02
CS-136	<2.28E-03
CS-137	<2.62E-02

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

INSTALLATION:FORT CALHOUN

LOCATION:19 MI N OMAHA, NB

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BA-140	<6.26E-03
LA-140	<2.19E-03
CE-141	<3.60E-03

TOTAL AIRBORNE TRITIUM RELEASE	1.40E+00
TOTAL LIQUID TRITIUM RELEASE	1.53E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.01E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.32E+11

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

INSTALLATION:FORT CALHOUN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
7	CLOSED SOLE USE VEHICLE	BARNWELL SC
6	CLOSED SOLE USE VEHICLE	RICHLAND WA
7	SOLE USE VEHICLE	BARNWELL SC
19	SOLE USE VEHICLE	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			
	CO-58	% 5.00E+01	
	CO-60	% 2.00E+00	2.80E+00
	CS-134	% 1.60E+01	2.94E+01
	CS-137	% 3.00E+01	6.53E+01
	MN-54	% 2.00E+00	1.30E+00
B			
	CO-58	% 5.00E+01	1.45E+01
	CO-60	% 2.00E+00	1.20E+00
	CS-134	% 1.60E+01	2.53E+01
	CS-137	% 3.00E+01	5.83E+01
	MN-54	% 2.00E+00	
D			
	AG-110M	%	1.42E+00
	CO-58	%	5.33E+00
	CO-60	%	3.90E+01
	CS-137	%	2.34E+00
	FE-55	%	3.61E+01
	MN-54	%	2.52E+00
	NB-95	%	2.49E+00
	NI-63	%	8.45E+00
	ZR-95	%	1.14E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.12E+02
	CI	3.80E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.53E+02
	CI	1.54E+02
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	3.70E-01
	CI	1.67E+02

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: HTG
DOCKET NO.: 50-267
COOLING WATER SOURCE:SOUTH PLATTE RIVER/SHALLOW WELLS

LICENSEE:PUBLIC SERVICE CO OF COLORADO
LICENSED POWER (MWT): 842.00
INITIAL CRITICALITY:01/31/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.23E+00
KR-85	4.53E+00
KR-85M	2.86E+00
KR-87	9.44E-01
KR-88	3.14E+00
XE-131M	2.21E+00
XE-133	1.23E+02
XE-133M	1.45E+00
XE-135	1.32E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	3.70E+02
S-35	3.37E-02
CO-60	7.84E-07
XE-133	3.57E-04
CS-137	5.38E-08

TOTAL AIRBORNE TRITIUM RELEASE 2.23E+00
TOTAL LIQUID TRITIUM RELEASE 3.69E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION) LITERS 7.88E+07
VOLUME OF DILUTION WATER USED DURING PERIOD LITERS 9.70E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

DESTINATION

9

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

CI

M3

CI

M3

2.39E+01

CI

1.84E+01

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 1983
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)
AR-41	1.09E-01
CO-58	1.37E-07
CO-60	1.94E-05
KR-85	8.63E+00
KR-85M	5.83E-02
KR-87	6.97E-02
KR-88	8.31E-02
I-131	4.98E-03
XE-131M	6.02E-01
I-132	9.55E-03
I-133	8.97E-04
XE-133	6.82E+02
XE-133M	2.05E-01
XE-135	2.45E+01
XE-135M	6.59E-01
CS-137	1.20E-06
XE-138	1.16E-01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	1.40E-02
CO-58	1.46E-03
CO-60	5.07E-02
ZR-NB-95	1.30E-05
AG-110M	8.02E-05
SB-124	8.00E-06
SB-125	4.66E-04
TE-129M	1.60E-05
I-131	9.44E-04
I-132	4.26E-05
I-133	7.90E-05
CS-134	5.14E-02
I-134	2.00E-05
I-135	6.78E-05
CS-137	7.47E-02

TOTAL AIRBORNE TRITIUM RELEASE 6.04E+01
TOTAL LIQUID TRITIUM RELEASE 3.50E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.34E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.92E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
5	HIGHWAY TRANSPORT	BARNWELL SC
6	HIGHWAY TRANSPORT	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	%		1.60E+00
CO-60	%		2.80E+01
CS-134	%		1.30E+01
CS-137	%		3.50E+01
H-3	%		1.70E+01
NI-63	%		5.40E+00

B

CO-58	%		2.90E+00
CO-60	%		3.20E+01
CS-134	%		1.70E+01
CS-137	%		3.20E+01
H-3	%		4.80E+00
NI-63	%		7.10E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.09E+02
	CI	4.86E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.27E+02
	CI	3.54E+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 FRM VICKSBURG, MS

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

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

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	2.85E+00
KR-85M	3.23E-02
KR-87	7.92E-02
KR-88	6.95E-02
KR-89	4.18E+01
RU-106	4.47E-05
I-131	2.69E-07
I-133	3.71E-06
XE-135	3.23E-01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.10E-04
CR-51	2.08E-04
MN-54	2.57E-04
FE-55	2.47E-03
CO-58	9.66E-04
CO-60	1.83E-04
CU-64	2.24E-04

TOTAL AIRBORNE TRITIUM RELEASE 8.84E-05
TOTAL LIQUID TRITIUM RELEASE 3.89E-03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.35E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.08E+09

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

INSTALLATION: GRAND GULF

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
13	TRUCK	BARNWELL SC
12	TRUCK	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		
BE-7	%	4.00E-03
CE-144	%	3.00E-02
CO-58	%	1.08E+01
CO-60	%	1.10E+00
CR-51	%	8.18E+01
FE-59	%	2.20E+00
I-131	%	2.00E-03
MN-54	%	1.70E+00
MO-99	%	5.00E-04
NB-95	%	7.00E-03
SB-124	%	3.00E-04
ZN-65	%	2.30E+00
ZR-95	%	3.00E-02
B		
CO-60	%	1.00E+02

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	3.04E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	CI	7.21E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	7.99E+00
D. OTHER	CI	3.60E-03
	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:HADDAM NECK

LOCATION:9.5 MI SE MIDDLETOWN, CT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-213
COOLING WATER SOURCE:CONNECTICUT RIVER

LICENSEE:CONNECTICUT YANKEE ATOMIC POWER
LICENSED POWER (MWT):1825.00
INITIAL CRITICALITY:07/24/67

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	8.65E-08
H-3	2.46E+02
AR-41	2.45E-02
MN-54	6.24E-06
CO-58	9.92E-06
CO-60	1.33E-04
KR-85	2.02E+02
KR-85M	8.21E+00
KR-87	9.73E-01
KR-88	5.26E+00
SR-90	2.81E-07
I-131	4.89E-03
XE-131M	5.56E+00
I-133	2.61E-03
XE-133	2.28E+03
XE-133M	4.32E+01
CS-134	7.16E-06
XE-135	2.16E+02
XE-135M	3.66E-01
CS-137	2.40E-04
XE-137	1.51E+00
XE-138	1.26E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	2.24E-02
H-3	3.90E+03
CR-51	8.11E-04
MN-54	6.78E-03
CO-57	3.91E-05
CO-58	4.82E-03
CO-60	3.88E-02
KR-85M	6.57E-05
SR-89	9.42E-05
SR-90	2.00E-03
ZR-NB-95	9.87E-06
MO-99	4.39E-08
TC-99M	5.35E-08
RU-103	1.04E-05
RU-106	1.13E-02
SB-124	5.29E-06
SB-125	1.72E-03
I-131	2.21E-02
XE-131M	7.06E-03

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
I-132	2.29E-02
I-133	2.07E-01
XE-133	6.04E-02
XE-133M	1.26E-03
CS-134	3.68E-02
I-134	1.84E-02
I-135	3.82E-02
XE-135	2.44E+00
CS-136	4.60E-04
CS-137	6.75E-02
BA-LA-140	1.17E-03
CE-143	6.46E-04
CE-144	1.87E-04

TOTAL AIRBORNE TRITIUM RELEASE	2.46E+02
TOTAL LIQUID TRITIUM RELEASE	3.90E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.06E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.73E+11

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

INSTALLATION:HADDAM NECK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION
NUMBER OF SHIPMENTS 54 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			
CM-242	%	4.74E-03	4.74E-03
CM-244	%	7.31E-04	7.31E-04
CO-57	%	5.20E-01	5.20E-01
CO-58	%	3.76E+01	3.76E+01
CO-60	%	2.21E+01	2.21E+01
CS-134	%	5.95E+00	5.95E+00
CS-137	%	1.48E+01	1.48E+01
MN-54	%	1.51E+01	1.51E+01
PU-238	%	7.01E-04	7.01E-04
PU-239	%	2.26E-04	2.26E-04
SB-125	%	3.68E+00	3.68E+00
SR-90	%	2.14E-01	2.14E-01
B			
CE-144	%	4.69E+00	4.69E+00
CM-242	%	4.74E-03	4.74E-03
CM-244	%	7.31E-04	7.31E-04
CO-57	%	2.65E-01	2.65E-01
CO-58	%	2.70E+00	2.70E+00
CO-60	%	5.05E+01	5.05E+01
CS-134	%	5.41E-01	5.41E-01
CS-137	%	1.36E+00	1.36E+00
MN-54	%	3.79E+00	3.79E+00
NB-95	%	5.43E-01	5.43E-01
PU-238	%	7.01E-04	7.01E-04
PU-239	%	2.26E-04	2.26E-04
RU-106	%	3.21E+01	3.21E+01
SB-125	%	3.29E+00	3.29E+00
SR-90	%	2.14E-01	2.14E-01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.49E+02
	CI	1.51E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.03E+02
	CI	1.37E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	N/A
	CI	N/A

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-321
COOLING WATER SOURCE:ALTAMAHA RIVER

LICENSEE:GEORGIA POWER
LICENSED POWER (MWT):2436.00
INITIAL CRITICALITY:09/12/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	3.67E+02
AR-41	6.77E+01
CR-51	7.48E-04
MN-54	3.32E-05
CO-58	8.33E-05
FE-59	4.31E-06
CO-60	4.74E-04
KR-85M	3.67E+03
KR-87	6.63E+02
KR-88	5.22E+03
SR-89	2.63E-03
SR-90	3.78E-06
NB-95	2.25E-06
ZR-95	4.82E-09
I-131	2.40E-01
XE-131M	2.23E+02
I-133	8.14E-02
XE-133	7.73E+03
XE-133M	1.89E+02
CS-134	1.56E-03
I-135	1.65E+00
XE-135	5.83E+02
XE-135M	2.84E+02
CS-137	2.17E-03
XE-137	1.45E+02
XE-138	3.89E+02
BA-140	4.62E-04
LA-140	8.75E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	6.97E-03
NA-24	9.77E-03
P-32	6.00E-04
CR-51	3.91E-03
MN-54	1.71E-02
FE-55	7.26E-02
CO-57	8.12E-05
CO-58	2.84E-03
FE-59	2.47E-03
CO-60	5.30E-02
CU-64	1.59E-02
ZN-65	1.14E-01
AS-76	7.26E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
BR-82	3.19E-05
KR-85M	1.15E-05
RB-88	2.79E-04
SR-89	3.13E-03
SR-90	6.48E-04
SR-91	3.13E-05
NB-95	3.67E-03
ZR-95	1.25E-03
NB-97	1.86E-06
MO-99	1.72E-03
TC-99M	2.17E-03
RU-103	2.31E-04
CD-109	8.80E-05
AG-110M	1.30E-04
SB-124	1.88E-04
SB-125	7.85E-04
I-131	1.15E-01
I-132	1.97E-04
I-133	4.82E-02
XE-133	3.45E-02
XE-133M	5.21E-05
CS-134	1.65E-01
I-134	7.14E-07
I-135	8.15E-03
XE-135	2.87E-02
XE-135M	2.31E-06
CS-136	2.51E-03
CS-137	2.51E-01
CS-138	3.50E-04
BA-139	2.88E-05
BA-140	2.76E-05
LA-140	5.72E-04
CE-141	5.20E-06
CE-144	2.03E-03
LU-174M	5.63E-05
NP-239	3.90E-04

TOTAL AIRBORNE TRITIUM RELEASE	3.30E+01
TOTAL LIQUID TRITIUM RELEASE	9.47E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.86E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.07E+09

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

INSTALLATION:EDWIN I. HATCH 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
50	TRACTOR-TRAILER	BARNWELL SC
5	TRACTOR-TRAILER	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			
	CS-134	% 1.79E+01	
	CS-137	% 2.54E+01	
	OTHERS	% 2.60E+01	
	ZN-65	% 3.07E+01	
B			
	CO-60	% 2.94E+01	
	CS-137	% 1.61E+01	
	OTHERS	% 7.88E+00	
	ZN-65	% 4.67E+01	
D			
	CS-134	% 2.03E+01	
	CS-137	% 4.63E+01	
	OTHERS	% 1.77E+01	
	ZN-65	% 1.57E+01	

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.95E+02
	CI	8.74E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.42E+02
	CI	1.63E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	2.62E+01
	CI	8.00E-02

* JULY-DEC SOLID EFFLUENTS ARE REPORTED UNDER EDWIN I. HATCH 1&2

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
 TYPE: BWR
 DOCKET NO.:50-366
 COOLING WATER SOURCE:ALTAMAHA RIVER

LICENSEE:GEORGIA POWER
 LICENSED POWER (MWT):2436.00
 INITIAL CRITICALITY:07/04/78

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
N-13	1.43E+02
AR-41	3.38E+01
CR-51	1.80E-06
MN-54	2.99E-07
CO-60	2.97E-05
KR-85M	6.10E+02
KR-87	1.05E+03
KR-88	1.80E+03
SR-89	3.28E-03
SR-90	9.13E-07
ZR-95	5.56E-07
I-131	6.82E-01
XE-131M	1.64E+02
I-133	1.21E-02
XE-133	4.15E+03
XE-133M	3.96E+01
CS-134	6.55E-06
I-135	7.03E-02
XE-135	3.40E+03
XE-135M	1.12E+03
CS-137	4.84E-05
XE-137	5.20E+01
XE-138	2.20E+02
BA-140	1.79E-04
LA-140	3.97E-04
CE-141	1.01E-06
CE-144	2.20E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	2.28E-03
NA-24	5.07E-03
CR-51	9.43E-04
MN-54	2.91E-03
FE-55	6.64E-02
MN-56	8.08E-07
CO-58	7.48E-04
FE-59	6.18E-05
CO-60	1.34E-02
CU-64	6.92E-03
ZN-65	3.95E-02
ZN-69M	4.30E-05
AS-76	1.49E-04
KR-85M	3.57E-06

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
KR-87	5.73E-07
RB-88	1.46E-04
SR-89	9.74E-04
NB-90	6.62E-06
SR-92	2.02E-08
NB-95	1.34E-04
ZR-95	3.31E-05
NB-97	3.45E-06
ZR-97	2.52E-06
MO-99	3.64E-04
TC-99M	7.41E-04
AG-110M	1.78E-04
AG-112	5.47E-06
SB-125	2.00E-05
I-131	2.09E-02
XE-131M	1.89E-03
I-132	9.88E-05
I-133	4.75E-03
XE-133	3.54E-02
XE-133M	2.83E-04
CS-134	6.01E-02
I-135	8.45E-04
XE-135	1.91E-02
XE-135M	3.29E-07
CS-136	8.37E-04
CS-137	9.84E-02
CS-138	2.17E-04
LA-140	4.88E-05
CE-141	6.43E-06
CE-144	6.66E-04
EU-155	1.12E-05
HO-166	1.76E-04
NP-239	1.07E-03

TOTAL AIRBORNE TRITIUM RELEASE 2.11E+01
TOTAL LIQUID TRITIUM RELEASE 3.40E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.28E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.68E+09

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

INSTALLATION:EDWIN I. HATCH 2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
32	TRACTOR-TRAILER	BARNWELL SC
4	TRACTOR-TRAILER	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			
	CS-137	% 1.47E+01	
	I-131	% 3.56E+01	
	OTHERS	% 2.78E+01	
	ZN-65	% 2.19E+01	
B			
	CO-60	% 2.94E+01	
	CS-137	% 1.61E+01	
	OTHERS	% 7.88E+00	
	ZN-65	% 4.67E+01	
D			
	CS-134	% 2.03E+01	
	CS-137	% 4.63E+01	
	OTHERS	% 1.77E+01	
	ZN-65	% 1.57E+01	

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.03E+02
	CI	2.78E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.42E+02
	CI	1.63E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	2.62E+01
	CI	8.00E-02

* JULY-DEC SOLID EFFLUENTS ARE REPORTED UNDER EDWIN I. HATCH 1&2

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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
59	TRACTOR AND TRAILER	BARNWELL SC
2	TRACTOR AND TRAILER	HANFORD WA

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
A			
	CS-134	%	1.38E+01
	CS-137	%	1.70E+01
	OTHERS	%	2.48E+01
	ZN-65	%	4.44E+01
B			
	CO-60	%	2.94E+01
	CS-137	%	1.60E+01
	OTHERS	%	1.00E-01
	ZN-65	%	4.67E+01
D			
	CO-60	%	3.02E+01
	CS-137	%	1.68E+01
	OTHERS	%	6.70E+00
	ZN-65	%	4.70E+01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.15E+02
	CI	1.07E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.70E+02
	CI	1.70E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	4.57E+01
	CI	2.98E-01

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3
TYPE: BWR
DOCKET NO. :50-133
COOLING WATER SOURCE:HUMBOLDT BAY

LICENSEE:PACIFIC GAS &ELECTRIC
LICENSED POWER (MWT): 220.00
INITIAL CRITICALITY:02/16/63

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-60	1.63E-04
SR-90	3.38E-06
SB-125	<4.73E-06
CS-134	1.13E-06
CS-137	1.01E-04
UNIDENTIFIED	<3.10E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CO-60	8.45E-03
SR-90	2.22E-04
CS-134	7.27E-03
CS-137	1.58E-01
UNIDENTIFIED	<7.03E-05

TOTAL AIRBORNE TRITIUM RELEASE <4.00E-02
TOTAL LIQUID TRITIUM RELEASE 5.38E-02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.48E+05
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.65E+10

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

INSTALLATION:HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

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

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

B

		JAN-JUNE	JULY-DEC
AM-241	%		3.12E-03
CO-60	%		1.42E+01
CS-134	%		5.31E-02
CS-137	%		5.11E+00
FE-55	%		7.94E+01
MN-54	%		2.18E-02
NI-63	%		1.21E+00
PU-241	%		6.24E-03
SB-125	%		1.87E-02
SR-90	%		1.25E-02

C

CE-144	%		1.66E-05
CO-60	%		5.56E+01
CS-137	%		8.79E-03
FE-55	%		2.62E+01
H-3	%		1.18E+00
KR-85	%		6.06E-04
MO-93	%		1.46E-04
NB-93M	%		1.46E-04
NI-59	%		1.08E-01
NI-63	%		1.52E+01
PM-147	%		1.24E-03
PU-241	%		9.71E-05
SB-125	%		1.29E+00
SM-151	%		2.58E-04
SR-90	%		8.74E-03
TE-125M	%		2.97E-01
ZR-93	%		3.25E-03

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

INSTALLATION:HUMBOLDT BAY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

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	2.27E+01
	CI	3.20E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	5.10E+00
	CI	1.75E+04
D. OTHER	M3	
	CI	

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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)
CO-58	7.88E-04
CO-60	1.05E-03
KR-85	1.01E+02
KR-85M	1.14E+01
KR-87	2.38E+00
KR-88	1.46E+01
SR-89	2.94E-04
SR-90	8.07E-05
I-131	1.61E-02
XE-131M	3.83E+01
I-133	1.34E-02
XE-133	9.04E+03
XE-133M	1.12E+02
CS-134	3.44E-04
I-135	2.90E-02
XE-135	2.72E+02
XE-135M	6.52E-02
CS-137	1.24E-03
BA-LA-140	9.22E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	2.60E-01
MN-54	2.71E-02
FE-55	4.54E-01
CO-57	1.49E-02
CO-58	2.27E-01
FE-59	7.18E-02
CO-60	2.98E-01
NI-63	2.54E-01
ZN-65	7.16E-02
SR-89	4.73E-03
SR-90	6.94E-03
ZR-NB-95	5.27E-02
MO-99	4.72E-01
TC-99M	2.77E-02
AG-110M	5.76E-02
SB-125	2.22E-01
I-131	1.21E-01
XE-133	3.52E-01

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-134	3.87E-02
XE-135	5.71E-02
CS-136	6.49E-02
CS-137	1.60E-01
BA-LA-140	2.19E-01
CE-141	3.48E-02

TOTAL AIRBORNE TRITIUM RELEASE 2.05E+00

TOTAL LIQUID TRITIUM RELEASE 3.43E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.46E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.22E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
58	TRUCK	BARNWELL SC
11	TRUCK	OAK RIDGE TN
9	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			
	CFS-134	%	1.05E+01
	CO-58	%	7.71E+00
	CO-60	%	2.13E+01
	CS-134	%	5.00E+00
	CS-137	%	1.50E+01
	I-131	%	5.35E+01
	OTHERS	%	6.30E+00
			7.70E-01
B			
	CO-58	%	3.50E+01
	CO-60	%	3.50E+01
	CS-134	%	4.50E+01
	CS-137	%	5.00E+00
		%	1.50E+01
D			
	CO-60	%	1.00E+02

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.13E+02
	CI	2.09E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	9.03E+02
	CI	3.10E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	2.69E+02
	CI	3.00E-03

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

INSTALLATION:INDIAN POINT 3

LOCATION:3 MI SW PEEKSKILL, NY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 3
TYPE: PWR
DOCKET NO.:50-286
COOLING WATER SOURCE:

LICENSEE:POWER AUTHORITY OF THE STATE OF NEW YORK
LICENSED POWER (MWT):2760.00
INITIAL CRITICALITY:04/06/76

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	1.46E-06
FE-55	2.90E-05
CO-60	6.75E-06
KR-85	2.96E+01
KR-85M	6.89E-04
SR-85	5.19E-07
SR-90	4.95E-08
CD-109	4.72E-06
I-131	<6.61E-05
XE-133	5.28E+02
XE-133M	1.20E+00
XE-135	5.05E-01
CS-137	2.27E-06
CE-139	2.54E-08
BA-LA-140	7.38E-07
CE-141	2.70E-07
CE-144	1.10E-06
NP-239	1.79E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	2.27E-03
MN-54	7.94E-03
FE-55	3.12E-01
CO-57	3.57E-04
CO-58	1.26E-02
FE-59	6.26E-04
CO-60	1.25E-01
NI-63	3.59E-02
ZN-65	5.68E-04
SR-85	6.43E-05
SR-89	7.16E-06
SR-90	1.86E-06
Y-91M	7.68E-06
SR-92	9.74E-06
NB-95	1.18E-04
ZR-NB-95	1.44E-03
NB-97	1.42E-03
MO-99	4.58E-03
TC-99M	4.05E-04
RU-103	3.41E-06
RH-106	1.25E-03
CD-109	1.98E-04
AG-110M	6.23E-03

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
SN-113	5.46E-05
SB-122	4.44E-04
SB-125	7.42E-03
I-131	8.12E-04
BA-133	1.51E-05
XE-133	7.80E-02
CS-134	6.79E-03
XE-135	3.30E-03
CS-136	5.05E-04
CS-137	1.39E-02
CS-138	6.18E-05
CE-139	1.02E-05
BA-LA-140	1.70E-03
CE-141	3.16E-04
CE-144	6.92E-05
HG-203	2.29E-05
NP-239	1.55E-05

TOTAL AIRBORNE TRITIUM RELEASE 1.09E+00
TOTAL LIQUID TRITIUM RELEASE 3.19E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.25E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.22E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
18	TRUCK	BARNWELL SC
5	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-60	% 3.30E+01	3.30E+01
	CS-134	% 1.70E+00	
	CS-137	% 3.30E+00	3.00E+00
	FE-55	% 6.20E+01	6.50E+01
B			
	CO-60	% 5.10E+01	3.20E+01
	CS-134	% 4.00E+00	
	CS-137	% 1.00E+01	5.00E+00
	FE-55	% 3.50E+01	6.30E+01
D			
	CO-58	%	1.00E+00
	CO-60	%	9.50E+01
	CS-137	%	1.00E+00
	MN-54	%	3.00E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	3.15E+01
	CI	7.19E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.80E+02
	CI	4.82E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	4.81E+00
	CI	8.72E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-305
COOLING WATER SOURCE:LAKE MICHIGAN

LICENSEE:WISCONSIN PUBLIC SERVICE
LICENSED POWER (MWT):1650.00
INITIAL CRITICALITY:03/07/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	2.78E-01
CO-60	2.12E-06
KR-85	1.44E+02
KR-85M	2.62E-02
SR-85	6.07E-09
KR-87	2.76E-04
KR-88	3.25E-04
RB-88	3.85E-07
SR-89	<4.58E-06
SR-90	<4.58E-06
CD-109	1.91E-04
I-131	1.27E-05
XE-131M	1.60E-03
I-132	2.76E-05
I-133	4.50E-06
XE-133	2.20E+01
XE-133M	4.05E-03
XE-135	5.40E-01
XE-135M	3.15E-03
CS-137	6.38E-07
CS-138	3.43E-07
XE-138	7.60E-04
CE-139	8.93E-09
RN-222	3.42E-03
UNIDENTIFIED	<5.73E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	8.32E-04
CR-51	2.75E-03
MN-54	3.58E-03
CO-57	1.77E-04
CO-58	2.08E-01
FE-59	3.69E-04
CO-60	1.98E-01
SR-89	1.95E-04
SR-90	1.12E-04
NB-95	2.47E-03
ZR-95	3.94E-04
AG-110M	7.15E-02
SN-113	1.53E-04
SB-124	3.82E-03
SB-125	8.44E-03
I-131	3.08E-05

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-133	1.62E-05
XE-133	9.45E-03
CS-134	9.17E-04
CS-137	2.14E-02
CS-138	2.23E-10
BA-140	6.43E-06
LA-140	1.49E-05

TOTAL AIRBORNE TRITIUM RELEASE	1.11E+00
TOTAL LIQUID TRITIUM RELEASE	2.92E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	6.64E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.67E+10

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

INSTALLATION: KEWAUNEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
6	CASK	BARNWELL SC
7	VAN	BARNWELL SC

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
AG-110M	%	1.13E+01	1.96E+00
CO-57	%	1.55E-01	4.59E-01
CO-58	%	6.25E+00	9.44E+00
CO-60	%	7.64E+01	8.21E+01
CR-51	%		6.59E-01
CS-137	%	5.06E+00	1.86E+00
FE-59	%		4.08E-02
MN-54	%	7.78E-01	2.79E+00
NB-95	%	4.03E-01	2.72E-01
SB-124	%		1.54E-02
SB-125	%		9.15E-04
SN-113	%		3.62E-02
ZR-95	%	6.56E-04	4.42E-01

B

AG-110M	%	4.03E+00	1.01E-01
CO-57	%	8.38E-02	1.92E-02
CO-58	%	2.14E+01	2.28E+01
CO-60	%	7.26E+01	6.67E+01
CR-51	%	1.35E-03	7.89E-02
CS-134	%		1.45E-01
CS-137	%		6.16E+00
MN-54	%	1.80E+00	6.46E-01
NB-95	%	1.55E-02	1.67E+00
SN-113	%		2.82E-02
ZR-95	%	5.34E-02	

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.21E+01
	CI	6.68E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.31E+01
	CI	1.71E+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:LACROSSE

LOCATION:19 MI S LACROSSE, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-409
COOLING WATER SOURCE:MISSISSIPPI RIVER

LICENSEE:DAIRYLAND POWER
LICENSED POWER (MWT): 165.00
INITIAL CRITICALITY:07/11/67

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	2.41E+01
CR-51	1.29E-04
MN-54	8.15E-05
CO-57	4.42E-06
CO-58	2.45E-05
FE-59	5.94E-06
CO-60	3.78E-04
ZN-65	6.67E-05
KR-85M	2.85E+02
KR-87	3.68E+02
KR-88	5.90E+02
SR-89	1.50E-04
SR-90	6.80E-07
NB-95	1.68E-05
ZR-95	1.02E-05
RU-103	9.55E-06
RU-RH-106	8.95E-05
I-131	6.17E-03
XE-131M	4.59E+02
I-133	5.32E-03
XE-133	7.59E+02
XE-133M	5.33E+00
CS-134	2.17E-05
I-135	1.42E-03
XE-135	3.43E+03
XE-135M	2.90E+02
CS-137	3.46E-04
XE-137	8.26E+01
XE-138	7.86E+02
BA-LA-140	3.27E-03
CE-141	7.41E-06
CE-144	4.70E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	4.16E-02
MN-54	3.33E-01
MN-56	2.83E-03
CO-57	2.62E-03
CO-58	2.21E-01
FE-59	9.42E-02
CO-60	2.25E+00
ZN-65	4.67E-02
KR-85	1.16E-02

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
KR-85M	6.82E-04
KR-87	3.09E-04
KR-88	7.73E-04
RB-88	6.18E-03
RB-89	9.71E-05
SR-89	4.78E-04
SR-90	3.39E-03
SR-91	1.25E-02
SR-92	1.88E-03
Y-92	5.02E-03
ZR-NB-95	2.07E-02
ZR-97	5.53E-04
MO-99	1.50E-02
TC-99M	6.43E-02
RU-103	1.36E-02
RU-RH-105	1.87E-02
RU-RH-106	8.01E-02
I-131	1.66E-02
XE-131M	3.10E-02
I-132	5.55E-03
I-133	4.49E-02
XE-133	2.00E-02
XE-133M	6.58E-04
CS-134	2.07E-02
I-135	2.23E-02
XE-135	2.53E-02
XE-135M	1.59E-02
CS-136	1.12E-04
CS-137	2.02E-01
BA-139	4.32E-04
BA-LA-140	3.35E-02
CE-141	4.88E-03
CE-143	9.34E-04
CE-144	5.48E-02
W-187	9.04E-02
NP-239	4.21E-02

TOTAL AIRBORNE TRITIUM RELEASE	2.30E+01
TOTAL LIQUID TRITIUM RELEASE	1.24E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.61E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.38E+11

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

INSTALLATION:LACROSSE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS 4 MODE OF TRANSPORTATION
SOLE USE 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)

A

		JAN-JUNE	JULY-DEC
CE-144	%	3.00E-01	7.20E-01
CO-57	%	3.00E-02	7.00E-02
CO-58	%	3.00E-01	8.19E+00
CO-60	%	5.60E+00	6.43E+01
CS-134	%	6.20E+00	1.21E+00
CS-137	%	8.43E+01	2.89E+00
FE-59	%		1.45E+00
MN-54	%	2.20E+00	1.90E+01
NB-95	%		4.80E-01
RU-103	%		1.40E-01
ZN-65	%	1.00E+00	

B

CO-60	%	9.45E+01	
MN-54	%	3.20E+00	
RU-RH-106	%	1.30E+00	
ZN-65	%	6.00E-01	

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	7.23E+00
	CI	1.88E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.81E+00
	CI	2.22E-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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	6.63E-03
MN-54	9.56E-04
MN-56	7.50E-03
CO-58	5.83E-06
FE-59	N/D
CO-60	1.66E-03
ZN-65	5.48E-05
AS-76	1.51E-04
KR-85	2.23E-03
KR-85M	9.26E-01
RB-88	5.34E-09
SR-89	1.90E-11
SR-90	3.30E-11
SR-92	2.90E-05
TC-99M	1.27E-04
RU-103	1.97E-04
RU-105	3.64E-04
I-131	2.44E-04
I-132	4.13E-03
I-133	1.65E-03
XE-133	7.90E+00
CS-134	N/D
I-134	2.38E-04
I-135	3.11E-04
XE-135	2.88E+00
CS-137	9.64E-06
W-187	3.73E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	6.02E-03
CR-51	2.12E+00
MN-54	3.38E+00
FE-55	4.39E-01
MN-56	8.10E-05
CO-57	3.57E-04
CO-58	1.15E+00
FE-59	9.69E-03
CO-60	6.62E-01
ZN-65	7.30E-01
AS-76	2.82E-03
BR-82	4.33E-04
SR-89	3.91E-03
SR-90	6.39E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SR-91	1.10E-05
MO-99	3.10E-03
TC-99M	1.20E-02
SB-122	9.09E-04
SB-124	8.82E-04
I-131	8.40E-04
I-132	1.90E-05
XE-133	2.00E-05
I-135	1.30E-05
XE-135	4.08E-05
CS-137	5.39E-04
BA-LA-140	1.27E-03
CE-144	N/D
W-187	4.30E-04
NP-239	1.11E-03

TOTAL AIRBORNE TRITIUM RELEASE	5.25E-05
TOTAL LIQUID TRITIUM RELEASE	4.25E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.26E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.56E+10

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

INSTALLATION:LASALLE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS

MODE OF TRANSPORTATION

DESTINATION

5

CHEM NUCLEAR CO

RICHLAND WA

57

TRI-STATE MT

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
BOTTOMS, ETC.

M3 5.36E+02

CI 2.85E+01

B. DRY COMPRESSIBLE WASTE, CONTAMINATED
EQUIPMENT, ETC.

M3 1.47E+02

CI 1.64E+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:MAINE YANKEE

LOCATION:3.9 MI S WICASSETT, ME

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-309
COOLING WATER SOURCE:BACK RIVER

LICENSEE:MAINE YANKEE ATOMIC POWER
LICENSED POWER (MWT):2630.00
INITIAL CRITICALITY:10/23/72

AIRBORNE EFFLUENTS
NUCLIDES RELEASED

	ACTIVITY (CI)
AR-41	6.12E-06
CO-60	2.63E-05
KR-85	2.98E+00
SR-90	1.09E-08
I-131	2.54E-05
XE-131M	6.68E-01
XE-133	3.45E+01
XE-133M	7.38E-02
XE-135	8.72E-01
CS-137	1.80E-05

LIQUID EFFLUENTS
NUCLIDES RELEASED

	ACTIVITY (CI)
NA-24	1.93E-03
CR-51	1.59E-03
MN-54	4.31E-03
CO-57	1.95E-04
CO-58	5.14E-02
CO-60	6.04E-02
SR-89	1.50E-02
SR-90	6.09E-04
NB-95	3.13E-04
MO-99	3.89E-06
SB-124	1.72E-03
SB-125	3.20E-03
I-131	4.03E-03
I-133	5.56E-04
XE-133	4.65E-02
XE-133M	6.93E-05
CS-134	5.54E-03
XE-135	4.99E-04
CS-137	4.85E-02
UNIDENTIFIED	1.89E-04

TOTAL AIRBORNE TRITIUM RELEASE 5.30E+00
TOTAL LIQUID TRITIUM RELEASE 2.87E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.35E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.52E+11

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

INSTALLATION:MAINE YANKEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
13	TRUCK	BARNWELL SC
8	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	% 4.00E+01	1.50E+01
	CO-60	% 3.50E+01	2.00E+01
	CS-137	% 2.50E+01	6.50E+01
B			
	CO-58	% 4.00E+01	1.50E+01
	CO-60	% 3.50E+01	2.00E+01
	CS-137	% 2.50E+01	6.50E+01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.43E+02
	CI	9.13E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.95E+02
	CI	1.21E+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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	3.28E+01
CR-51	8.65E-06
MN-54	7.45E-07
CO-58	1.09E-05
CO-60	1.54E-07
KR-85	1.56E+02
KR-85M	1.91E+01
KR-87	3.28E-02
KR-88	1.39E-01
SR-90	2.25E-10
NB-95	4.53E-12
I-131	1.39E-03
XE-131M	3.94E+03
I-133	2.38E-04
XE-133	1.30E+03
XE-133M	8.84E+01
CS-134	1.01E-10
XE-135	3.05E+01
XE-135M	9.39E-04
CS-137	2.20E-10
CE-141	2.26E-04
CE-144	6.57E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	7.16E-03
P-32	4.34E-03
AR-41	2.41E-03
CR-51	1.01E-01
MN-54	2.56E-02
FE-55	9.16E-01
CO-57	5.02E-04
CO-58	4.69E-01
FE-59	3.29E-02
CO-60	1.46E-01
NI-65	3.06E-05
ZN-65	1.56E-03
KR-85M	4.96E-05
SR-89	1.30E-04
SR-90	3.65E-06
SR-92	7.36E-03
NB-95	1.21E-02
ZR-95	3.49E-03
NB-97	8.52E-04

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

INSTALLATION:MCGUIRE 1

LOCATION:17 MI N OF CHARLOTTE, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
TC-99M	4.58E-04
RU-103	1.15E-05
RU-106	9.32E-04
CD-109	1.41E-04
AG-110M	1.78E-02
SB-122	1.01E-03
SB-124	2.92E-02
I-131	5.79E-02
XE-131M	6.80E-05
I-132	8.25E-05
I-133	5.84E-03
XE-133	8.34E-02
XE-133M	6.45E-04
CS-134	7.39E-03
I-135	8.20E-05
XE-135	7.63E-03
CS-136	1.39E-04
CS-137	1.34E-02
BA-LA-140	8.42E-04
CE-144	2.46E-05

TOTAL AIRBORNE TRITIUM RELEASE	2.27E+00
TOTAL LIQUID TRITIUM RELEASE	1.49E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.32E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.10E+12

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

INSTALLATION: MCGUIRE 2

LOCATION: 17 M N OF CHARLOTTE, NC

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
TYPE: PWR
DOCKET NO.: 50-370
COOLING WATER SOURCE: LAKE NORMAN

LICENSEE: DUKE POWER CO.
LICENSED POWER (MWT): 3411.00
INITIAL CRITICALITY: 08/05/83

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	3.28E+01
CR-51	8.65E-06
MN-54	7.45E-07
CO-58	1.09E-05
CO-60	1.54E-07
KR-85	1.56E+02
KR-85M	1.91E+01
KR-87	3.28E-02
KR-88	1.39E-01
SR-90	2.25E-10
NB-95	4.53E-12
I-131	1.39E-03
XE-131M	3.94E+03
I-133	2.38E-04
XE-133	1.30E+03
XE-133M	8.84E+01
CS-134	1.01E-10
XE-135	3.05E+01
XE-135M	9.39E-04
CS-137	2.20E-10
CE-141	2.26E-04
CE-144	6.57E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	7.16E-03
P-32	4.34E-03
AR-41	2.41E-03
CR-51	1.01E-01
MN-54	2.56E-02
FE-55	9.16E-01
CO-57	5.02E-04
CO-58	4.69E-01
FE-59	3.29E-02
CO-60	1.46E-01
NI-65	3.06E-05
ZN-65	1.56E-03
KR-85M	4.96E-05
SR-89	1.30E-04
SR-90	3.65E-06
SR-92	7.36E-03
NB-95	1.21E-02
ZR-95	3.49E-03
NB-97	8.52E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
TC-99M	4.58E-04
RU-103	1.15E-05
RU-106	9.32E-04
CD-109	1.41E-04
AG-110M	1.78E-02
SB-122	1.01E-03
SB-124	2.92E-02
I-131	5.79E-02
XE-131M	6.80E-05
I-132	8.25E-05
I-133	5.84E-03
XE-133	8.34E-02
XE-133M	6.45E-04
CS-134	7.39E-03
I-135	8.20E-05
XE-135	7.63E-03
CS-136	1.39E-04
CS-137	1.34E-02
BA-LA-140	8.42E-04
CE-144	2.46E-05

TOTAL AIRBORNE TRITIUM RELEASE 2.27E+00
TOTAL LIQUID TRITIUM RELEASE 1.49E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.32E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.10E+12

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

INSTALLATION:MCGUIRE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
26		

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-57	%	2.50E-01
	CO-58	%	3.80E-01
	CO-60	%	4.97E+01
	MN-54	%	4.27E+01
		%	8.87E+00
B			
	CO-58	%	5.65E+01
	CO-60	%	5.65E+01
	CR-51	%	7.20E+00
	FE-59	%	7.20E+00
	MN-54	%	2.30E+01
	NB-95	%	2.30E+01
	ZR-95	%	2.40E+00
		%	2.40E+00
		%	2.40E+00
		%	2.40E+00
		%	3.17E+00
		%	3.17E+00
D			
	AG-110M	%	5.30E+00
	CO-57	%	1.31E+00
	CO-58	%	1.00E-01
	CO-60	%	5.80E+01
	CR-51	%	3.88E+01
	FE-59	%	4.36E+01
	MN-54	%	6.63E+00
	NB-95	%	2.07E+01
	SE-59	%	8.54E+00
	ZN-65	%	1.54E+00
	ZR-95	%	3.17E+00
		%	6.97E+00
		%	2.15E+00
		%	5.20E-01
		%	1.80E-01
		%	4.16E+00

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.65E+01
	CI	1.80E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.14E+02
	CI	2.80E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	1.36E+01
	CI	7.38E+00

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-245
COOLING WATER SOURCE:LONG ISLAND SOUND

LICENSEE:NORTHEAST NUCLEAR ENERGY
LICENSED POWER (MWT):2011.00
INITIAL CRITICALITY:10/26/70

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	2.35E-03
MN-54	2.30E-04
CO-58	1.44E-04
CO-60	1.16E-03
KR-85	4.36E+01
KR-85M	9.08E+01
KR-87	9.47E+01
SR-89	3.95E-03
SR-90	3.90E-05
I-131	2.92E-02
XE-131M	3.04E+01
I-133	1.84E-01
XE-133	3.80E+03
XE-133M	2.86E+01
I-135	3.56E-01
XE-135	3.77E+02
XE-135M	6.08E+02
CS-137	4.25E-04
XE-137	1.52E+02
XE-138	1.11E+03
BA-LA-140	2.39E-02
CE-141	6.98E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.56E-03
CR-51	1.82E-01
MN-54	6.06E-02
CO-58	2.04E-02
FE-59	3.11E-03
CO-60	2.00E-01
AS-76	3.78E-04
SR-89	1.55E-03
SR-90	5.93E-04
SR-91	3.51E-03
SR-92	5.71E-04
NB-95	5.12E-04
MO-99	5.59E-03
TC-99M	2.03E-02
RU-105	1.74E-03
I-131	1.02E-01
I-133	1.98E-02
XE-133	7.01E-02
CS-134	8.30E-03

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-135	8.75E-03
XE-135	1.68E-01
XE-135M	8.67E-03
CS-137	1.03E-01
BA-LA-140	5.25E-02
CE-141	7.21E-03
NP-239	2.54E-03

TOTAL AIRBORNE TRITIUM RELEASE	7.59E+01
TOTAL LIQUID TRITIUM RELEASE	8.38E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.41E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.59E+12

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

INSTALLATION:MILLSTONE 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS 50
MODE OF TRANSPORTATION TRUCK

DESTINATION
BARNWELL SC

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS 1
MODE OF TRANSPORTATION TRUCK

DESTINATION
PLEASANTON CA

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

A

		JAN-JUNE	JULY-DEC
BA-140	%	3.00E-01	2.02E-02
CE-144/I-131/CE-141/SR-90/TC-99M/ZN-65/NB-97/ FE-59/ZR-95/NB-95/RU-103/NI-63	%		5.73E+00
CO-57/I-131/CE-141/SR-90/TC-99M/ZN-65/I-133/ E-59/NI-63	%	2.60E+00	
CO-58	%	2.80E+00	8.04E-01
CO-60	%	5.71E+01	1.84E+01
CR-51	%	3.00E+00	5.71E-01
CS-134	%	1.30E+00	2.67E+00
CS-137	%	1.13E+01	3.21E+01
FE-55	%	6.60E+00	3.03E+00
LA-140	%	2.00E-01	2.41E-02
MN-54	%	1.29E+01	4.61E+00
SR-89	%	1.90E+00	2.69E+01

B

CO-60	%	4.24E+01	3.95E+01
CS-134	%	3.50E+00	3.33E+00
CS-137	%	2.15E+01	2.60E+01
FE-55	%	2.24E+01	2.20E+01
MN-54	%	6.50E+00	6.29E+00
NI-63/SR-90	%	5.00E-01	
NI-63/SR-90/CO-58/CR-51	%		6.60E-01
SR-89	%	3.20E+00	3.30E+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	1.49E+02
CI	6.56E+02
M3	5.44E+02 *
CI	2.57E+01 *
M3	0.00E+00
CI	0.00E+00
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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
 TYPE: PWR
 DOCKET NO.:50-336
 COOLING WATER SOURCE:LONG ISLAND SOUND

LICENSEE:NORTHEAST NUCLEAR ENERGY
 LICENSED POWER (MWT):2700.00
 INITIAL CRITICALITY:10/17/75

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
ALPHA	1.57E-08
H-3	1.37E+02
AR-41	4.35E-01
MN-54	2.53E-03
CO-57	8.70E-07
CO-58	1.39E-05
CO-60	1.55E-04
KR-85	1.71E+01
KR-85M	4.43E+01
SR-85	7.06E-04
KR-87	1.48E+01
KR-88	1.18E+01
RB-88	6.38E-03
SR-89	3.60E-06
SR-90	1.16E-08
I-131	2.33E-02
XE-131M	6.93E-01
I-133	1.60E-03
XE-133	8.59E+03
XE-133M	8.95E+01
CS-134	1.10E-04
I-135	1.22E-03
XE-135	4.49E+02
XE-135M	4.50E+00
CS-137	2.49E-04
CS-138	7.00E-05
XE-138	1.47E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.21E+02
NA-24	8.36E-05
AR-41	2.41E-04
CR-51	1.67E-02
MN-54	3.56E-02
CO-57	3.25E-04
CO-58	1.83E-01
FE-59	1.47E-04
CO-60	2.38E+00
RB-88	3.54E-01
SR-89	8.32E-03
SR-90	6.34E-05
Y-91M	1.54E-05
SR-92	5.46E-03

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
NB-95	3.82E-03
ZR-95	8.35E-04
NB-97	3.20E-02
TC-99M	1.93E-04
RU-103	2.31E-05
RU-106	1.52E-05
AG-110M	1.26E-02
SB-124	1.26E-03
SB-125	3.12E-02
I-131	1.10E-01
I-132	1.78E-03
I-133	9.32E-03
XE-133	2.54E+01
XE-133M	1.11E-01
CS-134	1.68E+00
I-135	2.99E-03
XE-135	1.54E+00
XE-135M	5.57E+00
CS-136	1.10E-03
CS-137	2.93E+00
CS-138	5.81E-03
BA-139	5.62E-05
BA-140	9.25E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.37E+02
TOTAL LIQUID TRITIUM RELEASE 1.21E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	8.33E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.16E+11

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

INSTALLATION:MILLSTONE 2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION
NUMBER OF SHIPMENTS 9 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			
CO-58	%	5.30E+00	2.67E+01
CO-60	%	5.70E+00	5.42E+01
CR-51	%		9.55E+00
CS-134	%	1.92E+01	1.99E+00
CS-137	%	3.05E+01	2.57E+00
FE-55	%	2.37E+01	1.60E-01
I-131	%	1.15E+01	
MN-54	%		2.60E+00
NI-63	%	3.00E-01	5.13E-01
RU-103/CE-141/CO-57/FE-59/SB-124/SB-123	%		1.70E+00
SR-89	%	3.50E+00	1.37E-02
SR-90	%	3.00E-01	1.21E-03

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	4.48E+01
	CI	2.58E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	*
	CI	*
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 IS INCLUDED IN MILLSTONE 1 REPORT

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	1.72E-03
MN-54	7.90E-05
CO-58	1.44E-04
CO-60	8.79E-04
ZN-65	1.13E-03
KR-83M	6.59E+00
KR-85	1.73E+02
KR-85M	5.70E+00
KR-87	2.56E+01
KR-88	1.82E+01
KR-89	6.69E+02
SR-89	1.69E-03
KR-90	2.34E+01
SR-90	1.89E-04
I-131	2.50E-02
XE-131M	4.58E+00
I-133	2.18E-01
XE-133	5.06E+02
XE-133M	1.28E+00
CS-134	1.43E-05
I-135	3.89E-02
XE-135	2.69E+01
XE-135M	5.03E+01
CS-136	1.11E-05
CS-137	7.78E-04
XE-137	8.73E+02
XE-138	7.57E+02
XE-139	6.99E+01
BA-140	1.24E-02
CE-141	6.22E-05
CE-144	5.38E-05

TOTAL AIRBORNE TRITIUM RELEASE	4.80E+01
TOTAL LIQUID TRITIUM RELEASE	0.00E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	0.00E+00
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	0.00E+00

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

INSTALLATION:MONTICELLO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
25	RAIL	RICHLAND WA
16	TRUCK	BARNWELL SC
7	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
1	TRUCK	BATTELLE COLUMBUS LAB
1	TRUCK	VALLECITOS NUCLEAR CENTER

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

		JAN-JUNE	JULY-DEC
A			
	BA-140	% 1.15E+00	2.75E+00
	CE-141	%	2.41E-02
	CO-58	% 7.03E-01	7.34E-01
	CO-60	% 2.89E+01	2.32E+01
	CR-51	% 8.34E+00	8.25E+00
	CS-134	% 3.64E+00	3.12E+00
	CS-137	% 2.71E+01	3.15E+01
	I-131	% 5.13E-01	1.95E+00
	LA-140	% 5.93E-01	3.87E-01
	MN-54	% 3.97E+00	2.46E+00
	SR-90	% 7.33E-02	
	ZN-65	% 2.45E+01	2.46E+01
B			
	BA-140	% 4.09E+00	7.34E-02
	CE-141	% 3.35E+00	
	CO-58	% 3.19E+00	4.86E-01
	CO-60	% 5.33E+01	6.78E+01
	CR-51	% 5.03E+00	3.02E+00
	CS-134	% 2.36E-01	1.03E+00
	CS-137	% 9.09E+00	9.55E+00
	FE-59	% 4.60E-01	
	LA-140	% 3.42E+00	7.34E-02
	MN-54	% 7.93E+00	6.09E+00
	SR-90	% 4.55E-02	1.84E-01
	ZN-65	% 5.99E+00	1.16E+01
C			
	CO-60	% 9.70E+01	9.55E+01
	MN-54	% 2.96E+00	4.49E+00

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

INSTALLATION:MONTICELLO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.52E+02
	CI	9.48E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.92E+02
	CI	2.31E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	1.34E+01
	CI	4.33E+04
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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-220
COOLING WATER SOURCE:LAKE ONTARIO

LICENSEE:NIAGARA MOHAWK POWER
LICENSED POWER (MWT):1850.00
INITIAL CRITICALITY:09/05/69

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	5.21E-06
CO-60	4.28E-03
KR-85M	1.16E+01
SR-89	<8.50E-04
SR-90	<6.71E-06
SB-125	4.59E-05
I-131	4.43E-03
I-133	3.36E-02
XE-133	1.40E+02
I-135	3.86E-02
XE-135	5.86E+01
XE-135M	1.71E+01
CS-137	7.71E-04
XE-137	2.08E+01
XE-138	2.08E+01
BA-LA-140	2.78E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	2.98E-04
CO-60	9.28E-03
SR-89	<2.52E-05
SR-90	<1.68E-05
CS-137	1.53E-03

TOTAL AIRBORNE TRITIUM RELEASE 2.01E+02
TOTAL LIQUID TRITIUM RELEASE 7.89E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.22E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.96E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
55	TRUCK	BARNWELL SC
18	TRUCK	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			
	CO-58	% 2.00E-02	1.50E+00
	CO-60	% 6.23E+01	6.35E+01
	CR-51	%	3.20E+00
	CS-134	% 2.53E+00	2.20E+00
	CS-137	% 3.39E+01	2.50E+01
	LA-140	%	2.30E+00
	MN-54	% 1.25E+00	2.30E+00
B			
	CO-60	% 5.24E+01	6.42E+01
	CS-134	% 4.25E+00	2.64E+00
	CS-137	% 4.25E+01	3.15E+01
	MN-54	% 8.50E-01	1.66E+00
C			
	CO-60	%	8.53E+01
	H-3	%	1.10E+01
	NI-63	%	3.70E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.44E+02
	CI	4.50E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	5.67E+02
	CI	7.84E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	9.73E+00
	CI	5.37E+04
D. OTHER	M3	
	CI	

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-338
COOLING WATER SOURCE:LAKE ANNA
UNIT NUMBER: 2
TYPE: PWR
DOCKET NO.:50-339
COOLING WATER SOURCE:LAKE ANNA

LICENSEE:VIRGINIA ELECTRIC &POWER
LICENSED POWER (MWT):2775.00
INITIAL CRITICALITY:04/05/78

LICENSEE:VIRGINIA ELECTRIC &POWER
LICENSED POWER (MWT):2775.00
INITIAL CRITICALITY:06/12/80

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	3.80E+01
NA-24	1.31E-04
P-32	8.10E-06
AR-41	1.20E+01
CR-51	5.51E-06
MN-54	4.52E-06
MN-56	2.33E-05
CO-57	1.18E-07
CO-58	3.69E-03
FE-59	3.56E-07
CO-60	4.10E-03
CU-64	3.03E-04
ZN-65	8.08E-07
KR-85	8.35E+00
KR-85M	2.06E+02
SR-85	1.60E-07
KR-87	9.80E+01
KR-88	3.37E+02
RB-88	7.73E+00
RB-89	2.38E-02
SR-89	5.18E-06
SR-90	1.81E-07
SR-91	8.40E-09
Y-91	5.89E-04
NB-95	1.39E-06
ZR-95	5.71E-07
TC-99M	9.77E-07
RU-103	8.17E-07
AG-110M	9.20E-06
SB-122	1.99E-04
TE-129	5.33E-05
I-131	9.60E-02
TE-131M	3.09E-05
XE-131M	9.88E+01
I-132	1.21E-02
TE-132	5.40E-03
I-133	9.59E-02
XE-133	1.63E+04
XE-133M	1.28E+02
CS-134	1.32E-03

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

I-134	2.86E-04
I-135	1.27E-02
XE-135	2.81E+03
XE-135M	2.18E+03
CS-136	1.74E-04
CS-137	4.06E-03
CS-138	9.45E-01
XE-138	5.66E+01
BA-LA-140	7.15E-07
LA-142	9.76E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

H-3	1.61E+03
NA-24	1.10E-02
AR-41	4.37E-05
CR-51	1.91E-02
MN-54	1.88E-02
CO-58	1.11E-01
FE-59	4.01E-03
CO-60	3.32E-01
RB-88	1.28E-02
SR-89	2.40E-03
ZR-NB-95	1.65E-02
ZR-97	2.30E-04
TC-99M	2.71E-03
RU-103	9.58E-04
CD-109	8.56E-03
AG-110M	3.59E-02
SB-122	8.19E-02
SB-124	1.14E-02
I-131	2.57E+00
TE-131M	3.26E-04
XE-131M	6.24E-02
I-132	3.49E-04
I-133	5.93E-01
XE-133	9.73E+00
XE-133M	3.83E-02
CS-134	7.10E-01
I-135	5.39E-02
XE-135	5.52E-01
XE-135M	1.69E-01
CS-136	6.75E-02
CS-137	1.21E+00
CS-138	1.20E-04
BA-LA-140	2.68E-03
LA-142	7.57E-05
CE-143	6.87E-05

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS
NUCLIDES RELEASED

ACTIVITY (CI)

TOTAL AIRBORNE TRITIUM RELEASE 3.80E+01
TOTAL LIQUID TRITIUM RELEASE 1.61E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.67E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.52E+12

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

INSTALLATION:NORTH ANNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
51	PRIVATE VEHICLE	BARNWELL SC
2	PRIVATE VEHICLE	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-57	% 2.00E-01	
	CO-58	% 1.70E+01	2.53E+01
	CO-60	% 5.30E+01	5.45E+01
	CS-134	% 6.00E+00	8.80E+00
	CS-137	% 2.10E+01	7.32E+00
	MN-54	% 2.80E+00	4.13E+00
B			
	CO-58	% 3.00E+01	9.60E+00
	CO-60	% 3.80E+01	2.71E+01
	CS-134	% 9.00E+00	1.84E+01
	CS-137	% 2.00E+01	2.97E+01
	I-131	%	1.33E+01
	MN-54	% 3.00E+00	1.90E+00
C			
	CO-58	%	9.90E+00
	CO-60	%	2.95E+01
	FE-55	%	5.46E+01
	MN-54	%	6.00E+00
D			
	CS-134	% 4.90E+01	
	CS-137	% 5.10E+01	

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.11E+02
	CI	8.48E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.68E+02
	CI	5.61E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	3.88E+01
	CI	9.61E+02
D. OTHER	M3	2.10E+01
	CI	5.00E-02

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	3.21E-03
CR-51	2.23E-04
MN-54	5.13E-05
CO-58	4.09E-03
FE-59	8.69E-06
CO-60	1.71E-03
ZN-65	1.56E-05
KR-85	1.04E+03
KR-85M	8.91E+01
KR-87	2.03E+01
KR-88	6.18E+00
SR-89	2.39E-08
SR-90	5.95E-09
NB-95	1.65E-05
ZR-95	3.42E-06
MO-99	1.77E-04
RU-103	6.16E-07
RU-106	2.38E-04
AG-110M	1.38E-04
SB-125	2.29E-05
I-131	6.82E-02
XE-131M	4.43E+02
I-133	1.77E-02
XE-133	2.21E+04
XE-133M	9.57E+01
CS-134	9.14E-04
I-135	4.88E-03
XE-135	2.52E+02
XE-135M	6.87E-02
CS-136	1.59E-05
CS-137	9.09E-03
BA-140	8.93E-05
CE-144	1.68E-04

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.44E-04
AR-41	4.46E-04
CR-51	4.91E-02
MN-54	1.38E-02
CO-57	1.08E-03
CO-58	7.22E-01
FE-59	4.28E-03
CO-60	4.93E-02
KR-85	5.99E-01
SR-89	6.76E-04
SR-90	4.35E-04
SR-91	1.45E-05
SR-92	5.03E-02
NB-95	1.50E-02
ZR-95	1.64E-03
NB-97	1.39E-01
ZR-97	4.83E-03
MO-99	1.37E-03
TC-99M	2.56E-04
RU-103	1.88E-04
RU-106	2.13E-02
AG-110M	1.06E-01
SB-125	1.53E-03
I-131	2.03E-02
XE-131M	1.21E-01
I-133	1.25E-03
XE-133	6.57E+00
XE-133M	6.22E-02
CS-134	6.08E-02
I-134	9.21E-04
I-135	1.20E-04
XE-135	4.02E-02
CS-136	1.34E-03
CS-137	1.46E-01
BA-LA-140	9.58E-03
CE-144	2.42E-03
W-187	1.64E-03
NP-239	4.51E-05

TOTAL AIRBORNE TRITIUM RELEASE	1.27E+01
TOTAL LIQUID TRITIUM RELEASE	1.28E+03

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	5.61E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.78E+11

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

INSTALLATION:OCONEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION
126

DESTINATION
BARNWELL SC

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	1.16E+03
CI	2.84E+03
M3	
CI	
M3	
CI	
M3	
CI	

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.: 50-219
COOLING WATER SOURCE: BARNEGAT BAY

LICENSEE: JERSEY CENTRAL POWER & LIGHT
LICENSED POWER (MWT): 1930.00
INITIAL CRITICALITY: 05/03/69

AIRBORNE EFFLUENTS
NUCLIDES RELEASED

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	2.38E-07
MN-54	2.67E-04
CO-58	3.15E-05
CO-60	1.68E-03
KR-85M	1.53E+02
KR-87	2.91E+02
KR-88	2.70E+02
SR-89	8.76E-04
SR-90	3.91E-05
SR-91	1.25E-01
NB-95	1.95E-05
MO-99	2.70E-04
TC-99M	2.07E-03
I-131	9.32E-03
I-133	5.94E-02
XE-133	6.03E+01
XE-133M	6.76E+01
CS-134	1.28E-04
I-135	1.16E-01
XE-135	6.70E+02
XE-135M	6.79E+01
CS-137	7.25E-05
XE-138	5.64E+02
BA-140	6.36E-03
LA-140	7.40E-03
CE-141	1.80E-04
CE-144	2.16E-05
NP-239	2.62E-07

LIQUID EFFLUENTS
NUCLIDES RELEASED

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	2.02E-04
CO-57	2.39E-05
CO-60	3.03E-03
SR-90	1.79E-06
NB-95	9.66E-06
XE-133	2.43E-03
XE-135	6.50E-03
CS-137	3.06E-04
CE-141	6.08E-05

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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 2.88E+00
TOTAL LIQUID TRITIUM RELEASE 8.76E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.97E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.80E+11

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

INSTALLATION: OYSTER CREEK

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
70	MOTOR VEHICLE	BARNWELL SC
9	MOTOR VEHICLE	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-60	%	5.40E+01	8.27E+01
CS-134	%	3.08E+00	5.67E-01
CS-137	%	2.41E+01	6.50E+00
MN-54	%	7.40E+00	4.46E+00
SR-89	%	4.94E+00	
SR-90	%		5.34E+00

B

CO-60	%	7.76E+01	8.14E+01
CS-134	%	1.24E+00	6.58E-01
CS-137	%	1.23E+01	9.86E+00
MN-54	%	4.69E+00	7.49E+00
SR-89	%	6.70E-01	2.36E-01

TYPE OF WASTE

UNIT YEAR TOTAL

A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.68E+02
	CI	4.06E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	7.33E+02
	CI	1.55E+02
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 1983
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)
BE-7	2.45E-06
AR-41	2.69E-02
MN-54	3.09E-06
CO-58	6.64E-05
CO-60	7.75E-05
SE-75	1.03E-03
KR-85	3.12E+00
KR-85M	9.96E-02
KR-87	6.33E-02
KR-88	1.47E-01
I-131	3.31E-02
XE-131M	1.70E+00
I-132	2.57E-03
I-133	1.46E-02
XE-133	2.99E+03
XE-133M	9.81E-02
CS-134	4.19E-06
I-135	6.40E-03
XE-135	6.71E-01
XE-135M	4.91E-01
CS-137	5.82E-05
UNIDENTIFIED	4.26E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.35E+02
CR-51	1.52E-05
MN-54	3.17E-03
CO-58	3.66E-02
CO-60	1.15E-02
NB-95	7.08E-06
ZR-95	2.26E-06
AG-110M	2.98E-05
I-131	3.40E-04
I-133	5.52E-07
XE-133	2.53E-02
CS-134	7.29E-03
CS-136	2.11E-05
CS-137	1.46E-02
BA-140	1.58E-04
LA-140	9.36E-05
UNIDENTIFIED	8.77E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 6.31E+00
TOTAL LIQUID TRITIUM RELEASE 2.35E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	7.12E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.42E+10

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

INSTALLATION:PALISADES

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
6	TRUCK	BARNWELL SC
23	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 BOTTOMS, ETC.	M3	1.48E+02
	CI	2.52E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.27E+02
	CI	9.00E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	3.30E-01
	CI	2.53E+04
D. OTHER	M3	0.00E+00
	CI	

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 1983
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	3.87E-04
AR-41	4.91E+00
CO-58	6.15E-05
CO-60	3.36E-04
ZN-65	2.10E-03
KR-85M	1.00E+03
KR-87	6.02E+01
KR-88	3.93E+02
RB-88	6.72E-03
RB-89	4.55E-04
SR-89	1.33E-03
SR-90	1.17E-04
SR-91	1.42E-03
Y-91M	7.96E-03
TC-99M	9.66E-05
CD-109	2.59E-04
I-131	3.87E-02
I-133	8.78E-01
XE-133	4.32E+04
XE-133M	5.13E+02
CS-134	6.54E-04
I-135	4.27E-01
XE-135	1.05E+04
XE-135M	1.23E+02
CS-137	7.75E-04
CS-138	6.08E-02
XE-138	1.32E+01
BA-139	1.71E-02
BA-140	1.55E-03
LA-140	1.06E-03
UNIDENTIFIED	6.16E+02

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	2.15E-01
P-32	1.44E-01
CR-51	1.18E-02
MN-54	2.88E-03
FE-55	5.87E-02
MN-56	3.73E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
CO-58	1.72E-02
CO-60	1.56E-01
NI-63	6.16E-02
CU-64	6.76E-03
ZN-65	7.85E-01
KR-85M	2.40E-03
SR-89	3.68E-03
SR-90	4.05E-04
Y-91M	1.41E-03
SR-92	1.51E-03
NB-95	6.50E-04
TC-99M	1.38E-02
CD-109	6.96E-03
AG-110M	2.42E-03
SB-124	2.35E-04
I-131	1.34E-01
XE-131M	6.54E-03
I-132	1.97E-03
I-133	3.83E-02
XE-133	1.76E-01
XE-133M	3.77E-04
CS-134	1.47E-01
I-134	5.15E-04
I-135	7.47E-03
XE-135	6.66E-02
XE-135M	1.49E-02
CS-137	2.56E-01
BA-140	1.36E-03
LA-140	3.90E-03

TOTAL AIRBORNE TRITIUM RELEASE 1.53E+01
TOTAL LIQUID TRITIUM RELEASE 2.02E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.43E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.99E+11

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

INSTALLATION:PEACH BOTTOM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
271	TRUCKS	BARNWELL SC
66	TRUCKS	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 BOTTOMS, ETC.	M3	2.68E+03
	CI	2.24E+04
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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	<9.13E-05
CO-58	2.99E-05
FE-59	8.69E-07
CO-60	<1.04E-03
ZN-65	5.60E-06
KR-85	<5.85E-02
KR-85M	2.95E+03
KR-87	1.72E+03
KR-88	5.50E+03
SR-89	4.56E-03
SR-90	2.75E-05
ZR-NB-95	1.83E-06
I-131	<3.24E-02
I-133	<1.68E-01
XE-133	7.50E+03
XE-133M	1.30E+02
CS-134	4.16E-05
I-135	<2.35E-01
XE-135	2.17E+03
XE-135M	2.11E+00
CS-137	<6.04E-04
XE-138	1.88E+01
BA-LA-140	<8.07E-03
CE-141	8.92E-06
CE-144	3.44E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	6.31E-03
MN-54	9.74E-03
FE-55	1.35E-02
CO-58	5.01E-03
FE-59	1.86E-03
CO-60	8.49E-02
ZN-65	1.65E-03
SR-89	<3.87E-02
SR-90	5.43E-03
ZR-NB-95	1.81E-04
MO-99-TC-99M	3.56E-05
AG-110M	7.12E-01
I-131	1.30E-04
I-133	7.09E-05
XE-133	6.76E-04
CS-134	8.75E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
XE-135	2.72E-03
CS-137	1.47E-02
BA-LA-140	2.99E-04
CE-141	2.01E-03
UNIDENTIFIED	3.72E-02

TOTAL AIRBORNE TRITIUM RELEASE	5.99E+01
TOTAL LIQUID TRITIUM RELEASE	1.56E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.32E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.70E+10

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

INSTALLATION:PILGRIM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS
69

MODE OF TRANSPORTATION
TRACTOR-TRAILER

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-140	%	7.20E-02	5.60E-02
CE-141	%	9.00E-03	6.00E-03
CO-57	%		0.00E+00
CO-58	%	6.93E-01	2.35E+00
CO-60	%	2.68E+01	4.04E+01
CR-51	%	1.10E+00	2.00E+00
CS-134	%	7.83E-01	2.78E+00
CS-137	%	5.36E-01	2.71E+01
FE-55	%	5.59E+01	1.34E+01
FE-59	%	2.00E-02	8.80E-02
I-131	%	3.59E-01	8.60E-02
I-133	%	1.50E-01	3.60E-02
I-135	%	1.20E-02	
LA-140	%	8.00E-02	1.36E-01
MN-54	%	1.65E+00	2.16E+00
MO-99	%	8.50E-02	0.00E+00
NA-24	%	8.00E-03	4.00E-03
NP-239	%		1.00E-03
RU-103	%		1.00E-03
SB-122	%	5.40E-02	
SR-89	%	5.50E+00	7.42E+00
SR-90	%	1.39E-01	2.13E-01
SR-91	%		2.40E-02
TC-99M	%	1.30E-01	1.81E-01
XE-133	%	2.40E-02	0.00E+00
Y-91M	%	3.00E-03	
ZN-65	%	1.85E-01	1.54E+00
ZR-95	%	1.00E-03	

B

BA-140	%	2.59E+00	1.66E+00
CO-58	%	2.49E+00	1.44E+01
CO-60	%	3.72E+01	1.78E+01
CR-51	%	3.69E+01	4.19E+01
CS-134	%	8.48E-01	
CS-137	%	3.65E+00	5.64E-01
FE-55	%	3.98E+00	1.10E-01
FE-59	%	9.90E-02	9.65E+00

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:PILGRIM

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)		JAN-JUNE	JULY-DEC
I-131	%	1.74E+00	1.11E+00
MN-54	%	3.86E+00	9.11E+00
NB-95	%		1.29E+00
SR-89	%	5.54E+00	
SR-90	%	1.18E-01	
ZN-65	%	9.56E-01	1.72E+00
ZR-95	%		6.84E-01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.91E+02
	CI	1.44E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	4.74E+02
	CI	4.11E+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:POINT BEACH

LOCATION:15 MI N MANITOWOC, WI

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	7.51E+02
F-18	3.00E-09
AR-41	4.46E+00
CR-51	1.41E-06
MN-54	1.43E-07
CO-58	1.04E-04
CO-60	1.35E-04
KR-85	2.00E+01
KR-85M	3.32E+01
KR-87	5.94E+01
KR-88	6.34E+01
RB-88	6.17E-02
NB-95	8.58E-07
ZR-95	5.34E-08
RU-103	2.51E-07
SB-125	3.06E-07
I-131	1.78E-02
I-132	1.34E-03
BA-133	2.60E-06
I-133	7.37E-04
XE-133	3.68E+02
XE-133M	7.62E+00
CS-134	2.82E-05
I-134	5.76E-08
I-135	2.70E-05
XE-135	1.32E+02
XE-135M	2.54E+01
CS-136	1.89E-07
CS-137	7.90E-05
CS-138	5.33E-03
XE-138	5.55E+01
CE-141	3.69E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	5.39E+02
F-18	3.36E-03
NA-24	2.54E-04
CR-51	2.86E-04
MN-54	4.47E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
CO-57	3.68E-05
CO-58	2.22E-03
CO-60	3.97E-03
RB-88	4.25E-02
SR-89	4.17E-04
SR-90	4.16E-04
NB-95	6.74E-05
ZR-95	1.53E-05
RU-103	1.92E-05
SN-113	1.05E-06
SB-125	1.47E-04
I-131	3.21E-01
XE-131M	8.74E-04
I-132	4.55E-02
I-133	2.25E-01
XE-133	5.43E-02
XE-133M	5.59E-06
CS-134	1.74E-01
I-134	1.27E-02
I-135	1.08E-01
XE-135	8.59E-03
CS-136	6.10E-03
CS-137	2.55E-01
CS-138	4.17E-03
CE-141	3.36E-06

TOTAL AIRBORNE TRITIUM RELEASE 7.51E+02
TOTAL LIQUID TRITIUM RELEASE 5.39E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.91E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.40E+11

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

INSTALLATION:POINT BEACH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
52		

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	5.74E+01	
	CI	1.00E+03	
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	6.54E+02	
	CI	1.18E+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:PRAIRIE ISLAND

LOCATION:26 MI SE MINNEAPOLIS, MN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	2.69E-03
CO-58	2.37E-05
CO-60	7.22E-06
KR-85	1.07E+02
SR-89	1.65E-07
SR-90	4.63E-09
I-131	1.32E-02
XE-131M	4.00E-01
I-133	1.69E-03
XE-133	1.63E+02
XE-133M	3.31E-01
XE-135	6.70E+00
XE-135M	9.50E-03

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	7.97E-05
SC-47	2.08E-05
MN-54	1.61E-05
FE-55	1.04E-02
CO-58	4.02E-03
CO-60	1.09E-03
SR-89	3.17E-04
ZR-NB-95	1.58E-05
ZR-97	2.33E-05
TC-99M	5.80E-05
AG-110M	9.63E-04
SB-124	7.67E-03
SB-125	2.45E-03
I-131	3.98E-03
XE-131M	1.84E-03
I-133	1.65E-04
XE-133	8.38E-02
XE-133M	4.06E-04
CS-134	1.93E-04
XE-135	3.89E-04
CS-137	1.88E-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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 6.92E+01
TOTAL LIQUID TRITIUM RELEASE 5.20E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.27E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.60E+12

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

INSTALLATION: PRAIRIE ISLAND

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

4

5

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 2.39E+02

CI 1.92E+02

M3

CI

M3

CI

M3

CI

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	5.69E+00
MN-54	7.12E-04
CO-58	2.69E-04
CO-60	2.81E-02
ZN-65	1.12E-03
KR-85M	8.07E+02
KR-87	4.32E+02
KR-88	1.08E+03
SR-89	2.83E-03
SR-90	2.85E-04
TC-99M	2.35E-03
AG-110M	4.75E-05
I-131	1.96E-01
I-133	8.31E-01
XE-133	3.96E+03
CS-134	2.86E-04
I-135	2.96E+00
XE-135	2.10E+03
XE-135M	1.49E+03
CS-136	3.00E-05
CS-137	2.89E-03
XE-138	2.18E+03
BA-140	5.21E-02
CE-141	1.27E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.31E-03
CR-51	3.26E-03
MN-54	2.52E-03
CO-58	1.46E-03
CO-60	3.83E-02
NI-65	1.84E-04
ZN-65	1.19E-03
KR-88	1.34E-02
SR-89	2.15E-02
SR-90	7.14E-03
SR-91	2.68E-03
SR-92	1.50E-04
NB-95	5.72E-05

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
ZR-95	2.26E-04
MO-99	2.90E-03
TC-99M	2.54E-03
RU-103	5.38E-05
AG-110M	4.35E-04
I-131	6.59E-03
I-133	5.58E-03
XE-133	3.70E-03
CS-134	1.77E-03
I-135	2.23E-03
XE-135	1.87E-03
CS-136	1.13E-04
CS-137	9.89E-03
BA-140	4.95E-03
CE-141	1.38E-04
CE-144	3.45E-05

TOTAL AIRBORNE TRITIUM RELEASE	2.13E+01
TOTAL LIQUID TRITIUM RELEASE	3.88E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.69E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	7.08E+11

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

INSTALLATION:QUAD-CITIES

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
173	CHEM NUCLEAR CO	BARNWELL SC
96	CHEM NUCLEAR CO	RICHLAND WA
19	HACKE	RICHLAND WA
5	TRI-STATE	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 BOTTOMS, ETC.	M3	1.58E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	CI	5.85E+03
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:RANCHO SECO

LOCATION:25 MI SE SACRAMENTO, CA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO. :50-312
COOLING WATER SOURCE:COOLING TOWERS-FOLSOM CANAL

LICENSEE:SACRAMENTO MUNICIPAL UTILITY
LICENSED POWER (MWT):2772.00
INITIAL CRITICALITY:09/16/74

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.78E+00
CO-58	3.30E-05
CO-60	5.67E-05
KR-85	1.21E+00
KR-85M	6.88E-01
KR-87	7.24E-01
KR-88	9.78E-01
I-131	2.03E-03
XE-131M	2.58E-01
I-133	2.78E-04
XE-133	6.41E+02
XE-133M	1.78E+01
CS-134	3.50E-05
XE-135	2.43E+01
XE-135M	1.81E+00
CS-137	1.00E-04
XE-138	1.65E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	7.40E+01
NA-24	6.23E-04
AR-41	8.86E-05
MN-54	5.16E-03
CO-58	3.25E-02
CO-60	1.49E-02
SR-90	1.08E-03
NB-95	8.37E-05
I-131	3.61E-02
I-133	6.89E-04
XE-133	1.05E-03
CS-134	6.09E-02
I-135	1.76E-04
XE-135	6.02E-05
CS-136	1.70E-03
CS-137	1.07E-01

TOTAL AIRBORNE TRITIUM RELEASE 1.75E+02
TOTAL LIQUID TRITIUM RELEASE 7.43E+01

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 1983
AIRBORNE AND LIQUID EFFLUENTS

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.26E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.60E+09

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

INSTALLATION:RANCHO SECO

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
13	TRUCK	RICHLAND WA

IRRADIATED FUEL SHIPMENTS(DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

ESTIMATE OF MAJOR NUCLIDE COMPOSITION(BY TYPE OF WASTE)

B

	JAN-JUNE	JULY-DEC
AG-110M	%	3.00E-02
CO-57	%	3.90E-01
CO-58	% 0.00E+00	5.40E+01
CO-60	% 0.00E+00	2.97E+01
CR-51	%	5.10E-01
CR-51-AG-110M	% 0.00E+00	
CS-137	%	3.00E+00
FE-59	%	2.00E+00
MN-54	% 0.00E+00	1.04E+01

D

AG-110M	%	0.00E+00
CO-58	%	0.00E+00
CO-60	%	0.00E+00
MN-54	%	0.00E+00

TYPE OF WASTE

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	1.87E+02
	CI	7.30E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	8.52E+01
	CI	2.18E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 2
TYPE: PWR
DOCKET NO.:50-261
COOLING WATER SOURCE:ROBINSON INPOUNDMENT

LICENSEE:CAROLINA POWER &LIGHT
LICENSED POWER (MWT):2300.00
INITIAL CRITICALITY:09/20/70

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	3.21E-02
CO-58	1.26E-06
CO-60	2.58E-05
KR-85	9.50E-01
KR-85M	7.26E-02
KR-88	1.09E-03
CD-109	2.69E-07
I-131	1.31E-02
XE-131M	6.28E-01
I-133	6.75E-04
XE-133	2.82E+02
XE-133M	4.23E+00
CS-134	1.46E-06
XE-135	4.93E+00
CS-137	4.19E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	2.26E-03
NA-24	4.70E-01
AR-41	1.22E-04
CR-51	1.51E-03
MN-54	5.20E-04
CO-57	1.77E-06
CO-58	1.44E-02
CO-60	1.00E-01
KR-85	1.02E-04
KR-85M	5.21E-04
KR-87	1.33E-04
Y-88	3.91E-04
SR-90	4.16E-05
SR-92	6.22E-05
NB-95	3.90E-04
ZR-95	1.03E-03
NB-97	3.71E-03
ZR-97	7.95E-06
MO-99	4.09E-05
TC-99M	5.11E-05
AG-110M	1.14E-03
SN-113	5.20E-05
SB-124	2.47E-03
I-131	5.79E-02
XE-131M	2.12E-04
I-132	2.10E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
I-133	8.09E-02
XE-133	1.21E-01
XE-133M	2.86E-04
CS-134	3.56E-02
XE-135	3.21E-02
XE-135M	1.01E-01
CS-136	1.79E-04
CS-137	4.94E-02

TOTAL AIRBORNE TRITIUM RELEASE	3.82E+00
TOTAL LIQUID TRITIUM RELEASE	2.40E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.17E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.67E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
80	SOLE USE VEHICLE	BARNWELL SC
3	SOLE USE VEHICLE	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
CO-58	%	5.00E+00	1.10E+01
CO-60	%	6.20E+01	4.10E+01
CS-137	%	2.50E+01	4.00E+00
MN-54	%	5.00E+00	1.00E+00
OTHERS	%	3.00E+00	8.00E+00
SB-124	%		1.90E+01
SB-125	%		1.60E+01

B

CO-58	%	5.60E+00	7.00E+00
CO-60	%	8.47E+01	8.40E+01
CS-137	%	4.60E+00	
MN-54	%	1.50E+00	1.00E+00
OTHERS	%	7.30E+00	7.00E+00
SB-124	%	N/A	1.00E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.97E+02
	CI	1.47E+01
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	7.89E+02
	CI	3.15E+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 1983
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)
H-3	1.11E+00
FE-55	4.20E-02
I-131	2.69E-03
I-133	1.78E-02
XE-133	9.93E+01
XE-135	8.75E+00
UNIDENTIFIED	1.65E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.08E+02
NA-24	5.34E-03
CR-51	6.15E-02
MN-54	1.63E-01
CO-57	4.01E-03
CO-58	1.82E+00
FE-59	4.21E-02
CO-60	7.06E-01
ZN-65	2.61E-03
KR-88	4.96E-04
SR-89	1.25E-03
NB-95	2.17E-02
ZR-95	8.01E-03
NB-97	3.59E-04
MO-99	1.57E-03
TC-99M	1.73E-03
SN-113	3.84E-04
SB-122	2.18E-04
SB-124	1.45E-02
SB-125	4.36E-02
XE-127	1.03E-04
I-131	2.41E-02
I-133	3.33E-02
XE-133	2.50E-01
CS-134	1.83E-02
I-135	1.60E-03
XE-135	1.58E-02
CS-137	3.04E-02
BA-140	1.32E-02
LA-140	1.27E-02
W-187	1.43E-04

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

INSTALLATION:SALEM 1

LOCATION:20 MI S WILMINGTON, DL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 2.08E+03
TOTAL LIQUID TRITIUM RELEASE 2.08E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.43E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.48E+12

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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)
H-3	8.60E+02
AR-41	2.49E-04
MN-54	3.87E-06
FE-55	3.51E-02
CO-58	1.10E-05
CO-60	9.05E-06
KR-85	2.04E+01
I-131	2.33E-04
XE-133	4.97E+02
XE-135	1.98E+01
UNIDENTIFIED	2.27E+02

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.23E+02
NA-24	9.25E-03
CR-51	4.58E-02
MN-54	1.36E-01
CO-57	2.56E-03
CO-58	1.66E+00
FE-59	3.12E-02
CO-60	5.72E-01
SR-89	3.21E-04
NB-95	1.59E-02
ZR-95	5.19E-03
NB-97	1.14E-02
MO-99	3.03E-03
TC-99M	3.60E-03
SN-113	5.90E-04
SB-122	4.78E-04
SB-124	1.95E-02
SB-125	9.60E-02
I-131	3.60E-02
I-133	5.37E-02
XE-133	2.10E-01
CS-134	1.98E-02
I-135	1.58E-03
XE-135	1.48E-02
CS-137	3.58E-02
BA-140	9.84E-03
LA-140	8.13E-02
ND-147	3.00E-04
SM-153	2.65E-04

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

INSTALLATION:SALEM 2

LOCATION:20 M S WILMINGTON, DL

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 8.60E+02
TOTAL LIQUID TRITIUM RELEASE 2.23E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	1.53E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.94E+10

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
81	TRUCK	BARNWELL SC
36	TRUCK	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			
	CO-58	% 7.99E+01	7.99E+01
	CO-60	% 1.24E+01	1.24E+01
	CS-134	% 2.50E+00	2.50E+00
	CS-137	% 2.20E+00	2.20E+00
	MN-54	% 3.00E+00	3.00E+00
B			
	CO-58	% 7.99E+01	7.99E+01
	CO-60	% 1.24E+01	1.24E+01
	CS-134	% 2.50E+00	2.50E+00
	CS-137	% 2.20E+00	2.20E+00
	MN-54	% 3.00E+00	3.00E+00

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	4.20E+02
	CI	2.91E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.63E+03
	CI	7.44E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	1.93E+01
	CI	1.00E-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 1983
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)
H-3	3.93E+00
KR-85	6.90E+00
CD-109	2.31E-06
I-131	2.92E-06
XE-133	3.70E+00
CS-137	2.10E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.57E+01
MN-54	2.62E-02
CO-57	4.88E-04
CO-58	4.22E-02
CO-60	6.10E-01
SR-89	4.10E-05
SR-90	1.63E-03
NB-97	1.62E-01
CD-109	7.29E-06
AG-110M	1.03E-03
I-131	8.09E-06
CS-134	7.70E-02
CS-137	3.00E-01

TOTAL AIRBORNE TRITIUM RELEASE 3.93E+00

TOTAL LIQUID TRITIUM RELEASE 1.57E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION) LITERS 1.53E+07

VOLUME OF DILUTION WATER USED DURING PERIOD LITERS 1.53E+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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
20	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
CO-57	%	8.00E-01	
CO-58	%	7.00E+00	
CO-60	%	7.67E+01	
CS-134	%	3.70E+00	
CS-137	%	8.00E+00	
MN-54	%	3.20E+00	
SR-90/Y-90	%	6.00E-01	

B

CE-144	%		6.66E-02
CO-57	%	0.00E+00	
CO-60	%	7.64E+01	3.22E+01
CS-134	%	6.30E-01	3.49E+00
CS-137	%	2.27E+01	6.33E+01
MN-54	%	2.00E-01	5.72E-02
NI-63	%		4.23E-01
PU-241	%		1.93E-01
RU-106	%		2.57E-02
SR-90/Y-90	%		2.52E-01

D

CE-144	%	8.00E-01	
CO-58	%	5.50E+00	
CO-60	%	5.20E+01	5.98E+01
CS-134	%	3.70E+00	2.98E+00
CS-137	%	3.50E+01	3.73E+01
H-3	%	1.00E+00	
MN-54	%	2.00E+00	1.07E-01

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.98E+01
	CI	2.17E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.77E+02
	CI	6.35E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	1.36E+02
	CI	3.26E+00

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	2.21E-05
AR-41	7.87E+00
SC-47	6.66E-05
MN-54	9.38E-08
FE-55	5.37E-05
MN-56	1.92E-05
CO-58	4.95E-05
BR-82	1.83E-04
KR-85	3.07E+00
KR-85M	2.81E+00
KR-87	1.17E-02
KR-88	6.51E-01
RB-88	3.62E-03
Y-88	9.94E-07
SR-89	5.19E-06
SR-90	4.12E-07
Y-92	3.06E-07
NB-95M	2.11E-03
MO-99	6.46E-05
TC-99M	8.41E-05
TC-101	2.01E-08
CD-109	4.91E-08
I-131	1.56E-01
XE-131M	2.15E+01
I-132	1.44E-04
I-133	7.49E-02
XE-133	7.29E+03
XE-133M	5.24E+01
CS-134	7.61E-09
I-134	2.27E-05
I-135	4.62E-03
XE-135	4.30E+01
CS-136	5.96E-08
CS-137	2.14E-05
CS-138	1.51E-05
CE-139	5.25E-06
ND-147	4.38E-07

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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.27E+01
TOTAL LIQUID TRITIUM RELEASE 2.38E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	5.54E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.26E+11

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
BE-7	3.03E-03
NA-24	5.16E-02
AR-41	2.65E-04
SC-46	1.49E-04
CR-51	5.47E-01
MN-54	6.89E-02
FE-55	6.97E-03
CO-57	2.56E-04
CO-58	9.25E-01
FE-59	4.78E-02
CO-60	8.22E-02
ZN-65	1.46E-03
KR-85M	6.20E-05
RB-88	6.43E-04
SR-89	5.91E-03
SR-90	2.18E-05
NB-95	5.15E-02
ZR-95	4.59E-02
NB-97	4.92E-04
ZR-97	2.68E-04
MO-99	1.71E-02
TC-99M	2.24E-02
RU-103	1.19E-04
IN-113M	6.63E-04
SN-113	4.66E-04
SB-124	5.93E-03
I-131	6.82E-01
XE-131M	2.21E-02
I-132	1.21E-04
TE-132	5.98E-04
I-133	1.06E-01
XE-133	2.95E+00
XE-133M	3.59E-02
CS-134	1.28E-02
I-135	1.95E-03
XE-135	3.14E-02
XE-135M	N/D
CS-136	5.08E-03
CS-137	8.43E-02
CS-138	4.76E-05
BA-140	5.69E-05
LA-140	3.29E-04
CE-144	5.93E-03
W-187	7.68E-03

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

INSTALLATION:SAN ONOFRE 2-3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION
NUMBER OF SHIPMENTS 8 MODE OF TRANSPORTATION TRUCK DESTINATION 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-57	%	1.26E-03
	CO-58	%	4.66E+01
	CO-60	%	2.06E+01
	CR-51	%	1.60E+00
	CS-137	%	1.12E-01
	FE-59	%	1.09E+00
	MN-54	%	2.15E+01
	NB-95	%	5.07E+00
	ZN-65	%	8.96E-01
	ZR-95	%	2.53E+00
B			
	CO-58	% 4.80E+01	4.17E+01
	CO-60	% 4.00E+00	6.36E+00
	CR-51	% 4.60E+01	
	CS-134	%	1.15E+00
	CS-137	%	1.03E+01
	FE-59	%	2.37E-01
	MN-54	% 2.00E+00	4.03E+01
D			
	BE-7	%	2.11E-02
	CO-58	% 4.80E+01	3.24E+01
	CO-60	% 4.00E+00	1.04E+01
	CR-51	% 4.60E+01	2.74E+01
	CS-134	%	9.95E-01
	CS-136	%	1.78E-03
	CS-137	%	7.91E+00
	FE-59	%	1.54E+00
	I-131	%	1.53E+00
	MN-54	% 2.00E+00	5.09E+00
	NB-95	%	5.39E+00
	ZR-95	%	7.30E+00

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

INSTALLATION:SAN ONOFRE 2-3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.11E+01
	CI	5.58E+00
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	8.77E+01
	CI	1.61E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	9.00E+01
FILTERS,SLUDGE,SAND/RUBBLE ETC	CI	7.91E-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 1983
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	3.50E+00
CR-51	4.59E-05
MN-54	9.15E-06
CO-58	3.35E-04
CO-60	4.10E-06
KR-85	8.44E+00
KR-85M	4.55E+00
KR-87	2.96E+00
KR-88	4.59E+00
SR-89	7.32E-04
SR-90	9.59E-08
Y-91	1.63E-04
NB-95	2.67E-06
RU-106	2.66E-04
I-131	6.64E-04
XE-131M	6.53E+00
I-133	2.54E-04
XE-133	3.63E+03
XE-133M	3.63E+01
I-135	2.22E-04
XE-135	2.18E+02
XE-135M	3.70E+00
CS-137	1.43E-09
XE-138	1.68E+00

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	4.00E-01
P-32	9.60E-02
AR-41	9.89E-05
CR-51	6.07E-02
MN-54	2.14E-01
FE-55	6.70E-01
CO-57	2.56E-03
CO-58	9.65E-01
FE-59	1.61E-02
CO-60	6.57E-01
ZN-65	1.38E-03
KR-85	4.82E-03
KR-85M	2.69E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
RB-88	2.22E-02
SR-89	1.57E-02
SR-90	1.86E-03
SR-92	3.23E-04
ZR-NB-95	2.43E-02
NB-97	1.46E-03
ZR-97	1.29E-02
MO-99	1.97E-04
TC-99M	2.52E-04
RU-106	1.89E-02
AG-110M	4.11E-04
SB-124	1.76E-04
I-131	1.68E-01
XE-131M	4.11E-03
I-132	3.92E-02
TE-132	2.96E-05
I-133	1.46E-01
XE-133	4.93E-01
XE-133M	7.04E-03
CS-134	1.12E-01
I-134	2.33E-02
I-135	8.59E-02
XE-135	1.51E-01
XE-135M	4.92E-05
CS-137	1.59E-01
CS-138	3.81E-02
CE-141	4.95E-06
CE-144	2.99E-04

TOTAL AIRBORNE TRITIUM RELEASE 8.46E+02
TOTAL LIQUID TRITIUM RELEASE 7.35E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.19E+09
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	6.00E+12

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

INSTALLATION:SEQUOYAH

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
10	HIGHWAY CARRIER	BARNWELL SC
7	HIGHWAY CARRIER	RICHLAND WA
10	SOLE USE VEHICLE	BARNWELL SC
4	SOLE USE VEHICLE	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
CO-58	%	4.57E+01	7.13E+01
CO-60	%	3.33E+01	1.15E+01
CR-51	%	4.43E-02	2.18E+00
CS-134	%	3.87E+00	2.00E+00
CS-137	%	6.06E+00	2.80E+00
FE-59	%	1.11E-03	5.55E-01
I-131	%		1.69E+00
MN-54	%	1.07E+01	6.33E+00
NB-95	%	7.22E-02	8.48E-01
OTHER	%	3.23E-01	2.50E-01
ZR-95	%	3.48E-03	5.31E-01

B

CO-58	%	6.18E+01	6.91E+01
CO-60	%	2.42E+01	9.73E+00
CR-51	%	1.96E-02	4.85E+00
CS-134	%	1.69E+00	1.24E+00
CS-137	%	2.55E+00	1.74E+00
FE-59	%		1.55E+00
I-131	%	3.83E+00	3.36E+00
MN-54	%	5.73E+00	6.57E+00
NB-95	%		1.30E+00
OTHER	%	2.38E-01	1.01E-01
ZR-95	%		4.34E-01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	7.17E+01
	CI	2.26E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	6.21E+02
	CI	4.35E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE:PWR
DOCKET NO.:50-335
COOLING WATER SOURCE:ATLANTIC OCEAN

LICENSEE:FLORIDA POWER &LIGHT
LICENSED POWER (MWT):2560.00
INITIAL CRITICALITY:04/22/76

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.04E+01
CO-58	1.54E-06
CO-60	7.58E-05
KR-85	4.23E+01
KR-85M	2.18E+02
KR-87	1.64E+02
KR-88	1.98E+02
SR-89	0.00E+00
SR-90	0.00E+00
Y-90	0.00E+00
I-130	3.18E-03
I-131	8.84E-02
XE-131M	1.80E+02
I-133	3.34E-02
XE-133	1.97E+04
XE-133M	1.89E+02
XE-135	4.27E+02
XE-135M	2.98E+02
XE-138	9.03E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.37E-03
CR-51	5.30E-02
MN-54	2.99E-02
FE-55	2.89E-02
CO-57	3.66E-04
CO-58	1.92E-01
FE-59	5.05E-03
CO-60	3.92E-01
ZN-65	9.36E-04
KR-85	8.04E-02
KR-85M	5.02E-03
SR-89	3.22E-04
SR-90	1.14E-05
Y-90	1.14E-05
NB-95	3.81E-02
ZR-95	3.80E-02
NB-97	1.79E-04
ZR-97	4.08E-03
MO-99	1.35E-03
TC-99M	9.74E-04
RU-103	4.86E-04
AG-110M	1.16E-02

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SN-113	1.31E-03
SB-122	2.28E-02
SB-124	4.33E-02
SB-125	5.61E-02
I-131	2.32E-01
XE-131M	8.83E-01
I-132	2.24E-04
I-133	2.50E-03
XE-133	5.33E+01
XE-133M	8.66E-01
CS-134	8.05E-01
XE-135	7.40E-01
CS-136	4.77E-02
CS-137	9.60E-01
XE-138	3.51E-02
BA-140	6.26E-04
LA-140	1.54E-03
CE-141	1.13E-04
CE-144	7.12E-03
PR-144	4.94E-03
W-187	1.03E-03
NP-239	2.86E-04

TOTAL AIRBORNE TRITIUM RELEASE 3.16E+02
TOTAL LIQUID TRITIUM RELEASE 3.46E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	9.73E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	8.78E+11

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

INSTALLATION:ST. LUCIE 1

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
10	SOLE USE TRUCK	BARNWELL SC
4	SOLE USE 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	%	1.60E+01	
CO-60	%	4.70E+01	
CS-134	%	1.40E+01	
CS-137	%	2.10E+01	
MN-54	%	1.50E+00	

B

CO-58	%	2.10E+01	
CO-60	%	5.40E+01	
CR-51	%	2.80E+00	
CS-134	%	7.40E+00	
CS-137	%	1.30E+01	
MN-54	%	2.30E+00	
NB-95	%	1.10E+00	

D

CO-60	%	1.00E+02	
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TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.71E+01
	CI	2.18E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.69E+02
	CI	6.73E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	1.06E+02
	CI	1.35E-01

* JULY-DEC SOLID EFFLUENTS ARE REPORTED UNDER ST. LUCIE 1&2

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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-389
COOLING WATER SOURCE:ATLANTIC OCEAN

LICENSEE:FLORIDA POWER &LIGHT
LICENSED POWER (MWT):2700.00
INITIAL CRITICALITY:06/02/83

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
AR-41	1.59E+00
KR-85	9.65E-02
KR-85M	3.32E-02
KR-88	3.98E-03
I-131	1.25E-02
XE-131M	3.67E-01
I-133	1.17E-02
XE-133	1.19E+03
XE-133M	4.88E-01
XE-135	6.19E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
NA-24	1.95E-03
CR-51	2.60E-04
MN-54	4.33E-03
FE-55	1.52E-02
CO-58	5.06E-02
FE-59	3.13E-05
CO-60	5.04E-02
KR-85	5.37E-03
SR-89	2.25E-04
NB-95	1.02E-05
ZR-97	1.30E-04
TC-99M	6.64E-04
SB-122	7.89E-03
SB-124	5.37E-03
SB-125	2.03E-02
I-131	1.57E-02
XE-131M	8.05E-06
I-133	7.11E-04
XE-133	7.23E-02
XE-133M	4.57E-04
CS-134	9.79E-02
I-135	4.85E-05
XE-135	1.07E-03
CS-137	1.60E-01
LA-140	5.86E-04
CE-144	1.31E-04
PR-144	1.04E+04
W-187	3.09E-04
NP-239	1.41E-03

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 1983
AIRBORNE AND LIQUID EFFLUENTS

TOTAL AIRBORNE TRITIUM RELEASE 1.01E+02
TOTAL LIQUID TRITIUM RELEASE 3.77E+01

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.80E+06
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.56E+10

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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
41	SOLE USE TRUCK	BARNWELL SC
5	SOLE USE 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	%	3.10E+00
CO-60	%	9.20E+01
B		
CO-58	%	5.80E+00
CO-60	%	6.00E+01
CS-134	%	7.60E+00
CS-137	%	2.60E+01
MN-54	%	1.00E+00
C		
CO-58	%	1.90E+01
CO-60	%	4.20E+01
CR-51	%	2.30E+00
FE-59	%	2.90E+01
MN-54	%	3.70E+00
NI-63	%	3.30E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	5.95E+00
	CI	2.20E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.42E+02
	CI	2.05E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	7.99E+01
	CI	9.35E+04
D. OTHER	M3	
	CI	

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	3.20E-02
CO-58	2.46E-05
FE-59	1.08E-06
KR-85	2.65E+02
I-131	2.05E-05
I-133	1.14E-04
XE-133	1.09E+02
I-135	1.94E-05
XE-135	1.37E+01
BA-LA-140	8.70E-07
CE-141	2.77E-07

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	2.27E+02
BE-7	9.30E-05
NA-24	1.91E-02
AR-41	4.56E-06
SC-46	1.93E-05
CR-51	1.82E-01
MN-54	2.89E-02
FE-55	2.73E-02
MN-56	3.86E-06
NI-56	2.21E-05
CO-57	8.69E-04
CO-58	1.00E+00
MN-58	7.95E-09
FE-59	2.56E-02
CO-60	1.34E-01
CO-60M	1.53E-04
CU-64	3.14E-04
NI-65	9.38E-06
ZN-65	1.98E-04
AS-70	5.42E-06
AS-76	1.33E-05
KR-81	3.98E-05
BR-82	2.75E-06
KR-85M	7.36E-07
KR-88	8.64E-04
SR-89	5.14E-05
KR-90	2.56E-05
SR-90	3.30E-04
ZR-NB-95	1.84E-02
ZR-97	3.91E-06

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MO-99	5.79E-05
TC-99M	5.51E-04
SN-113	3.70E-05
SB-124	5.05E-03
SB-125	2.60E-03
CE-131	4.61E-05
I-131	3.01E-03
I-132	4.42E-05
LA-132	5.78E-04
I-133	4.93E-03
XE-133	1.51E-02
CS-134	1.10E-03
I-135	7.48E-04
XE-135	7.09E-03
CS-136	6.55E-05
CS-137	7.61E-04
BA-LA-140	2.53E-03
CE-141	1.60E-05
CE-144	1.48E-04
W-187	1.82E-03
PB-199	3.36E-07

TOTAL AIRBORNE TRITIUM RELEASE 3.62E+00
TOTAL LIQUID TRITIUM RELEASE 2.27E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.04E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	1.28E+12

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

INSTALLATION:SUMMER

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS 5 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)

A

C0-57/CR-51/CS-137/FE-59/I-131/LA-140/MN-54/N
B-95/ZR-95
C0-58
C0-60
H-3

% 1.76E+00
% 1.28E+01
% 1.76E+01
% 6.78E+01

B

CE-144/LA-140/SB-124/SN-113
C0-58
C0-60
CR-51
FE-59/MN-54/NB-95/ZR-95

% 4.17E-01
% 5.57E+01
% 1.01E+01
% 2.05E+01
% 1.37E+01
% 2.70E+01

D

BA-140/C0-60/FE-59/MN-54/NB-95/ZR-95
CE-144/NI-56/ZN-65
C0-58

% 2.65E+01
% 3.00E-01
% 5.25E+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 1.13E+01
CI 7.97E-01
M3 7.88E+01
CI 4.78E-01
M3 0.00E+00
CI 0.00E+00
M3 2.38E+00
CI 1.24E+01

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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)
CR-51	2.81E-06
MN-54	3.53E-05
CO-58	1.87E-03
FE-59	1.60E-07
CO-60	1.23E-03
ZN-65	7.14E-06
KR-85	2.16E+01
KR-85M	7.20E+00
RB-88	3.55E-03
NB-95	9.87E-07
ZR-95	1.28E-07
RU-103	7.05E-09
I-131	7.47E-02
I-132	9.97E-03
I-133	3.18E-02
XE-133	5.37E+03
XE-133M	3.25E+01
CS-134	2.93E-03
I-134	4.96E-03
I-135	2.22E-02
XE-135	5.56E+01
CS-137	4.93E-02
CS-138	8.11E-04

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
C-14	2.36E-02
NA-24	4.46E-01
AR-41	5.18E-04
CR-51	2.89E-01
MN-54	6.23E-02
CO-57	7.97E-03
CO-58	1.77E+00
FE-59	6.63E-03
CO-60	1.41E+00
RB-88	1.13E-03
SR-89	3.49E-03
SR-90	4.82E-04
NB-95	6.72E-02
SB-124	3.28E-02

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SB-125	8.63E-02
I-131	1.60E+00
XE-131M	1.00E-01
I-132	8.51E-04
I-133	1.37E-01
XE-133	1.04E+01
XE-133M	8.47E-02
CS-134	2.17E+00
I-134	3.92E-06
I-135	2.05E-02
XE-135	7.83E-01
CS-136	5.89E-03
CS-137	3.27E+00
BA-LA-140	2.31E-03
CE-141	2.70E-03
CE-144	2.30E-02

TOTAL AIRBORNE TRITIUM RELEASE 2.31E+01
TOTAL LIQUID TRITIUM RELEASE 7.17E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	4.42E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.20E+12

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

INSTALLATION:SURRY

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS MODE OF TRANSPORTATION

109

81

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 3.08E+03 *

CI 3.56E+03 *

M3

CI

M3

CI

M3

CI

*TOTAL AMOUNT OF SOLID WASTE PACKAGED

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:SUSQUEHANNA

LOCATION:7 MI NW OF BERWICK PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.: 50-387
COOLING WATER SOURCE:SUSQUEHANNA RIVER

LICENSEE:PENNSYLVANIA POWER & LIGHT CO.
LICENSED POWER (MWT):3293.00
INITIAL CRITICALITY:09/10/82

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.67E+01
CR-51	7.77E-05
MN-54	3.36E-05
CO-58	8.77E-05
CO-60	1.29E-05
I-131	7.31E-04
I-133	5.43E-04
XE-133	5.54E+01
XE-135	3.10E+01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	8.98E+00
F-18	6.74E-05
NA-24	3.70E-01
AR-41	1.02E-04
SC-46	1.90E-04
CR-51	1.37E+00
MN-54	2.06E-01
CO-56	4.05E-04
CO-58	5.01E-01
FE-59	1.74E-01
CO-60	5.44E-02
ZN-65	2.76E-03
AS-76	3.61E-02
BR-82	1.46E-03
KR-85	5.27E-02
KR-85M	2.11E-05
SR-85	5.63E-05
KR-87	4.73E-05
KR-88	4.29E-05
SR-89	1.12E-03
NB-95	4.63E-04
NB-97	5.86E-04
MO-99	6.95E-03
TC-99M	2.01E-02
AG-110M	1.15E-03
SB-122	1.62E-02
SB-124	5.73E-03
I-131	3.27E-04
TE-132	9.29E-05
I-133	6.12E-04
XE-133	7.06E-03
XE-133M	1.75E-04

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

INSTALLATION:SUSQUEHANNA

LOCATION:7 MI NW OF BERWICK PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-134	3.12E-05
XE-135	3.65E-03
XE-135M	4.97E-05
CS-137	3.85E-05
CE-141	3.38E-05
CE-144	1.77E-03
SM-153	1.82E-04
W-187	2.70E-03
BI-214	3.39E-05
PB-214	5.02E-05
NP-239	1.44E-03

TOTAL AIRBORNE TRITIUM RELEASE	2.94E+00
TOTAL LIQUID TRITIUM RELEASE	8.98E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.65E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	9.95E+09

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

INSTALLATION:SUSQUEHANNA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
103	TRUCK	BARNWELL SC
26	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	% 3.82E+01	2.00E+01
	CR-51	% 4.00E+01	2.90E+01
	MN-54	% 1.29E+01	2.30E+01
B			
	CO-58	% 2.20E+01	1.90E+01
	CR-51	% 5.43E+01	0.00E+00
	FE-55	% 0.00E+00	2.70E+01
	FE-59	% 1.14E+01	0.00E+00
	MN-54	% 8.10E+00	2.80E+01
D			
	CO-58	%	1.90E+01
	FE-55	%	2.70E+01
	MN-54	%	2.50E+01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.09E+03
	CI	2.81E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.64E+02
	CI	2.77E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	1.44E+01
	CI	2.17E-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 1983
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

2.01E+01

SR-90

8.31E-06

CS-137

5.72E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED

ACTIVITY (CI)

MN-54

2.72E-05

FE-55

9.33E-03

CO-60

1.68E-02

SR-90

5.91E-04

RU-106

2.14E-04

AG-110M

1.16E-04

SB-125

5.95E-04

CS-134

5.52E-03

CS-137

4.81E-02

TOTAL AIRBORNE TRITIUM RELEASE 7.48E-04

TOTAL LIQUID TRITIUM RELEASE 3.09E+00

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)

LITERS 2.11E+07

VOLUME OF DILUTION WATER USED DURING PERIOD

LITERS 1.08E+11

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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
3	TRACTOR-FLATBED	BARNWELL SC
10	TRACTOR-FLATBED	HANFORD WA
7	TRACTOR-TRAILER (VAN)	HANFORD WA
3	TRACTOR/CASK	HANFORD WA
9	TRACTOR/FLATBED/CASK	BARNWELL SC
32	TRACTOR/FLATBED/CASK	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			
	CO-60	% 4.90E+01	2.60E+00
	CS-134	% 6.00E+00	1.41E+01
	CS-137	% 4.00E+01	8.22E+01
	SB-125	% 5.00E+00	
	SR-90	%	6.70E-01
B			
	CO-60	% 8.00E+01	8.05E+01
	CS-134	%	6.20E-01
	CS-137	% 5.00E+00	7.20E+00
	SB-125	% 3.60E+00	1.78E+00
	SR-90	% 4.81E+00	4.41E+00
	Y-90	% 4.81E+00	
D			
	CO-60	%	1.42E+00
	CS-134	%	1.34E+01
	CS-137	%	7.65E+01
	SB-125	%	2.78E+00

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.07E+02
	CI	6.36E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.91E+02
	CI	2.40E+01
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER MECHANICAL FILTERS	M3	7.26E+00
	CI	2.43E+01

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 1983
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	1.74E+02
CS-137	2.55E-07
UNIDENTIFIED	2.73E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CS-137	6.27E-05
UNIDENTIFIED	2.76E-05

TOTAL AIRBORNE TRITIUM RELEASE 4.05E+01
TOTAL LIQUID TRITIUM RELEASE 3.75E-04

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.92E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.12E+10

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 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
7	CHEM-NUCLEAR	RICHLAND WA
9	TRACTOR-TRAILER(VAN)	HANFORD WA
16	TRACTOR/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			
	BA-137M	% 4.24E+01	
	CS-134	%	5.89E+00
	CS-137	% 4.48E+01	7.42E+01
	RU-106	%	5.56E+00
	SR-90	% 4.30E+00	1.85E+01
	Y-90	% 4.30E+00	
B			
	BA-137M	% 4.40E+01	
	CS-134	% 3.70E+00	8.29E+00
	CS-137	% 4.70E+01	8.27E+01
	SR-90	% 2.30E+00	4.00E+00
	Y-90	% 2.30E+00	

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR	TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	4.75E+00	
	CI	5.17E+05	
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	3.11E+02	
	CI	1.31E+01	
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

INSTALLATION:TMI 2/EPICOR

LOCATION:10 MI SE HARRISBURG, PA

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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

3.61E+01

CS-137

1.64E-07

UNIDENTIFIED

1.51E-06

TOTAL AIRBORNE TRITIUM RELEASE 3.95E-02

N/A=NOT APPLICABLE

N/D=NOT DETECTED

N/R=NOT REPORTED

INSTALLATION:TMI 2/EPICOR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
22	CHEM-NUCLEAR	SCOVILLE IDAHO
2	GPU-SN-1	SCOVILLE IDAHO
6	HITTMAN	SCOVILLE IDAHO
31	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-137	%	7.24E+00
	SB-125	%	3.65E+01
	SR-90	%	4.22E+01
	TE-125	%	8.38E+00
C			
	BA-137M	%	4.50E+01
	CS-134	%	4.60E+00
	CS-137	%	4.79E+01
	SR-90	%	5.00E-01

TYPE OF WASTE

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	2.23E+02
	CI	4.62E+04
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	N/A
	CI	N/A
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

INSTALLATION:TROJAN

LOCATION:35 MI NW PORTLAND, OR

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	5.25E-01
CO-58	3.35E-04
CO-60	9.98E-06
KR-85	1.93E+00
KR-85M	1.65E-01
KR-87	8.67E-02
KR-88	1.30E-01
SR-89	<9.32E-04
SR-90	<5.81E-04
NB-95	1.68E-04
ZR-95	9.28E-06
RU-103	1.58E-04
I-131	1.83E-03
XE-131M	1.88E+00
I-133	5.10E-03
XE-133	2.15E+02
XE-133M	1.77E+00
CS-134	1.06E-07
I-135	7.51E-03
XE-135	6.35E+00
XE-135M	4.78E-01
CS-137	2.41E-04
XE-137	3.39E-02
XE-138	1.60E-01

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.03E-03
NA-22	1.51E-06
CR-51	1.34E-03
MN-54	5.50E-03
CO-57	1.30E-04
CO-58	8.97E-03
FE-59	1.00E-04
CO-60	1.31E-01
SR-89	1.21E-02
SR-90	<1.60E-03
NB-95	1.72E-02
ZR-95	8.47E-03
MO-99	1.58E-05
TC-99M	1.66E-05
RU-103	1.18E-03
RU-106	3.11E-02
AG-110M	2.90E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
SN-113	1.22E-04
SB-124	3.77E-04
SB-125	1.61E-02
I-131	9.16E-04
XE-131M	3.69E-04
TE-132	7.33E-06
I-133	3.17E-04
XE-133	5.56E-02
XE-133M	3.27E-04
CS-134	8.38E-03
XE-135	5.25E-04
CS-137	2.46E-02
BA-140	5.27E-04
LA-140	1.36E-03
CE-141	1.09E-04
CE-144	3.74E-02
ND-147	5.41E-06
UNIDENTIFIED	2.27E-04

TOTAL AIRBORNE TRITIUM RELEASE	1.39E+02
TOTAL LIQUID TRITIUM RELEASE	2.34E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.92E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	3.93E+10

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

INSTALLATION:TROJAN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION
NUMBER OF SHIPMENTS 16 MODE OF TRANSPORTATION TRUCK DESTINATION 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			
CE-144	%	1.50E-02	1.26E+01
CO-57	%	1.08E-01	6.40E-02
CO-58	%	3.24E+00	5.64E+00
CO-60	%	4.35E+01	5.59E+01
CS-134	%	6.12E+00	2.69E+00
CS-137	%	1.21E+01	6.60E+00
FE-55	%	9.39E+00	
I-131	%		1.28E-01
MN-54	%	1.79E+00	2.63E+00
NB-95	%	8.00E-03	3.33E+00
NI-63	%	2.22E+01	
RU-106	%	1.30E-02	8.40E+00
SB-125	%	2.00E-03	5.77E-01
SR-89	%	4.80E-02	
SR-90	%	1.48E+00	
ZR-95	%	4.00E-03	1.60E+00
B			
CE-141	%		5.33E-01
CE-144	%	1.14E+01	1.52E+01
CO-58	%	4.55E+00	5.60E+00
CO-60	%	3.81E+01	3.71E+01
CR-51	%		2.67E+00
CS-134	%	7.79E+00	5.60E+00
CS-137	%	1.94E+01	1.49E+01
MN-54	%	2.63E+00	2.67E+00
NB-95	%	3.84E+00	7.47E+00
RU-103	%		2.67E-01
RU-106	%	9.40E+00	2.93E+00
SB-125	%	1.01E-01	5.33E-01
ZR-95	%	2.73E+00	3.73E+00

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

INSTALLATION:TROJAN

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.18E+02
	CI	1.67E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.10E+02
	CI	1.36E+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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	1.56E+01
CR-51	6.06E-05
MN-54	1.30E-05
CO-58	4.32E-04
CO-60	4.15E-04
BR-82	9.15E-04
KR-85	5.82E+01
KR-85M	4.48E+00
KR-87	4.12E-01
KR-88	5.50E+00
SR-89	2.00E-05
SR-90	3.74E-07
NB-95	1.27E-05
ZR-95	5.28E-06
RU-103	3.76E-06
SB-124	1.80E-07
SB-125	1.50E-05
I-131	1.42E-01
XE-131M	5.58E+01
I-133	4.04E-02
XE-133	1.59E+04
XE-133M	6.04E+01
CS-134	2.48E-04
I-135	3.40E-03
XE-135	8.17E+01
XE-135M	2.71E-02
CS-136	6.97E-05
CS-137	4.83E-04
BA-140	5.71E-05
LA-140	3.28E-05
CE-144	3.00E-06

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
F-18	1.69E-03
NA-24	5.27E-01
CR-51	2.07E-02
MN-54	1.19E-03
CO-57	5.67E-04
CO-58	1.16E-01

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-59	4.10E-04
CO-60	2.57E-01
ZN-65	2.39E-03
BR-82	3.46E-04
SR-89	7.96E-03
SR-90	2.80E-04
NB-95	1.65E-03
ZR-95	8.25E-04
MO-99-TC-99M	4.87E-03
RU-103	8.09E-04
AG-110M	3.15E-03
SB-124	9.84E-04
SB-125	1.67E-03
I-131	8.06E-02
I-132	5.84E-04
I-133	1.18E-02
CS-134	3.14E-02
CS-136	9.01E-04
CS-137	5.81E-02
CS-138	7.50E-04
LA-140	3.60E-04

TOTAL AIRBORNE TRITIUM RELEASE 8.54E-01
TOTAL LIQUID TRITIUM RELEASE 7.12E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	3.33E+08
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.59E+12

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

INSTALLATION:TURKEY POINT

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION
42	
33	

DESTINATION
BARNWELL SC
HANFORD 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		1.21E+03 *
CI		9.26E+02 *
M3		
CI		
M3		
CI		
M3		
CI		

*TOTAL OF ALL TYPES OF WASTE

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: BWR
DOCKET NO.:50-271
COOLING WATER SOURCE:CONNECTICUT RIVER

LICENSEE:VERMONT YANKEE NUCLEAR POWER
LICENSED POWER (MWT):1593.00
INITIAL CRITICALITY:03/24/72

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
MN-54	1.66E-04
CO-58	<8.37E-05
CO-60	3.00E-03
ZN-65	2.20E-04
KR-85M	<5.15E+00
KR-87	<4.29E+01
KR-88	<2.78E+01
SR-89	5.20E-05
SR-90	<1.73E-06
I-131	1.36E-04
I-133	<1.05E-03
XE-133	<9.66E+02
CS-134	<2.80E-04
I-135	<1.31E-02
XE-135	<5.51E+01
XE-135M	<3.99E+02
CS-137	4.69E-04
XE-138	<1.63E+03
BA-LA-140	<9.75E-04

TOTAL AIRBORNE TRITIUM RELEASE 1.47E+01

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

INSTALLATION:VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
25	TRUCK	BARNWELL SC
16	TRUCK	BEATTY NV
14	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
CL-38	%	5.00E-03	
CO-58	%	3.50E+00	1.38E+00
CO-60	%	4.05E+01	5.53E+01
CR-51	%		1.00E-01
CS-134	%	8.00E-01	1.86E+00
CS-137	%	7.50E+00	1.90E+01
FE-59	%	1.30E+00	
I-131	%		1.00E-02
LA-140	%		3.00E-02
MN-54	%	8.30E+00	4.25E+00
MN-56	%	7.00E-01	1.00E-02
NB-95	%	9.30E+00	8.80E-01
SB-125	%	9.40E-02	
ZN-65	%	1.98E+01	1.64E+01
ZR-95	%	8.20E+00	8.00E-01

B

CO-58	%	9.80E-01	9.80E-01
CO-60	%	2.43E+01	2.43E+01
CS-134	%	2.31E+01	2.30E+01
CS-137	%	4.08E+01	4.08E+01
MN-54	%	2.40E+00	2.45E+00
ZN-65	%	8.30E+00	8.38E+00

C

CO-60	%		7.10E+01
H-3	%		1.79E+01
NB-94	%		<1.00E-03
NI-59	%		6.00E-02
NI-63	%		1.08E+01

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

INSTALLATION:VERMONT YANKEE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	1.68E+02
	CI	4.94E+02
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	2.39E+02
	CI	7.31E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	8.20E+00
	CI	5.70E+04
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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
 TYPE: PWR
 DOCKET NO.:50-29
 COOLING WATER SOURCE:DEERFIELD RIVER

LICENSEE:YANKEE ATOMIC ELECTRIC
 LICENSED POWER (MWT): 600.00
 INITIAL CRITICALITY:08/19/60

AIRBORNE EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	5.13E+00
C-14	4.31E-01
AR-37	6.50E+00
AR-41	1.71E+00
CR-51	<2.49E-05
MN-54	4.49E-06
CO-58	<3.07E-06
FE-59	<6.61E-06
CO-60	<8.06E-06
ZN-65	<2.49E-06
KR-85	9.78E-01
KR-85M	8.26E+00
KR-87	8.79E+00
KR-88	1.38E+01
SR-89	<2.64E-06
SR-90	<2.63E-07
ZR-NB-95	<5.46E-06
MO-99	<6.56E-06
AG-110M	<4.82E-06
SB-124	<5.15E-06
SB-125	<9.80E-06
I-131	3.09E-03
XE-131M	<1.12E+01
I-133	1.24E-03
XE-133	4.66E+02
XE-133M	8.34E+00
CS-134	<2.93E-06
I-135	2.05E-03
XE-135	1.47E+02
XE-135M	2.01E+02
CS-137	<5.85E-06
XE-138	7.33E+00
BA-LA-140	<1.12E-05
CE-141	<4.12E-06
CE-144	<1.92E-05

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
H-3	1.68E+02
C-14	1.43E-03
CR-51	<4.81E-04
MN-54	3.06E-04
FE-55	<4.16E-03
CO-58	<4.44E-05

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
AIRBORNE AND LIQUID EFFLUENTS

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
FE-59	<7.02E-05
CO-60	<1.82E-04
ZN-65	<1.03E-04
SE-75	<7.11E-05
SR-89	<1.44E-04
SR-90	<2.21E-05
ZR-NB-95	<2.33E-05
MO-99	<2.87E-04
TC-99M	<4.19E-05
RU-103	<2.44E-05
AG-110M	<6.40E-05
SB-124	<6.32E-05
SB-125	2.37E-05
I-131	9.11E-03
I-133	8.04E-04
XE-133	<7.29E-01
CS-134	3.22E-04
XE-135	<5.16E-03
CS-137	5.97E-04
BA-LA-140	<1.33E-04
CE-141	<6.96E-05
CE-144	<3.13E-04
UNIDENTIFIED	<1.04E-04

TOTAL AIRBORNE TRITIUM RELEASE 5.13E+00
TOTAL LIQUID TRITIUM RELEASE 1.68E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	2.13E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	2.52E+11

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

INSTALLATION:YANKEE ROWE

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
11	TRUCK	BARNWELL SC
1	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-SEPT*	OCT-DEC
A			
	CE/144	% N/R	8.21E+00
	CO/58	% N/R	4.80E+00
	CO/60	% N/R	1.12E+01
	CR/51	% N/R	5.72E+00
	CS/134	% N/R	2.00E+01
	CS/137	% N/R	2.39E+01
	MN/54	% N/R	1.44E+01
B			
	CO/58	% N/R	8.00E+00
	CO/60	% N/R	7.50E+01
	FE/59	% N/R	1.00E+00
	MN/54	% N/R	1.00E+01
D			
	CO/60	% N/R	9.50E+01

TYPE OF WASTE	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	5.22E+01
	CI	1.58E+00
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	1.04E+02
	CI	3.52E+00
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	0.00E+00
	CI	0.00E+00
D. OTHER	M3	2.33E+00
PARKERIZING SOLUTION	CI	1.58E-02

*TECHNICAL SPECIFICATION IN EFFECT BEFORE OCTOBER 1, 1983 DID NOT
REQUIRE REPORTING AN ESTIMATE OF MAJOR NUCLIDE COMPOSITION BY TYPE
OF WASTE IN THE SEMIANNUAL EFFLUENT RELEASE REPORT.

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
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	9.33E-06
AR-41	5.27E+00
SC-47	2.20E-08
CR-51	5.40E-08
MN-54	1.05E-07
CO-58	2.79E-05
FE-59	2.00E-07
CO-60	1.58E-03
CU-64	3.90E-06
ZN-65	8.77E-07
SE-75	7.90E-09
BR-82	1.61E-05
BR-83	1.60E-05
KR-85	3.11E-01
KR-85M	9.00E+00
KR-87	7.10E+01
KR-88	3.96E+02
RB-88	1.70E-02
Y-88	4.50E-08
SR-91	9.44E-05
SR-92	2.67E-06
NB-95	3.77E-07
ZR-97	8.90E-07
MO-99	2.49E-06
TC-99M	5.30E-06
RU-103	1.10E-03
PD-109	2.70E-08
AG-110M	8.65E-07
SB-122	1.36E-06
SB-124	9.50E-07
I-131	5.11E-03
XE-131M	1.11E+00
I-132	4.42E-04
TE-132	1.80E-08
I-133	1.57E-03
XE-133	3.92E+03
XE-133M	1.11E+01
CS-134	8.65E-05
I-134	1.80E-04
I-135	2.99E-04

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 1983
AIRBORNE AND LIQUID EFFLUENTS

AIRBORNE EFFLUENTS NUCLIDES RELEASED	ACTIVITY (CI)
XE-135	3.96E+02
XE-135M	1.80E-01
CS-136	3.20E-06
CS-137	5.87E-04
CS-138	1.40E-03
BA-139	2.06E-05
BA-140	3.38E-06
LA-140	1.03E-06
BA-142	4.20E-05
CE-143	4.00E-08
CE-144	6.90E-08
W-187	4.36E-06
BI-214	1.03E-06
PB-214	2.45E-07
NP-239	3.40E-08

TOTAL AIRBORNE TRITIUM RELEASE 1.85E+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 1983
AIRBORNE AND LIQUID EFFLUENTS

UNIT NUMBER: 1
TYPE: PWR
DOCKET NO.:50-295
COOLING WATER SOURCE:LAKE MICHIGAN

LICENSEE:COMMONWEALTH EDISON
LICENSED POWER (MWT):3250.00
INITIAL CRITICALITY:06/19/73

LIQUID EFFLUENTS

NUCLIDES RELEASED	ACTIVITY (CI)
CR-51	1.71E-01
MN-54	3.60E-04
CO-58	2.46E-01
FE-59	5.70E-04
CO-60	3.06E-01
SR-89	<1.17E-02
SR-90	<1.78E-04
SR-92	8.40E-03
NB-95	5.20E-04
ZR-95	1.20E-03
RU-103	2.80E-03
RU-105	2.14E-02
AG-110M	6.69E-02
SB-122	6.50E-04
SB-124	1.03E-02
SB-125	2.03E-03
I-131	5.35E-01
I-132	3.70E-08
BA-133	9.80E-04
I-133	2.20E-03
XE-133	1.69E+00
XE-133M	5.00E-03
CS-134	5.50E-02
I-135	7.80E-05
XE-135	6.25E-03
CS-136	2.20E-03
CS-137	4.18E-02
CS-138	2.40E-07
LA-140	4.41E-03
BA-141	1.10E-02
W-187	2.56E-03

TOTAL AIRBORNE TRITIUM RELEASE N/A
TOTAL LIQUID TRITIUM RELEASE 1.74E+02

VOLUME OF LIQUID WASTE RELEASED (PRIOR TO DILUTION)	LITERS	5.00E+07
VOLUME OF DILUTION WATER USED DURING PERIOD	LITERS	5.90E+11

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INSTALLATION: ZION 1&2

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT FOR YEAR 1983
SOLID EFFLUENTS

SOLID WASTE DISPOSITION

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
48		

IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION
0		

TYPE OF WASTE

	UNIT	YEAR TOTAL
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M3	9.21E+02
	CI	2.97E+03
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIPMENT, ETC.	M3	
	CI	
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M3	
	CI	
D. OTHER	M3	
	CI	

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