EPA-520/3-77-012

SUMMARY OF RADIOACTIVITY RELEASED IN EFFLUENTS FROM NUCLEAR POWER PLANTS FROM 1973 THRU 1976

DECEMBER 1977

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RADIATION PROGRAMS
WASHINGTON, D.C. 20460

SUMMARY OF RADIOACTIVITY RELEASED IN EFFLUENTS FROM NUCLEAR POWER PLANTS FROM 1973 THRU 1976

J. Wynn Phillips

James Gruhlke

November 1977

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RADIATION PROGRAMS
TECHNOLOGY ASSESSMENT DIVISION

FOREWORD

The Office of Radiation Programs carries out a national program designed to evaluate the exposure of man to ionizing and nonionizing radiation, and to promote development of controls necessary to protect the public health and safety and assure environmental quality.

Within the Office of Radiation Programs, the Technology Assessment Division is conducting a review program to evaluate data on radioactive effluents from light-water-cooled nuclear power plants. The data consolidated in this report will be used in the technology assessment of current radioactive waste managemnet processes, to identify sources with inadequate controls, in partly fulfilling the Agency's responsibility under the Clean Air Act, and to assess public and private compliance with Agency radiation standards, guides and criteria. It is the intent of this report to provide a summary of the effluent data, from light-water-cooled nuclear power plants, which will be used in all EPA technology assessment reports.

I encourage users of this report to inform the Office of Radiation Programs of any omissions or errors. Your comments are also solicited.

W. D. Rowe, Ph.D.
Deputy Assistant Administrator
for Radiation Programs

TABLE OF CONTENTS

	Page No.
Foreword	i
Introduction	1
Purpose	1
Scope	1
Source of Data	2
Definitions	2
Discussion	4
Dates of Initial Criticality and Commercial Operation for BWRs through 1976	5
Dates of Initial Criticality and Commercial Operation for PWRs through 1976	6
Section I - Individual Plant Data Sheets	9
Section II - Summary of Airborne Effluents	55
Section III - Summary of Liquid Effluents	67
Section IV - Summary of Solid Radioactive Waste	79
Section V - Individual Isotopic Summaries	91
Boiling Water Reactors	92
Pressurized Water Reactors	101

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE NO.
1	Operating Nuclear Reactors in the United States as of December 31, 1976	8

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1973 - BWR	56
2	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1974 - BWR	57
3	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1975 - BWR	58
4	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1976 - BWR	59
5	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1973 - PWR	60
6	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1974 - PWR	61
7	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1975 - PWR	63
8	Summary of Airborne Radioactivity Released to the Environment in Calendar Year 1976 - PWR	65
9	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1973 - BWR	68
10	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1974 - BWR	69
11	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1975 - BWR	70
12	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1976 - BWR	71
13	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1973 - PWR	72
14	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1974 - PWR	73
15	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1975 - PWR	75
16	Summary of Radioactivity in Liquids Released to the Environment in Calendar Year 1976 - PWR	77

LIST OF TABLES (con't)

TABLE NO.	TITLE	PAGE NO.
17	Summary of Solid Radioactive Waste Shipped in Calendar Year 1973 - BWR	80
18	Summary of Solid Radioactive Waste Shipped in Calendar Year 1974 - BWR	81
19	Summary of Solid Radioactive Waste Shipped in Calendar Year 1975 - BWR	82
20	Summary of Solid Radioactive Waste Shipped in Calendar Year 1976 - BWR	83
21	Summary of Solid Radioactive Waste Shipped in Calendar Year 1973 - PWR	84
22	Summary of Solid Radioactive Waste Shipped in Calendar Year 1974 - PWR	85
23	Summary of Solid Radioactive Waste Shipped in Calendar Year 1975 - PWR	87
24	Summary of Solid Radioactive Waste Shipped in Calendar Year 1976 - PWR	89
25	Summary of Krypton 85 Releases in Airborne Effluents from BWRs for 1973 to 1976	92
26	Summary of Xenon 133 Releases in Airborne Effluents from BWRs for 1973 to 1976	93
27	Summary of Iodine 131 Releases in Airborne Effluents from BWRs for 1973 to 1976	94
28	Summary of Cobalt 58 Releases in Liquid Effluents from BWRs for 1973 to 1976	95
29	Summary of Cobalt 60 Releases in Liquid Effluents from BWRs for 1973 to 1976	96
30	Summary of Strontium 90 Releases in Liquid Effluents from BWRs for 1973 to 1976	97
31	Summary of Iodine 131 Releases in Liquid Effluents from BWRs for 1973 to 1976	98
32	Summary of Cesium 134 Releases in Liquid Effluents from BWRs for 1973 to 1976	99

LIST OF TABLE (con't)

TABLE NO.	TITLE	PAGE NO.
33	Summary of Cesium 137 Releases in Liquid Effluents from BWRs for 1973 to 1976	100
34	Summary of Krypton 85 Releases in Airborne Effluents from PWRs for 1973 to 1976	101
35	Summary of Xenon 133 Releases in Airborne Effluents from PWRs for 1973 to 1976	103
36	Summary of Iodine 131 Releases in Airborne Effluents from PWRs for 1973 to 1976	105
37	Summary of Cobalt 58 Releases in Liquid Effluents from PWRs for 1973 to 1976	107
38	Summary of Cobalt 60 Releases in Liquid Effluents from PWRs for 1973 to 1976	109
39	Summary of Strontium 90 Releases in Liquid Effluents from PWRs for 1973 to 1976	111
40	Summary of Iodine 131 Releases in Liquid Effluents from PWRs for 1973 to 1976	113
41	Summary of Cesium 134 Releases in Liquid Effluents from PWRs for 1973 to 1976	115
42	Summary of Cesium 137 Releases in Liquid Effluent from PWRs for 1973 to 1976	117

Introduction

Purpose

This report is the second in a series of annual summaries of radioactive waste being released from, or shipped off-site by, nuclear power plants in the United States. The report will provide a consolidated source of data for an annual report on radiation in the environment published by the Environmental Analysis Division of the Environmental Protection Agency's (EPA) Office of Radiation Programs (ORP).

The data consolidated in this report will be used by ORPs Technology Assessment Division (TAD) to assess the status of current radioactive waste management processes, to project future trends in process performance, to identify sources with inadequate controls and to partly fulfill the Agency's responsibilities under the Clean Air Act. These reports will be used by TAD to develope the technical bases for possible environmental standards to be written by the Criteria and Standards Division of ORP.

This report is not to be construed as a compliance report for the EPA Uranium Fuel Cycle Standard (40 CFR 190). Responsibility for assuring compliance with this standard is vested in the U.S. Nuclear Regulatory Commission under the President's Reorganization Plan No. 3 of 1970.

This report will cover only those long lived isotopes which are generally released in sufficient quantities to be environmentally significant over extended periods of time in the biosphere.

Scope

EPA is maintaining records of the releases of radioactive effluents and wastes from all operating nuclear power plants. This particular report

includes those plants which reached commercial operation, or had measurable releases prior to commercial operation, as of December 31, 1976, and includes only those isotopes of environmental and radiolodical signifiance.

Source of Data

All of the information in this report was taken from the individual plant semi-annual or annual operating reports filed by the responsible utility with the Nuclear Regulatory Commission unless otherwise noted. Copies of these reports are forwarded to the EPA Headquaters, in Washington D.C., and to the EPA Regional Office for the region in which the plant is located.

It is our hope that anyone having access to data which we are missing, have marked as NR, not reported, or NA, not available, would provide us with documental reports of such data so that it may be included in subsequent reports. Blanks in the data sheets indicate missing data.

Definitions

All releases are via the main stack and the discharge canal unless otherwise noted; vent releases are included when given. Terms used in the report are as follows:

> Noble Gas - All noble gases at the point of discharge as reported by the licensee.
>
> Halogens - All halogens at the point of discharge as reported by the licensee.
>
> Particulates - Only those particulates with half-lives greater that eight days when reported as such, otherwise all particulates as measured at the point of discharge.

Airborne Tritium - All tritium reported released in gaseous form.

Total MF & Act. Products - Mixed fission products and activation products released via the liquid waste processing system, untreated turbine building drains and secondary system blowdown.

Liquid Tritium - All tritium reported released in liquid form.

Dissolved Gases - All noble gases reported as being released dissolved in liquid effluents.

Liquid Waste Volume - The volume of liquid effluents from all sources.

Liquid Dilution Volume - The volume of liquid into which the liquid effluents are discharged prior to release to the environment

Solid Waste Volume - The volume of solid process wastes such as filter sludge, evaporator bottoms, spent resin, etc., shipped off-site. Does not include tools, medical isotopes, spent fuel and other non-process wastes shipped off-site.

Solid Waste Activity - The total radioactivity associated with the solid waste defined above as being shipped off-site.

Solid Waste Shipments - The number of shipments required to transport to the burial site the volume of solid process wastes defined above.

Power Production - The gross thermal power produced by the plant during the year.

NA - not available

ND - not detectable

NR - not reported

1.26E+3 = 1.26×10^{3}

1.26E-3 = 1.26×10^{-3}

Values printed in *italics* have been revised, and are corrected values relative to the previous years report.

Discussion

Data reported by the utilities on the radioactive material released from the plants was reviewed in order to identify obvious mistakes such as typographical errors. When obvious mistakes were found they were corrected. Other more obscure errors or inconsistencies were handled by contacting either the utility of the plant for assistance. In most cases our inquiries were greeted with a courteous and prompt response.

We have attempted to incorporate all changes and corrections to the data which have been published in subsequent reports by the utility. We would appreciate being notified of any such corrections which we have missed for inclusion in later reports. Please direct this information to:

Chief, Energy Systems Analysis Branch (AW-459)
Office of Radiation Programs
US Environmental Protection Agency
401 M St. SW
Washington DC 20460

Values printed in *italics* have been revised, and are corrected values relative to the previous years report.

DATES OF INITIAL CRITICALITY AND COMMERCIAL OPERATION
FOR BWRs THROUGH 1976

Plant	Initial Criticality	Commercial Operation
Big Rock Point	9-27-62	3-29-63
Browns Ferry - Unit 1	8-17-73	8-1-74
Unit 2	7-20-74	3-1-75
Unit 3	8-8-76	--
Brunswick - Unit 1	10-8-76	--
Unit 2	3-20-75	11-3-75
Cooper	2-21-74	7-1-74
Dresden 1	10-15-59	7-4-60
Dresden - Unit 2	1-7-70	6-9-72
Unit 3	1-31-71	11-16-71
Duane Arnold 1	3-23-74	7-28-75
FitzPatrick 2	11-17-74	7-28-75
Hatch 1	9-12-74	12-31-75
Humboldt Bay 3	2-16-63	8-63
La Crosse	7-11-67	9-13-69
Millstone Point 1	10-26-70	3-71
Monticello	12-10-70	6-30-71
Nine Mile Point 1	9-6-69	12-69
Oyster Creek 1	5-3-69	12-69
Peach Bottom - Unit 2	9-16-73	7-5-74
Unit 3	8-7-74	12-23-74
Pilgrim 1	6-16-72	12-72
Quad Cities - Unit 1	10-18-71	2-18-73
Unit 2	4-26-72	3-10-73
Vermont Yankee	3-24-72	11-29-72

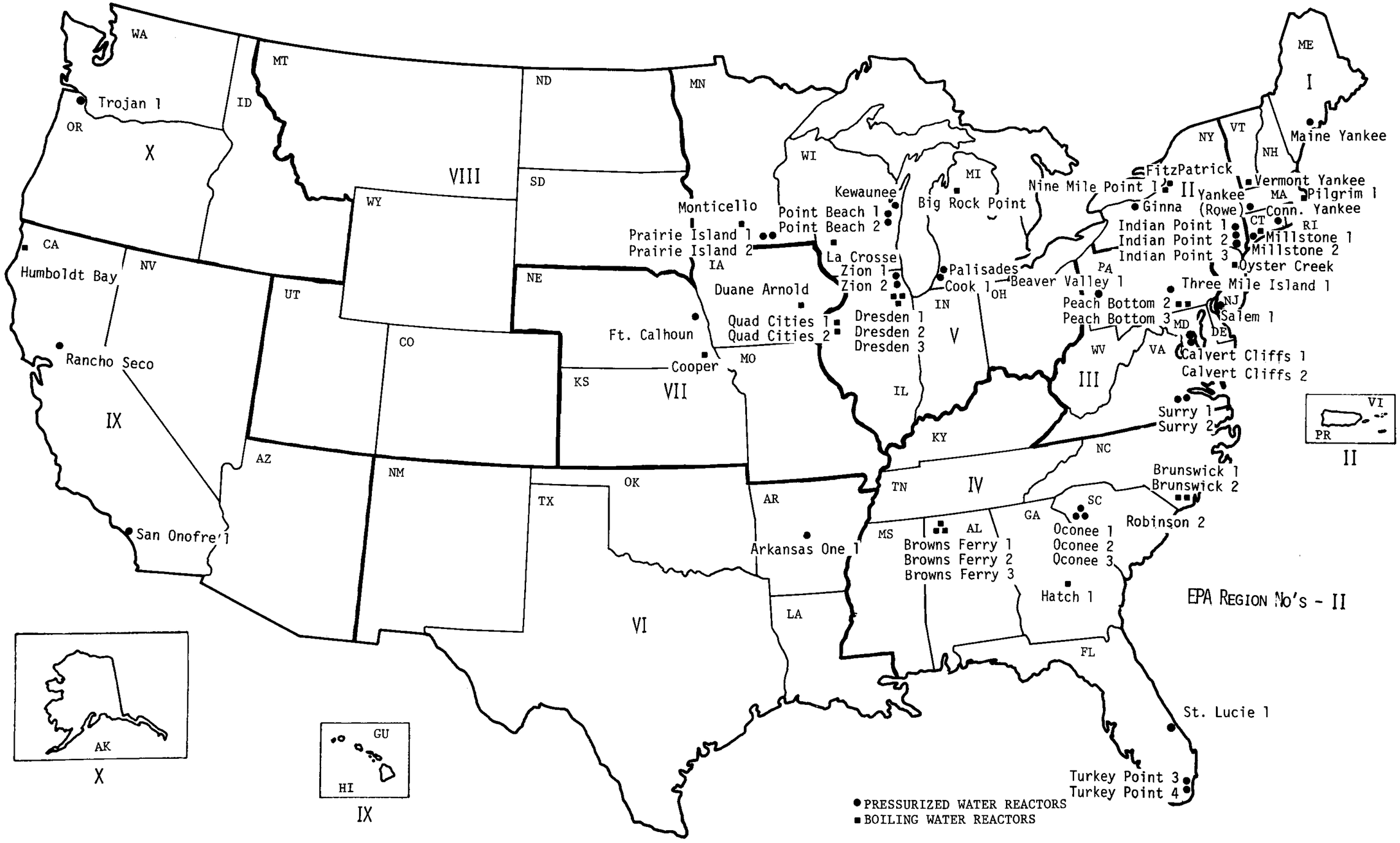
DATES OF INITIAL CRITICALITY AND COMMERCIAL OPERATION
FOR PWRs THROUGH 1976

Plant	Initial Criticality	Commercial Operation
Arkansas One 1	8-6-74	12-19-74
Beaver Valley 1	5-10-76	10-1-76
Calvert Cliffs - Unit 1	10-7-74	5-8-75
Unit 2	11-30-76	--
Cook, Donald C. 1	1-18-75	8-27-75
Fort Calhoun 1	8-6-73	6-20-74
Ginna, R. E.	11-8-69	3-70
Haddam Neck	7-24-67	1-1-68
Indian Point - Unit 1	8-2-62	10-62
Unit 2	5-22-73	8-73
Unit 3	4-6-76	8-30-76
Kewaunee	3-7-74	6-74
Maine Yankee	10-23-72	12-28-72
Millstone Point 2	10-17-75	12-26-75
Oconee - Unit 1	4-19-73	7-15-73
Unit 2	11-11-73	9-9-74
Unit 3	9-5-74	12-16-74
Palisades	5-24-71	12-31-71
Point Beach - Unit 1	11-2-70	12-21-70
Unit 2	5-30-72	4-20-73
Prairie Island - Unit 1	12-1-73	12-16-73
Unit 2	12-17-74	12-21-74
Rancho Seco 1	9-16-74	4-17-75
Robinson, H. B.	9-20-70	3-7-71
St. Lucie	4-22-76	12-21-76
Salem 1	12-11-76	--

DATES OF INITIAL CRITICALITY AND COMMERCIAL OPERATION
FOR PWRs THROUGH 1976

Plants	Initial Criticality	Commercial Operation
San Onofre 1	6-14-67	1-1-68
Surry - Unit 1	7-1-72	12-22-72
Unit 2	3-7-73	5-1-73
Three Mile Island 1	6-5-74	9-2-74
Trojan	12-15-75	12-24-75
Turkey Point - Unit 3	10-20-72	12-14-72
Unit 4	6-11-73	9-7-73
Yankee (Rowe)	8-19-60	7-61
Zion - Unit 1	6-19-73	12-31-73
Unit 2	12-24-73	9-17-74

OPERATING NUCLEAR REACTORS IN THE
UNITED STATES as of DEC 31, 1976



SECTION I

INDIVIDUAL PLANT DATA SHEETS

Facility Big Rock Point **Utility** Consumers Power Company

Type BWR **EPA Region** V **Rated Power Level** 75 **MWe** 240 **MWt**

Location Big Rock Point, Michigan

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	2.25E+5	1.88E+5	5.06E+4	1.52E+4
Krypton-85.....	1.20E+3	4.48E+2	1.60E+2	3.36E+1
Xenon-133.....	2.56E+4	1.65E+4	5.79E+3	1.72E+3
Total Halogens.....	4.68E+0	3.55E-1	2.67E-1	1.64E-2
Iodine-131.....	4.60E+0	9.01E-2	2.19E-2	1.05E-2
Particulates.....	3.70E-1	9.07E-2	9.80E-2	5.82E-2
Tritium.....	7.71E+1	3.87E+1	7.39E+0	7.76E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.65E+0	1.07E+0	2.02E+0	7.70E-1
Cobalt-58.....	2.90E-2	NR	8.51E-4	1.55E-3
Cobalt-60.....	2.10E-1	9.89E-2	3.44E-1	1.57E-1
Strontium-90.....	1.10E-4	NR	1.77E-3	6.92E-4
Iodine-131.....	6.30E-2	5.23E-3	8.03E-3	NR
Cesium-134.....	2.40E-1	7.52E-2	1.67E-1	1.21E-1
Cesium-137.....	5.10E-1	1.84E-1	5.16E-1	3.22E-1
Tritium.....	1.97E+1	5.07E+0	5.73E+0	2.41E+0
Dissolved Gases.....	1.73E-2	NR	7.24E-3	NR
Liquid Waste Volume (1).....	8.17E+5	4.33E+5	4.58E+5	4.97E+5
Liquid Dilution Volume (1)..	1.03E+11	1.03E+11	1.02E+11	7.41E+10
SOLID WASTES				
Volume (m^3).....	4.78E+0	3.94E+1	NR	2.88E+1
Activity (curies).....	5.59E+1	9.45E+1	1.23E+3	3.69E+0
Shipments.....	2	4	16	3
POWER PRODUCTION				
Gross Thermal (MWD).....	5.89E+4	4.69E+4	4.07E+4	3.46E+4

Facility Browns Ferry Units 1, 2 & 3 **Utility** Tennessee Valley Authority

Type BWR **EPA Region** IV **Rated Power Level** each 1065 **MWe** 3293 **MWt**

Location Decatur, Alabama

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	2.00E+3	2.52E+4	<8.04E+4
Krypton-85.....	7.28E+2	6.89E+3	<6.88E+4
Xenon-133.....	1.67E+2	1.61E+3	<2.66E+3
Total Halogens.....	2.11E+1	5.97E-1	<5.98E-1
Iodine-131.....	6.27E-3	1.89E-1	<3.57E-2
Particulates.....	2.18E-2	5.89E-2	<6.00E-2
Tritium.....	1.78E+1	5.08E+0	<5.78E-1
LIQUID RELEASES (curies)			
Total MF & Act. Products....	7.21E-1	2.79E+0	<3.95E+0
Cobalt-58.....	6.29E-3	3.57E-2	<3.04E-2
Cobalt-60.....	7.75E-3	3.84E-2	<6.29E-2
Strontium-90.....	2.59E-3	3.24E-3	<2.05E-3
Iodine-131.....	5.19E-3	5.10E-2	<4.48E-2
Cesium-134.....	4.14E-3	3.79E-2	<2.67E-2
Cesium-137.....	5.33E-3	9.38E-2	<3.63E-2
Tritium.....	4.44E+0	1.04E+1	<3.98E+0
Dissolved Gases.....	1.96E-2	1.43E-1	<1.09E-1
Liquid Waste Volume (l).....	1.78E+7	6.06E+7	6.64E+7
Liquid Dilution Volume (l) .	1.57E+11	3.03E+11	4.40E+11
SOLID WASTES			
Volume (m^3).....	2.61E+2	1.27E+3	1.25E+3[2]
Activity (curies).....	7.09E+1	1.25E+3	1.02E+2[2]
Shipments.....	60	121	142
POWER PRODUCTION			
Gross Thermal (MWD).....	6.08E+5	3.65E+5 [1]	5.60E+5

[1] Units 1 & 2 shutdown March 22, 1975 due to fire. Unit 1 resumed operation on

[2] An additional 1766 boxes of unspecified size were also shipped offsite containing <.087 curies

Facility Brunswick Units 1 & 2 **Utility** Carolina Power & Light Company

Type BWR **EPA Region** IV **Rated Power Level** 821 MWe 2436 MWt

Location South Port, North Carolina

			1975	1976
AIRBORNE RELEASES (curies)				
Total Noble Gases.....			1.85E+2	1.85E+4
Krypton-85.....			ND	ND
Xenon-133.....			ND	5.52E+3
Total Halogens.....			2.70E-3	4.63E-1
Iodine-131.....			6.08E-4	4.38E-1
Particulates.....			3.83E-3	1.93E-2
Tritium.....			2.02E+0	2.23E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....			1.92E+0	3.28E+0
Cobalt-58.....			3.45E-1	2.96E-1
Cobalt-60.....			2.68E-2	2.76E-1
Strontium-90.....			4.49E-3	2.56E-4
Iodine-131.....			6.31E-4	5.84E-1
Cesium-134.....			2.47E-5	2.93E-2
Cesium-137.....			4.26E-5	8.13E-2
Tritium.....			3.20E+0	5.90E+0
Dissolved Gases.....			1.07E-3	7.03E-1
Liquid Waste Volume (1).....			2.73E+7	5.14E+7
Liquid Dilution Volume (1)..			1.84E+11	2.24E+11
SOLID WASTES				
Volume (m^3).....			4.11E+2	1.78E+3
Activity (curies).....			6.96E+0	6.40E+2
Shipments.....			27	146
POWER PRODUCTION				
Gross Thermal (MWD).....			2.33E+5	3.32E+5

Facility Cooper Nuclear Station Utility Nebraska Public Power

Type BWR EPA Region VII Rated Power Level 778 MWe 2831 MWt

Location Brownville, Nebraska

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	1.57E+3	1.97E+4	3.81E+4
Krypton-85.....	3.21E-4	3.76E+1	1.20E+2 [1]
Xenon-133.....	1.44E+1	4.90E+3	1.25E+4 [2]
Total Halogens.....	3.54E+0	4.19E-1	9.06E-2
Iodine-131.....	1.27E-2	2.28E-2	2.63E-2
Particulates.....	1.76E-1	3.12E-2	<1.14E-2
Tritium.....	1.59E-2	4.30E+1	6.71E+1
LIQUID RELEASES (curies)			
Total MF & Act. Products....	1.42E+0	1.73E+0	6.53E-1
Cobalt-58.....	5.65E-1	1.14E-1	6.19E-2
Cobalt-60.....	7.66E-2	2.36E-1	1.33E-1
Strontium-90.....	8.50E-4	8.77E-4	1.09E-3
Iodine-131.....	2.79E-3	7.17E-3	1.03E-1
Cesium-134.....	2.20E-3	5.06E-3	1.27E-2
Cesium-137.....	1.93E-3	3.21E-3	2.27E-2
Tritium.....	1.70E+0	8.25E+0	8.34E+0
Dissolved Gases.....	2.87E-2	5.50E-3	<4.62E-2
Liquid Waste Volume (l).....	1.32E+7	1.09E+7	7.49E+6
Liquid Dilution Volume (l)..	6.71E+10	7.89E+10	4.05E+10
SOLID WASTES			
Volume (m^3).....	3.79E+2	2.90E+2	3.01E+2
Activity (curies).....	1.72E+1	2.66E+2	3.20E+2
Shipments.....	26	36	38
POWER PRODUCTION			
Gross Thermal (MWD).....	2.87E+5	2.31E+5	4.94E+5

[1] An additional .346 curies vent release
[2] An additional 42.4 curies vent release

Facility Dresden Unit 1 Utility Commonwealth Edison

Type BWR EPA Region V Rated Power Level 200 MWe 700 MWt

Location Morris, Illinois

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.36E+5	9.94E+4	5.20E+5	4.60E+5
Krypton-85.....	NR	NR	NR	NR
Xenon-133.....	2.40E+4 [1]	2.10E+3	2.49E+4	1.51E+4
Total Halogens.....	4.65E-1	1.35E+1	5.70E+0	2.34E+0
Iodine-131.....	4.65E-1	4.27E-1	6.00E-1	3.70E-1
Particulates.....	3.18E-1	3.35E-1	3.59E-1	4.70E-1
Tritium.....	NR	NR	3.42E+1	6.13E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	9.24E+0	6.89E+0	8.40E-1	3.53E-1
Cobalt-58.....	NR	6.03E-3 [2]	9.30E-2	2.09E-2
Cobalt-60.....	NR	7.24E-1 [2]	4.30E-1	2.58E-1
Strontium-90.....	NR	1.92E-3 [2]	7.50E-2	4.60E-4
Iodine-131.....	NR	3.41E-2 [2]	9.60E-4	NR
Cesium-134.....	NR	6.72E-1 [2]	5.30E-2	7.72E-3
Cesium-137.....	NR	1.37E+0 [2]	7.80E-2	2.07E-2
Tritium.....	1.85E+1	1.88E+1	5.30E-1	2.40E-2
Dissolved Gases.....	NR	ND	NR	NR
Liquid Waste Volume (1).....	3.10E+6	6.77E+6	5.60E+6	1.99E+6
Liquid Dilution Volume (1)..	2.96E+11	2.62E+11	2.70E+11	2.90E+11
SOLID WASTES				
Volume (m^3).....				
Activity (curies).....		Included with Units 2 & 3		
Shipments.....				
POWER PRODUCTION				
Gross Thermal (MWD).....	1.01E+5	5.56E+4	1.06E+5	1.43E+5

[1] Data for July - Dec only, gamma ray spectrometer not functioning during first half of the year

[2] Data for July - Dec only, isotopic analysis of the first half of the year not required

Facility Dresden Units 2 & 3 **Utility** Commonwealth Edison

Type BWR **EPA Region** V **Rated Power Level** each 809 MWe 2527 MWt

Location Morris, Illinois

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.81E+5	6.28E+5	3.69E+5	3.24E+4
Krypton-85.....	NR	NR	NR	NR
Xenon-133.....	6.40E+4 [1]	8.38E+4	7.35E+4	7.30E+3
Total Halogens.....	2.65E+1 [1]	3.77E+1	1.17E+1	1.29E+1 [5]
Iodine-131.....	4.90E+0 [1]	3.87E+0	8.12E-1	9.84E-1 [6]
Particulates.....	2.62E+0	2.83E+0	4.16E+0	4.55E+0
Tritium.....	1.00E+1	1.14E+2	2.21E+2	1.37E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.59E+1 [1]	3.32E+1	8.10E-1	1.21E+0
Cobalt-58.....	1.44E-1 [1]	2.27E-1	1.40E-2	2.98E-2
Cobalt-60.....	2.09E+0 [1]	1.23E+1	3.20E-1	4.38E-1
Strontium-90.....	1.00E-2 [1]	5.78E-2	8.40E-3	1.55E-3
Iodine-131.....	1.41E+0 [1]	5.54E-1	1.50E-2	4.53E-1
Cesium-134.....	1.17E+0 [1]	2.77E+0	3.90E-3	5.53E-2
Cesium-137.....	4.24E+0 [1]	6.79E+0	3.60E-2	2.99E-2
Tritium.....	2.58E+1	2.26E+1	5.40E+1	1.97E+1
Dissolved Gases.....	NR	NR	NR	NR
Liquid Waste Volume (l).....	2.56E+7	1.49E+7	1.56E+7	5.20E+6
Liquid Dilution Volume (l) .	1.51E+12	1.25E+12	3.10E+11	4.00E+11
SOLID WASTES				
Volume (m^3).....	2.20E+3 [2,3]	2.19E+3 [3,4]	5.85E+3 [3]	6.53E+3 [3]
Activity (curies).....	1.34E+2 [2,3]	5.05E+3 [3,4]	7.34E+3 [3]	4.30E+3 [3]
Shipments.....	196 [2,3]	627 [3,4]	823 [3]	989 [3]
POWER PRODUCTION				
Gross Thermal (MWD).....	1.18E+6	9.09E+5	5.34E+5	1.15E+6

[1] Second half of the year only, monitors inoperative during Jan - July
[2] Does no include 34 shipments of high level waste containing 2.80E+4 curies
[3] For units 1, 2 & 3
[4] From NUREG 0077
[5] 95.75% stack release, 4.25% vent release
[6] 93.66% stack release, 6.34% vent release

Facility Duane Arnold Unit 1 Utility Iowa Electric & Power Company

Type BWR EPA Region VII Rated Power Level 569 MWe 1658 MWt

Location Cedar Rapids, Iowa

AIRBORNE RELEASES (curies)		1974	1975	1976
Total Noble Gases.....		9.36E+2	1.54E+3	5.26E+3
Krypton-85.....		NR	NR	NR
Xenon-133.....		7.70E+0	3.36E+2	3.20E+3
Total Halogens.....		2.73E-3	4.06E-1	1.08E-1
Iodine-131.....		2.73E-3	2.06E-2	7.50E-2
Particulates.....		1.52E-3	8.88E-3	6.78E-3
Tritium.....		1.50E+0	1.85E+1	1.64E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....		6.00E-4	2.07E-3	7.11E-3
Cobalt-58.....		1.20E-4	5.35E-4	9.00E-4
Cobalt-60.....		3.40E-5	4.19E-4	2.06E-3
Strontium-90.....		NR	NR	8.13E-6
Iodine-131.....		NR	NR	NR
Cesium-134.....		1.50E-6	4.45E-5	6.20E-6
Cesium-137.....		2.60E-6	6.71E-5	NR
Tritium.....		1.70E-1	3.26E-1	3.35E-1
Dissolved Gases.....		5.50E-5	NR	ND
Liquid Waste Volume (1).....		8.00E+5	3.81E+5	5.31E+5
Liquid Dilution Volume (1)..		1.68E+8	7.65E+7	1.05E+8
SOLID WASTES				
Volume (m^3).....		3.21E+2	2.62E+2	5.95E+2 [1]
Activity (curies).....		6.14E+1	7.90E+1	1.87E+2 [1]
Shipments.....		26	22	43
POWER PRODUCTION				
Gross Thermal (MWD).....		1.87E+5	3.09E+5	3.34E+5

[1] Third and fourth quater values were reported as quantities packaged. The report does not state if this was the waste shipped or not. Total includes these values.

Facility James A. FitzPatrick Unit 2 Utility Niagara Mohawk Power Corporation

Type BWR EPA Region II Rated Power Level 821 MWe 2436 MWt

Location Oswego, New York

AIRBORNE RELEASES (curies)		1974	1975	1976
Total Noble Gases.....		ND	4.08E+3 [1]	4.62E+4
Krypton-85.....		ND		NR
Xenon-133.....		ND	6.10E+0 [2]	1.61E+4
Total Halogens.....		ND	<1.82E-2	<5.46E+0 [6]
Iodine-131.....		ND	NR	6.04E-1 [6]
Particulates.....		ND	[3]	1.89E-2
Tritium.....		ND	3.30E-1 [4]	1.54E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....		1.46E-3	9.39E+0	6.01E+0
Cobalt-58.....		NR	1.63E+0	1.52E+0
Cobalt-60.....		NR	4.03E-1	9.51E-1
Strontium-90.....		NR	2.99E-3	3.79E-3
Iodine-131.....		NR	3.99E-3	2.44E-1
Cesium-134.....		NR	1.99E-2	1.50E-1
Cesium-137.....		NR	1.44E-3	5.23E-2
Tritium.....		NR	3.42E-1 [5]	4.21E+0
Dissolved Gases.....		NR	ND	ND
Liquid Waste Volume (1).....		1.46E+7	2.21E+7 [5]	2.43E+7
Liquid Dilution Volume (1)..		9.41E+10	2.62E+11 [5]	1.26E+12
SOLID WASTES				
Volume (m^3).....		0	5.10E+2	6.09E+2
Activity (curies).....		0	1.32E+2	3.41E+2
Shipments.....		0	NR	127
POWER PRODUCTION				
Gross Thermal (MWD).....		0	2.84E+5	5.27E+5

[1] Stack and building vents
[2] Stack only
[3] Included in total halogens
[4] July to December only
[5] January to June only
[6] There was an additional vent release of .0557 Ci of I-131 and <.312 Ci total halogens.

Facility Edwin I. Hatch Unit 1 Utility Georgia Power Company

Type BWR EPA Region IV Rated Power Level 786 MWe 2436 MWt

Location Baxley, Georgia

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	3.20E+3	1.55E+3	3.11E+3
Krypton-85.....	1.51E-5	7.91E-4	0
Xenon-133.....	1.11E+0	2.46E+0	1.08E+3
Total Halogens.....	1.71E-3	6.42E-3	1.89E-3 [1]
Iodine-131.....	3.40E-5	1.16E-4	1.68E-3 [1]
Particulates.....	7.50E-5	2.81E-4	4.48E-4
Tritium.....	2.60E-1	1.77E+0	1.35E+0
LIQUID RELEASES (curies)			
Total MF & Act. Products....	2.55E-3	5.79E-2	4.18E-2
Cobalt-58.....	2.71E-4	7.01E-3	1.92E-3
Cobalt-60.....	1.70E-6	2.39E-3	1.08E-3
Strontium-90.....	1.68E-8	4.88E-6	1.17E-4
Iodine-131.....	1.36E-4	7.26E-5	1.88E-3
Cesium-134.....	1.24E-4	2.03E-4	1.83E-4
Cesium-137.....	4.55E-6	1.69E-5	4.11E-4
Tritium.....	7.81E-2	6.12E+0	8.98E+0
Dissolved Gases.....	1.77E-2	2.34E-1	1.04E-1
Liquid Waste Volume (l).....	2.97E+6	1.46E+7	1.48E+7
Liquid Dilution Volume (l)..	1.91E+8	2.44E+9	1.44E+9
SOLID WASTES			
Volume (m^3).....	1.28E+2	5.83E+2	4.11E+2
Activity (curies).....	8.33E+0	2.71E+2	2.89E+2
Shipments.....	7	31	28
POWER PRODUCTION			
Gross Thermal (MWD).....	1.01E+4	4.07E+5	5.74E+5

[1] There was an additional vent release of 1.39E-3 Ci of I-131 and 1.77E-3 Ci of total Halogens.

Facility Humboldt Bay Unit 3 Utility Pacific Gas & Electric Co.

Type BWR EPA Region IX Rated Power Level 65 MWe 240 MWt

Location Eureka, California

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases	3.51E+5	5.72E+5	2.96E+5	9.30E+4
Krypton-85	NR	NR	NR	NR
Xenon-133	2.38E+4	3.62E+4	7.16E+3	2.18E+3
Total Halogens	8.67E-1	1.70E+0	1.07E+0	3.68E-1
Iodine-131	1.74E-1	5.03E-1	2.07E-1	5.62E-2
Particulates	1.22E-1	3.34E-1	8.39E-1	2.71E-2
Tritium	1.93E+0	1.73E+0	2.49E+0	1.28E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products	2.37E+0	4.40E+0	3.47E+0	1.08E+0
Cobalt-58	1.07E-2	3.06E-3	3.24E-3	6.14E-3
Cobalt-60	1.58E-1	2.80E-1	1.14E-1	1.38E-1
Strontium-90	1.16E-2	1.77E-2	6.28E-3	4.44E-3
Iodine-131	7.36E-2	3.36E-2	3.14E-1	5.90E-3
Cesium-134	6.45E-1	1.37E+0	9.63E-1	1.67E-1
Cesium-137	9.33E-1	2.10E+0	2.08E+0	4.12E-1
Tritium	5.13E+1	3.17E+1	2.01E+1	7.23E+0
Dissolved Gases	NR	2.70E-2	8.00E-3	<4.15E-3
Liquid Waste Volume (l)	1.92E+6	2.06E+6	1.70E+6	1.59E+6
Liquid Dilution Volume (l)	1.66E+11	1.58E+11	1.65E+11	1.35E+11
SOLID WASTES				
Volume (m^3)	8.83E+1	3.93E+1 [1]	1.27E+2	8.50E+1
Activity (curies)	1.76E+1	3.24E+1	4.31E+1	4.09E+0
Shipments	34	3	7	3
POWER PRODUCTION				
Gross Thermal (MWD)	6.01E+4	5.30E+4	5.51E+4	2.84E+4

[1] plus 90 boxes of unspecified size

Facility La Crosse Utility Dairyland Power Cooperative.

Type BWR EPA Region V Rated Power Level 53 MWe 165 MWt

Location Genoa, Wisconson

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	9.12E+4	4.91E+4	5.71E+4	1.24E+5
Krypton-85.....	NR	NR	NR	2.33E+2
Xenon-133.....	4.09E+3	1.56E+3	2.29E+3	5.08E+3
Total Halogens.....	2.35E-1	6.33E-2	1.33E-1	1.01E-1
Iodine-131.....	1.77E-1	3.27E-2	8.73E-2	4.77E-2
Particulates.....	1.26E+2	6.50E+1	7.92E+1	9.52E+1
Tritium.....	5.06E+1	1.83E+1	1.67E+1	1.26E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	3.59E+1	1.31E+1	1.41E+1	5.68E+0
Cobalt-58.....	1.18E+1	6.81E+0	9.12E+0	3.07E+0
Cobalt-60.....	1.26E+0	5.28E-1	6.49E-1	3.81E-1
Strontium-90.....	2.10E-2	1.20E-2	2.30E-2	1.20E-2
Iodine-131.....	3.13E+0	4.74E-1	9.95E-1	2.85E-1
Cesium-134.....	5.66E+0	1.51E+0	7.81E-1	5.51E-1
Cesium-137.....	1.01E+1	2.72E+0	1.41E+0	8.57E-1
Tritium.....	1.03E+2	1.15E+2	1.27E+2	4.10E+1
Dissolved Gases.....	6.10E-1	8.30E-2	4.07E-1	9.30E-2
Liquid Waste Volume (l).....	2.46E+6	1.83E+6	2.19E+6	1.24E+6
Liquid Dilution Volume (l)..	2.46E+11	2.43E+11	2.36E+-1	2.50E+11
SOLID WASTES				
Volume (m^3).....	2.53E+2	4.19E+1		NR
Activity (curies).....	3.45E+1 [1]	4.71E+2		NR
Shipments.....	2 [2]	5		NR
POWER PRODUCTION				
Gross Thermal (MWD).....	1.19E+3	4.52E+4	3.84E+4	2.54E+4

[1] Curie content of shipments for March and July were not reported in monthly reports.
[2] Number of shipments in Febuary and March were not reported in monthly reports.

Facility Millstone Point Unit 1 Utility Millstone Point Company

Type BWR EPA Region I Rated Power Level 652 MWe 2011 MWt

Location Watford, Connecticut

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	7.89E+4	9.12E+5	2.97E+6	5.07E+5
Krypton-85.....	NR	NR	NR	7.10E+2
Xenon-133.....	7.22E+3	2.55E+5	8.20E+5	4.09E+4
Total Halogens.....	1.54E-1	3.18E+0	6.29E+1	3.65E+1
Iodine-131.....	1.54E-1	3.18E+0	9.73E+0	2.18E+0
Particulates.....	4.10E-2	8.77E-2	1.88E-1	1.49E-1
Tritium.....	1.69E+0	7.85E+0	1.72E+1	2.87E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	3.34E+1	1.98E+2	1.99E+2	9.65E+0
Cobalt-58.....	4.17E-1	4.97E-1	5.94E-1	7.16E-2
Cobalt-60.....	5.39E+0	9.67E+0	8.67E+0	3.38E-1
Strontium-90.....	2.02E-2	2.05E-1	2.89E-1	2.15E-2
Iodine-131.....	1.50E-1	1.34E+1	1.51E+1	3.98E-1
Cesium-134.....	8.63E+0	7.21E+1	6.18E+1	2.34E-1
Cesium-137.....	1.67E+1	9.52E+1	8.45E+1	3.50E+0
Tritium.....	3.67E+0	2.41E+1	8.03E+1	2.01E+1
Dissolved Gases.....	2.50E-1	1.85E-1	1.11E+0	3.56E-1
Liquid Waste Volume (l).....	9.80E+6	1.06E+7	2.18E+7	7.85E+6
Liquid Dilution Volume (l) .	7.05E+11	7.64E+11	8.19E+11	2.11E+11
SOLID WASTES				
Volume (m^3).....	3.51E+2 [1]	8.38E+2	1.78E+3	1.33E+3
Activity (curies).....	2.37E+3	2.57E+2	2.58E+3	1.70E+3 [2]
Shipments.....	87	NR	NR	153
POWER PRODUCTION				
Gross Thermal (MWD).....	2.48E+5	4.65E+5	5.02E+5	4.85E+5

[1] plus 17 boxes of LSA material
[2] Includes 478 m^3 (5.82 Ci) of dry compressible waste from Unit 2

Facility Monticello Nuclear Gen. Sta. Utility Northern States Power Co.

Type BWR EPA Region V Rated Power Level 545 MWe 1670 MWt

Location Monticello, Minnesota

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.70E+5	1.57E+6	1.55E+5	1.14E+4
Krypton-85.....	8.68E+3	9.74E+3	1.66E+4	5.65E+1
Xenon-133.....	9.86E+4	2.16E+5	1.10E+5	6.97E+2
Total Halogens.....	6.53E+0	4.76E+1	1.52E+1	< 1.02E+0
Iodine-131.....	1.20E+0	5.69E+0	3.54E+0	1.21E-1
Particulates.....	2.42E-2	4.12E-1	6.73E-1	5.02E-2
Tritium.....	NR	NR	NR	7.69E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	0.0 [1]	0.0 [1]	0.0 [1]	0.0 [1]
Cobalt-58.....	0.0	0.0	0.0	0.0
Cobalt-60.....	0.0	0.0	0.0	0.0
Strontium-90.....	0.0	0.0	0.0	0.0
Iodine-131.....	0.0	0.0	0.0	0.0
Cesium-134.....	0.0	0.0	0.0	0.0
Cesium-137.....	0.0	0.0	0.0	0.0
Tritium.....	0.0	0.0	0.0	0.0
Dissolved Gases.....	0.0	0.0	0.0	0.0
Liquid Waste Volume (l).....	0.0	0.0	0.0	0.0
Liquid Dilution Volume (l)..	NR	NR	NR	NR
SOLID WASTES				
Volume (m^3).....	2.11E+2	2.68E+2	3.80E+2	2.85E+2
Activity (curies).....	3.93E+2	2.48E+3	5.43E+3	3.79E+3
Shipments.....	35	47	49	43
POWER PRODUCTION				
Gross Thermal (MWD).....	4.12E+5	3.45E+5	3.70E+5	5.14E+5

[1] no liquid released

Facility Nine Mile Point Unit 1 Utility Niagara Mohawk Power Corp.

Type BWR EPA Region II Rated Power Level 625 MWe 1850 MWt

Location Scriba, New York

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.72E+5	6.18E+5	1.30E+6	1.76E+5
Krypton-85.....	NR	NR	NR	NR
Xenon-133.....	8.26E+4	5.93E+4	1.28E+6	7.10E+3
Total Halogens.....	3.80E+0	2.55E+0	5.96E+0	8.64E+0
Iodine-131.....	1.96E+0	7.19E-1	2.35E+0	2.10E+0
Particulates.....	1.80E-1	1.43E-1	4.41E-1	< 1.03E-1
Tritium.....	2.67E+1	2.70E+1	9.20E+1	1.85E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	4.08E+1	2.57E+1	2.10E+1	2.14E+0
Cobalt-58.....	0.0	1.50E-2	2.26E-1	4.46E-2
Cobalt-60.....	4.99E+0	5.16E+0	3.77E+0	6.15E-1
Strontium-90.....	0.0	1.23E-1	4.70E-2	7.35E-3
Iodine-131.....	2.50E+0	1.01E+0	5.14E-1	1.62E-2
Cesium-134.....	9.01E+0	4.64E+0	4.94E+0	2.91E-1
Cesium-137.....	1.94E+1	9.77E+0	9.04E+0	5.17E-1
Tritium.....	4.65E+1	1.87E+1	2.81E+1	2.46E+0
Dissolved Gases.....	ND	ND	1.04E-1	< 5.58E-3
Liquid Waste Volume (l).....	1.38E+7	1.31E+7	8.84E+6	1.63E+6
Liquid Dilution Volume (l)..	4.62E+11	4.38E+11	4.86E+11	2.39E+11
SOLID WASTES				
Volume (m^3).....	5.45E+2	4.52E+2	4.89E+2	5.38E+2
Activity (curies).....	1.01E+3	1.93E+3	3.26E+3	2.51E+3
Shipments.....	66	75	95	86
POWER PRODUCTION				
Gross Thermal (MWD).....	4.57E+5	4.26E+5	4.03E+5	5.45E+5

Facility Oyster Creek Unit 1 Utility Jersey Central Power & Light Co.

Type BWR EPA Region II Rated Power Level 640 MWe 1930 MWt

Location Lacey Township, New Jersey

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.12E+5	2.79E+5	2.06E+5	1.66E+5
Krypton-85.....	NR	NR	NR	NR
Xenon-133.....	1.26E+5	2.26E+4	9.29E+3	8.80E+3
Total Halogens.....	3.03E+1	2.33E+1	4.13E+1	4.64E+1
Iodine-131.....	6.73E+0	3.31E+0	5.46E+0	6.17E+0
Particulates.....	4.24E-1	2.16E-1	1.78E-1	2.20E-1
Tritium.....	3.20E-1	4.15E-1	2.77E+0	1.11E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	4.15E+0	6.60E-1	4.08E-1	< 2.21E-1
Cobalt-58.....	4.30E-2	9.20E-3	6.50E-3	<2.00E-4
Cobalt-60.....	2.72E-1	7.35E-2	7.44E-2	5.36E-2
Strontium-90.....	2.80E-2	6.20E-3	6.00E-4	<8.00E-4
Iodine-131.....	8.20E-2	1.42E-2	5.89E-2	9.00E-4
Cesium-134.....	8.30E-2	2.56E-2	6.67E-2	1.68E-2
Cesium-137.....	8.40E-2	1.50E-2	8.21E-2	4.32E-2
Tritium.....	3.59E+1	1.41E+1	1.79E+1	3.86E+1
Dissolved Gases.....	2.97E+0	1.67E+0	4.26E-1	4.64E-2
Liquid Waste Volume (l).....	1.24E+7	7.34E+6	3.16E+6	3.11E+6
Liquid Dilution Volume (l) .	1.19E+12	1.23E+12	1.44E+12	1.60E+12
SOLID WASTES				
Volume (m^3).....	8.32E+2	1.21E+3	9.90E+2	1.20E+3
Activity (curies).....	2.89E+3	1.57E+3	2.81E+3	1.28E+3
Shipments.....	153	163	162	146
POWER PRODUCTION				
Gross Thermal (MWD).....	4.53E+5	4.64E+5	4.09E+5	4.92E+5

Facility Peach Bottom Units 2 & 3 Utility Philadelphia Electric Co.

Type BWR EPA Region III Rated Power Level each 1065 MWe 3293 MWt

Location Peach Bottom Township, Pennsylvania

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	2.48E+2	1.30E+4	2.09E+5
Krypton-85.....	NR	NR	NR
Xenon-133.....	NR	NR	1.24E+5
Total Halogens.....	1.04E-3	3.63E-2	1.88E+0
Iodine-131.....	NR	NR	7.33E-1
Particulates.....	6.54E-4	3.84E-3	4.42E-2
Tritium.....	5.57E+0 [1]	3.06E-1	2.66E+1
LIQUID RELEASES (curies)			
Total MF & Act. Products....	9.45E-1	9.29E-1	2.82E+0
Cobalt-58.....	4.47E-2	4.79E-2	9.64E-3
Cobalt-60.....	7.49E-3	1.83E-2	2.86E-2
Strontium-90.....	NR	2.50E-4	4.17E-4
Iodine-131.....	NR	2.56E-2	1.87E-1
Cesium-134.....	NR	2.19E-1	9.13E-1
Cesium-137.....	NR	3.87E-3	7.42E-1
Tritium.....	1.07E+1	3.08E+1	7.37E+1
Dissolved Gases.....	6.91E-3	ND	2.84E+0
Liquid Waste Volume (l).....	4.69E+7	4.57E+7	4.19E+7
Liquid Dilution Volume (l)..	3.02E+11	4.41E+11	3.62E+11
SOLID WASTES			
Volume (m^3).....	3.97E+2	5.82E+2	1.20E+3
Activity (curies).....	5.80E+1	2.17E+2	5.85E+2
Shipments.....	41	68	203
POWER PRODUCTION			
Gross Thermal (MWD).....	5.11E+5	1.39E+6	1.55E+6

[1] Not reported during the first half of the year

Facility Pilgrim Unit 1 Utility Boston Edison Company

Type BWR EPA Region I Rated Power Level 664 MWe 1998 MWt

Location Plymouth, Massachusetts

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	2.28E+5	5.46E+5	1.05E+5	1.83E+5
Krypton-85.....	NR	NR	NR	1.96E+2 [1]
Xenon-133.....	4.54E+4	8.14E+4	NR	3.01E+4 [2]
Total Halogens.....	8.17E+0	1.45E+0	6.22E+0	1.98E+0 [3]
Iodine-131.....	4.56E-1	1.44E+0	2.19E+0	3.43E-1 [4]
Particulates.....	2.07E-2	1.87E-2	6.60E-1	3.32E-1
Tritium.....	1.40E+1	7.97E+0	7.44E+1	3.74E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	9.09E-1	4.22E+0	2.06E+0	2.34E+0
Cobalt-58.....	4.99E-2	2.96E-1	6.08E-2	1.74E-1
Cobalt-60.....	4.98E-3	9.55E-1	3.51E-1	5.49E-1
Strontium-90.....	3.16E-5	2.71E-3	2.17E-2	1.41E-2
Iodine-131.....	3.32E-1	1.71E-1	2.65E-1	1.28E-2
Cesium-134.....	1.89E-4	4.99E-1	2.10E-1	1.11E-1
Cesium-137.....	3.58E-2	1.58E+0	5.21E-1	2.58E-1
Tritium.....	4.29E-1	1.05E+1	1.82E+1	4.67E+1
Dissolved Gases.....	ND	NR	7.05E-4	1.22E-3
Liquid Waste Volume (l).....	8.78E+5	8.82E+6	1.39E+6	5.28E+6
Liquid Dilution Volume (l)..	1.99E+10	2.56E+10	1.53E+10	1.90E+10
SOLID WASTES				
Volume (m^3).....	2.10E+2	4.06E+2	4.56E+2	9.00E+2
Activity (curies).....	5.67E+2	1.46E+3	3.80E+3	5.41E+3
Shipments.....	19	34	67	155
POWER PRODUCTION				
Gross Thermal (MWD).....	5.22E+5	2.50E+5	3.38E+5	3.17E+5

[1] 4 th quarter elevated release only
[2] 4 th quarter release only
[3] 77.2% ground level release
[4] 81.1% ground level release

Facility Vermont Yankee Utility Vermont Yankee Nuclear Power Co.

Type BWR EPA Region I Rated Power Level 514 MWe 1593 MWt

Location Vernon, Vermont

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	1.84E+5	6.45E+4	3.36E+3	<2.87E+3
Krypton-85.....	NR	2.54E+2	4.50E+2	<1.43E+2
Xenon-133.....	4.61E+4	2.22E+4	2.56E+2	<4.47E+2
Total Halogens.....	6.04E-2	4.84E-1	3.98E-1	7.06E-2
Iodine-131.....	4.56E-2	3.51E-1	2.81E-3	2.18E-3
Particulates.....	1.03E-2	1.30E-2	1.97E-3	5.68E-3
Tritium.....	1.04E+0	4.07E+0	7.12E+0	1.42E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	1.25E-4	0.0	4.06E-6	5.07E-4
Cobalt-58.....	NR	0.0	NR	NR
Cobalt-60.....	NR	0.0	1.97E-6	8.73E-5
Strontium-90.....	NR	0.0	NR	1.44E-5
Iodine-131.....	NR	0.0	NR	NR
Cesium-134.....	NR	0.0	6.80E-8	6.53E-5
Cesium-137.....	NR	0.0	1.74E-7	1.83E-4
Tritium.....	1.97E-1	0.0	0.0	1.60E+0
Dissolved Gases.....	7.90E-4	0.0	NR	<6.28E-3
Liquid Waste Volume (1).....	1.16E+5	0.0	6.81E+1	3.14E+5
Liquid Dilution Volume (1)..	4.78E+8	NR	1.36E+3	8.72E+5
SOLID WASTES				
Volume (m^3).....	1.86E+2	1.98E+2	3.08E+2	2.38E+2
Activity (curies).....	2.35E+1	1.08E+2	2.25E+1	2.92E+1
Shipments.....	37	34	43	30
POWER PRODUCTION				
Gross Thermal (MWD).....	2.53E+5	3.42E+5	4.69E+5	4.25E+5

[1] no liquid releases

Facility Quad Cities Units 1 & 2 Utility Commonwealth Edison Co.

Type BWR EPA Region I Rated Power Level each 800 MWe 2511 MWt

Location Cordova, Illinois

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	9.00E+5	9.50E+5	1.10E+5	3.15E+4
Krypton-85.....	5.80E+3	6.60E+3	7.33E+3	2.48E-1 [4]
Xenon-133.....	2.18E+5	1.93E+5	3.51E+4	2.55E+4
Total Halogens.....	1.24E+1	3.66E+1	2.92E+0	4.26E+0 [5]
Iodine-131.....	5.49E+0	8.80E+0	9.78E-1 [3]	7.87E-1 [6]
Particulates.....	1.19E-1	2.10E-1	4.15E-1	5.38E-1
Tritium.....	3.40E+1 [1]	NR	3.87E+1	2.97E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.14E+1	3.87E+1	1.71E+1	6.99E+0
Cobalt-58.....	9.70E-1	4.30E-1	9.21E-2	5.22E-2
Cobalt-60.....	8.30E-1	3.01E+0	1.31E+0	7.52E-1
Strontium-90.....	2.50E-3	1.34E-2 [2]	1.06E-2	1.81E-3
Iodine-131.....	3.80E+0	2.09E+0	1.80E-1	2.55E-1
Cesium-134.....	2.10E-1	2.95E+0	1.83E+0	7.25E-1
Cesium-137.....	5.30E-1	8.10E+0	3.10E+0	1.32E+0
Tritium.....	2.45E+1	3.40E+1	3.87E+1	2.34E+1 [7]
Dissolved Gases.....	3.40E-2	NR	ND	ND
Liquid Waste Volume (l).....	3.30E+7	3.00E+7	4.03E+7	2.23E+7
Liquid Dilution Volume (l)..	1.71E+12	1.23E+12	8.81E+11	7.37E+11
SOLID WASTES				
Volume (m^3).....	1.01E+3	8.31E+2	1.40E+3	1.00E+3
Activity (curies).....	2.94E+2	7.35E+2	2.41E+3	2.35E+3
Shipments.....	158	NR	NR	283
POWER PRODUCTION				
Gross Thermal (MWD).....	1.18E+6	1.09E+6	9.64E+5	4.76E+5

[1] Second half of the year only
[2] Sr-90 dor June and December not available
[3] Does not include I-131 released in particulate form (.023 Ci)
[4] 3 rd quarter only, ground level release
[5] 33.6% ground level release
[6] 17.1% ground level release
[7] 1 st and 3 rd quarters only

Facility Arkansas Nuclear One Unit 1 Utility Arkansas Power & Light Co.

Type PWR (B&W) EPA Region VI Rated Power Level 902 MWe 2584 MWt

Location Russelville, Arkansas

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	1.96E+2	1.04E+3	5.69E+3
Krypton-85.....	5.60E-2	3.15E+0	3.95E+1
Xenon-133.....	1.93E+2	9.69E+2	5.16E+3
Total Halogens.....	5.30E-2	<2.18E-2	4.08E-2
Iodine-131.....	5.30E-2	<7.28E-3	4.07E-2
Particulates.....	4.40E-4	1.11E-2	1.66E-2
Tritium.....	3.00E-2	5.20E-1	6.74E+0
LIQUID RELEASES (curies)			
Total MF & Act. Products....	1.22E+1	3.11E+0	1.31E+1
Cobalt-58.....	3.30E-2	1.94E+0	3.39E+0
Cobalt-60.....	5.70E-4	4.60E-2	5.84E-1
Strontium-90.....	2.50E-3	<1.26E-2	ND
Iodine-131.....	1.90E-2	2.80E-1	3.75E+0
Cesium-134.....	NR	7.65E-2	9.83E-1
Cesium-137.....	1.90E-4	2.56E-1	3.17E+0
Tritium.....	2.55E+1	4.60E+2	2.12E+2
Dissolved Gases.....	1.15E+0	3.31E+1	9.00E+1
Liquid Waste Volume (l).....	4.80E+6	7.89E+6	9.62E+6
Liquid Dilution Volume (l) .	5.20E+11	1.26E+12	9.19E+11
SOLID WASTES			
Volume (m^3).....	NR	0	0
Activity (curies).....	NR	0	0
Shipments.....	NR	0	0
POWER PRODUCTION			
Gross Thermal (MWD).....	8.29E+4	6.42E+5	5.03E+5

Facility Beaver Valley Unit 1 Utility _____

Type PWR EPA Region _____ Rated Power Level _____ MWe _____ MWt

Location _____

AIRBORNE RELEASES (curies)				1976
Total Noble Gases.....				1.08E+0
Krypton-85.....				<4.00E-5
Xenon-133.....				9.19E-1
Total Halogens.....				
Iodine-131.....				2.24E-5
Particulates.....				1.43E-6
Tritium.....				3.72E+3
LIQUID RELEASES (curies)				
Total MF & Act. Products....				1.75E-1
Cobalt-58.....				1.24E-1
Cobalt-60.....				1.88E-2
Strontium-90.....				4.68E-4
Iodine-131.....				2.48E-4
Cesium-134.....				ND
Cesium-137.....				ND
Tritium.....				8.56E+0
Dissolved Gases.....				<2.80E-7
Liquid Waste Volume (l).....				1.42E+7
Liquid Dilution Volume (l)..				2.55E+10
SOLID WASTES				
Volume (m^3).....				4.30E+1
Activity (curies).....				4.26E-2
Shipments.....				2
POWER PRODUCTION				
Gross Thermal (MWD).....				8.22E+4

Facility Calvert Cliffs Unit 1 Utility Baltimore Gas & Electric Co.

Type PWR (CE) EPA Region III Rated Power Level 880 MWe 2570 MWt

Location Lusby, Maryland

AIRBORNE RELEASES (curies)		1974	1975	1976
Total Noble Gases.....		8.77E+1	7.72E+3	
Krypton-85.....		NR	8.12E-1	
Xenon-133.....		8.77E+1	7.42E+3	
Total Halogens.....		8.32E-4	3.56E-2	
Iodine-131.....		8.32E-4	2.19E-2	
Particulates.....		4.81E-5	1.07E-2	
Tritium.....		4.55E-2	1.23E+0	
LIQUID RELEASES (curies)				
Total MF & Act. Products....		1.99E-2	1.49E+0	
Cobalt-58.....		NR	5.63E-1	
Cobalt-60.....		NR	2.19E-2	
Strontium-90.....		4.33E-5	2.75E-3	
Iodine-131.....		5.30E-3	2.35E-1	
Cesium-134.....		NR	4.36E-5	
Cesium-137.....		6.32E-3	1.12E-1	
Tritium.....		4.48E-3	2.63E+2	
Dissolved Gases.....		9.53E-3	1.31E+1	
Liquid Waste Volume (l).....		7.76E+6	1.03E+8	
Liquid Dilution Volume (l)..		3.15E+11	2.12E+12	
SOLID WASTES				
Volume (m^3).....		0	0	
Activity (curies).....		0	0	
Shipments.....		0	0	
POWER PRODUCTION				
Gross Thermal (MWD).....		1.60E+0	5.84E+5	

Facility Donald C Cook Utility Indiana & Michigan Power Co.

Type PWR (W) EPA Region V Rated Power Level 1090 MWe 3250 MWt

Location Bridgman, Michigan

AIRBORNE RELEASES (curies)			1975	1976
Total Noble Gases.....			2.64E+0	9.75E+2
Krypton-85.....			NR	5.02E+1
Xenon-133.....			2.43E+0	7.67E+2
Total Halogens.....			1.65E-4	1.37E-3
Iodine-131.....			1.49E-4	1.31E-3
Particulates.....			NR	<2.41E-6
Tritium.....			1.82E-2	1.05E-1
LIQUID RELEASES (curies)				
Total MF & Act. Products....			2.60E-1	2.82E-1
Cobalt-58.....			1.59E-1	7.53E-2
Cobalt-60.....			1.47E-2	2.99E-2
Strontium-90.....			NR	NR
Iodine-131.....			1.82E-3	3.52E-2
Cesium-134.....			4.46E-5	4.25E-2
Cesium-137.....			3.32E-4	6.20E-2
Tritium.....			5.64E+1	1.92E+2
Dissolved Gases.....			4.22E-4	1.31E+0
Liquid Waste Volume (l).....			2.40E+6	2.60E+6
Liquid Dilution Volume (l)..			8.14E+10	6.93E+10
SOLID WASTES				
Volume (m^3).....			1.72E+2	1.94E+2
Activity (curies).....			5.37E-1	2.58E+1
Shipments.....			9	16
POWER PRODUCTION				
Gross Thermal (MWD).....			6.08E+5	8.95E+5

Facility Fort Calhoun Utility Omaha Public Power District

Type PWR (CE) EPA Region VII Rated Power Level 501 MWe 1500MWt

Location Fort Calhoun, Nebraska

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	6.66E+1	3.03E+2	4.29E+2	2.15E+3
Krypton-85.....	6.17E+0	3.25E-1 [1]	<4.91E+0	1.31E+2
Xenon-133.....	2.36E+1	1.57E+2 [1]	4.12E+2	2.00E+3
Total Halogens.....	1.20E-4	5.65E-4	6.89E-3	7.17E-1
Iodine-131.....	4.30E-5	4.22E-4	6.58E-3	1.89E-2
Particulates.....	5.50E-6	1.14E-5	1.11E-4	1.63E-3
Tritium.....	3.30E-1	7.51E-1	2.44E+0	2.48E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	1.73E-2	1.94E-1	1.33E-1	5.49E-1
Cobalt-58.....	4.69E-5	1.35E-1	1.63E-1	1.37E-1
Cobalt-60.....	ND	2.87E-3	5.00E-3	6.27E-3
Strontium-90.....	1.69E-5	6.95E-5	<3.53E-6	2.76E-5
Iodine-131.....	4.48E-3	1.66E-2	<6.36E-2	9.00E-2
Cesium-134.....	ND	ND	2.12E-3	5.28E-2
Cesium-137.....	ND	5.02E-4	5.56E-3	9.89E-2
Tritium.....	1.58E+1	1.24E+2	1.11E+2	5.39E+1
Dissolved Gases.....	5.90E-2	2.62E-1	<8.16E-2	4.19E+0
Liquid Waste Volume (l).....	3.30E+6	8.14E+6	8.26E+6	1.65E+8
Liquid Dilution Volume (l) .	2.17E+11	7.22E+10	8.82E+10	1.13E+12
SOLID WASTES				
Volume (m^3).....	4.54E+1	3.23E+2	5.37E+2	5.72E+2
Activity (curies).....	2.00E-2	1.00E+1	5.61E+1	9.78E+1
Shipments.....	2	18	38	48
POWER PRODUCTION				
Gross Thermal (MWD).....	8.54E+4	3.16E+5	2.80E+5	2.98E+5

[1] Isotopic totals for the second half of the year only.

Facility R. E. Ginna Utility Rochester Gas & Electric Co.

Type PWR (W) EPA Region II Rated Power Level 517 MWe 1520 MWt

Location Ontario, New York

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	5.76E+2	7.57E+2	1.05E+4	5.52E+3
Krypton-85.....	6.03E+1	8.90E+0	3.25E+1	1.53E+2
Xenon-133.....	4.40E+2	6.30E+2	1.02E+4	5.15E+3
Total Halogens.....	9.85E-4	4.46E-4	6.54E-2	3.35E-2
Iodine-131.....	5.31E-4	2.82E-4	2.12E-2	3.11E-2
Particulates.....	3.32E-5	4.19E-5	4.18E-5	8.96E-5
Tritium.....	1.14E+0	3.56E-1	5.83E+0	2.36E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	7.40E-2	1.38E-1	4.20E-1	6.85E-1
Cobalt-58.....	3.27E-3	1.35E-2	9.29E-3	3.80E-2
Cobalt-60.....	9.24E-3	3.19E-2	2.08E-2	4.96E-2
Strontium-90.....	NR	ND	NR	ND
Iodine-131.....	6.85E-4	9.80E-5	1.65E-2	3.38E-1
Cesium-134.....	1.68E-2	1.26E-2	5.85E-3	4.73E-2
Cesium-137.....	3.44E-2	3.86E-2	2.06E-2	1.13E-1
Tritium.....	2.86E+2	1.95E+2	2.60E+2	2.42E+2
Dissolved Gases.....	3.03E-4	ND	5.19E-5	
Liquid Waste Volume (l).....	1.70E+6	1.92E+6	3.76E+6	4.28E+7
Liquid Dilution Volume (l)..	7.57E+11	6.42E+11	6.90E+11	6.34E+11
SOLID WASTES				
Volume (m^3).....	1.98E+2	2.75E+2	4.58E+2	2.80E+2
Activity (curies).....	5.99E+2	6.14E+2	1.38E+2	9.78E+1
Shipments.....	29	26	22	23
POWER PRODUCTION				
Gross Thermal (MWD).....	4.48E+5	2.80E+5	4.04E+5	2.91E+5

Facility Haddam Neck (Connecticut Yankee) Utility Connecticut Yankee Atomic Power Co.

Type PWR (W) EPA Region I Rated Power Level 600 MWe 1825 MWt

Location Haddam Neck, Connecticut

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	3.18E+1	7.73E+0	4.80E+2	4.92E+2
Krypton-85.....	1.12E+1	4.01E+0	2.41E+2	1.29E+2
Xenon-133.....	1.78E+1	2.34E+0	1.82E+2	2.92E+2
Total Halogens.....	1.54E-3	4.57E-8	8.91E-4	7.33E-4
Iodine-131.....	1.29E-3	4.57E-8	8.91E-4	7.33E-4
Particulates.....	2.73E-2	1.60E-4	2.05E-3	9.00E-4
Tritium.....	5.06E+1	2.13E-1	6.97E+1	7.39E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	3.04E+0	2.23E+0	1.24E+0	1.30E-1
Cobalt-58.....	7.57E-1	4.23E-1	3.28E-1	1.37E-2
Cobalt-60.....	5.88E-1	6.79E-1	3.32E-1	7.34E-2
Strontium-90.....	3.14E-4	9.11E-4	5.58E-3	1.11E-5
Iodine-131.....	5.48E-2	9.01E-5	7.67E-3	1.12E-3
Cesium-134.....	NR	2.97E-3	3.90E-2	3.14E-3
Cesium-137.....	3.12E-1	2.72E-1	1.59E-1	2.28E-2
Tritium.....	3.90E+3	2.24E+3	5.67E+3	4.85E+3
Dissolved Gases.....	1.23E+0	7.53E-1	2.56E-1	3.18E-2
Liquid Waste Volume (l).....	2.68E+7	4.05E+7	2.61E+8	6.09E+7
Liquid Dilution Volume (l)..	5.03E+11	7.34E+11	7.28E+11	6.99E+11
SOLID WASTES				
Volume (m^3).....	1.59E+2	2.04E+2	6.24E+2	7.66E+2
Activity (curies).....	5.71E+2	9.42E+2	1.32E+3	7.46E+2
Shipments.....	11	24	33	42
POWER PRODUCTION				
Gross Thermal (MWD).....	2.91E+5	5.90E+5	5.58E+5	5.40E+5

Facility Indian Point Unit 1 Utility Consolidated Edison Co. of New York

Type PWR (B&W) EPA Region II Rated Power Level 275 MWe 615 MWt

Location Buchanan, New York

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	1.22E+2	6.11E+2	<3.66E+2	
Krypton-85.....	NR	NR	NR	
Xenon-133.....	NR	NR	NR	
Total Halogens.....	1.20E-2	9.47E-2	1.04E-2	
Iodine-131.....	1.20E-2	9.00E-2	1.04E-2	
Particulates.....	5.60E-2	3.42E-1	2.93E-2	
Tritium.....	2.54E+1	3.23E+1	1.11E+1	
LIQUID RELEASES (curies)				
Total MF & Act. Products....	1.07E+0	2.88E+0	1.30E+0	Included with Units 2 & 3
Cobalt-58.....	3.21E-2	1.23E-1	9.71E-2	
Cobalt-60.....	1.08E-1	1.56E-1	5.35E-2	
Strontium-90.....	6.04E-4	7.98E-4	<1.11E-3	
Iodine-131.....	6.03E-2	3.96E-1	1.63E-1	
Cesium-134.....	3.30E-1	1.95E-1	3.14E-1	
Cesium-137.....	5.14E-1	4.59E-1	6.13E-1	
Tritium.....	1.38E+2	6.84E+2	2.87E+2	
Dissolved Gases.....	4.09E+0	7.57E+0	2.98E-1	
Liquid Waste Volume (l).....	8.78E+6	5.21E+7	1.10E+7	
Liquid Dilution Volume (l) .	6.21E+11	1.54E+12	1.34E+12	
SOLID WASTES				
Volume (m^3).....				
Activity (curies).....	Included with Unit 2			
Shipments.....				
POWER PRODUCTION				
Gross Thermal (MWD).....	0.00E+0	1.22E+5	0.00E+0	

Facility Indian Point Units 1, 2 & 3 Utility Consolidated Edison Co. of New York

Type 1 EPA Region II Rated Power Level 2 MWe 2 MWt

Location Buchanan, New York

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	1.54E+1	5.59E+3	8.20E+3	1.06E+4
Krypton-85.....	NR	NR	NR	9.63E+1 [5]
Xenon-133.....	NR	NR	NR	6.01E+3
Total Halogens.....	2.90E-4	4.25E-1	4.00E-1	2.73E-1
Iodine-131.....	2.90E-4	3.69E-1	3.65E-1	2.14E-1
Particulates.....	2.80E-4	2.86E-1	1.25E+0	2.81E-2
Tritium.....	2.00E+0	1.99E+1	1.34E+1	2.37E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.17E+0	4.19E+0	4.95E+0	5.90E+0
Cobalt-58.....	2.31E+0 [3]	1.35E+0	4.69E-1	4.15E-1
Cobalt-60.....	6.64E-2	1.39E-1	2.42E+0	3.93E-1
Strontium-90.....	8.93E-4	2.65E-4	1.37E-3	7.48E-3
Iodine-131.....	1.62E-1	2.18E+0	3.31E-1	2.05E+0
Cesium-134.....	2.42E-2	1.13E-1	3.67E-1	7.55E-1
Cesium-137.....	5.10E-2	2.39E-1	8.30E-1	1.54E+0
Tritium.....	2.75E+1	4.79E+1	7.93E+1	3.32E+2
Dissolved Gases.....	3.31E+0	5.28E+0	5.40E-1	1.34E+1
Liquid Waste Volume (l).....	7.93E+6	1.98E+7	4.70E+7	7.50E+7
Liquid Dilution Volume (l)..	4.40E+11	1.45E+12	1.34E+12	1.42E+12
SOLID WASTES [4]				
Volume (m^3).....	4.11E+2	4.45E+2	6.22E+2	5.33E+2
Activity (curies).....	2.08E+2	6.19E+1	2.00E+3	5.11E+2
Shipments.....	12 [5]	27	76	34
POWER PRODUCTION				
Gross Thermal (MWD).....	6.13E+4	4.78E+5	6.85E+5	5.61E+5

1 Unit 1 - B&W PWR; Units 2 & 3 - W PWR
2 Unit 1 - 275 MWe, 615 MWt; Units 2 & 3 - 906 MWe, 2758 MWt each
3 Co-58 release reported is greater than total release
4 Units 1, 2 & 3 solid wastes reported together
5 Second half of the year only
6 Unit 1 defueling commenced Jan 30, 1976. No power generated in 1976

Facility Kewaunee Utility Wisconsin Public Service Corp. Wisconsin Power & Light Co. Madison Gas & Electric Co.

Type PWR (W) EPA Region V Rated Power Level 563 MWe 1650 MWt

Location Kewaunee, Wisconsin

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	3.35E+3	2.45E+3	1.60E+3
Krypton-85.....	ND	ND	6.40E-2
Xenon-133.....	2.69E+3	2.07E+3	1.32E+3
Total Halogens.....	2.88E-2	1.99E-2	3.27E-3
Iodine-131.....	2.40E-2	1.38E-2	2.98E-3
Particulates.....	3.86E-1	6.46E-1	4.68E-4
Tritium.....	1.03E+2	3.73E+1	6.97E-1
LIQUID RELEASES (curies)			
Total MF & Act. Products....	4.22E-1	4.47E-1	2.85E+0
Cobalt-58.....	2.91E-1	1.94E-1	1.63E+0
Cobalt-60.....	< 3.02E-2 [1]	1.48E-2	1.25E-1
Strontium-90.....	5.30E-4 [2]	8.82E-5	9.83E-4
Iodine-131.....	2.11E-2	7.17E-2	3.24E-2
Cesium-134.....	< 1.43E-2 [1]	3.09E-2	1.76E-1
Cesium-137.....	< 2.04E-2 [1]	1.05E-1	3.69E-1
Tritium.....	9.24E+1	2.77E+2	2.14E+2
Dissolved Gases.....	3.19E-2	2.47E-1	8.48E-2
Liquid Waste Volume (1).....	6.23E+6	9.45E+6	7.66E+6
Liquid Dilution Volume (1) .	1.21E+11	1.67E+11	1.23E+11
SOLID WASTES			
Volume (m^3).....	0	1.59E+1	5.03E+2
Activity (curies).....	0	2.12E+0	3.89E+1
Shipments.....	0	1	5
POWER PRODUCTION			
Gross Thermal (MWD).....	2.57E+5	4.51E+5	4.50E+5

[1] Calculated value based on concentration of < 1.0E-5 uCi/ml for March to June
[2] For first half of 1974 Sr-89 and Sr-90 were reported together, < 2.58E-4 Ci

Facility Maine Yankee Utility Maine Yankee Atomic Power Co.

Type PWR (CE) EPA Region I Rated Power Level 830 MWe 2440 MWt

Location Wiscasset, Maine

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	1.62E+2	7.34E+3	4.12E+3	1.30E+3
Krypton-85.....	1.51E+0	7.86E+2	1.40E+2	6.89E+1
Xenon-133.....	1.58E+2	6.22E+3	3.93E+3	1.21E+3
Total Halogens.....	1.96E-3	1.52E-1	5.90E-3	1.64E-3
Iodine-131.....	1.60E-3	1.16E-1	5.21E-3	1.56E-3
Particulates.....	1.30E-4	2.57E-3	2.51E-4	4.33E-4
Tritium.....	1.89E+0	7.46E+0	4.71E+0	3.68E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	4.57E-1	2.92E+0 [1]	3.20E+0	2.84E+0 [3]
Cobalt-58.....	2.62E-2	2.82E-1	2.30E-1	1.31E-1
Cobalt-60.....	1.15E-2	2.00E-2	3.48E-2	1.77E-1
Strontium-90.....	ND	NR	5.87E-4 [2]	4.45E-3 [3]
Iodine-131.....	3.44E-3	3.58E-1	5.93E-2	1.91E-1
Cesium-134.....	ND	7.34E-1	2.00E-1	6.55E-1
Cesium-137.....	ND	9.87E-1	1.54E+0	1.54E+0
Tritium.....	1.54E+2	2.19E+2	1.77E+2	3.68E+2
Dissolved Gases.....	7.05E-2	1.18E+0	3.77E-2	5.75E-2
Liquid Waste Volume (l).....	9.69E+7	1.07E+8	1.26E+8	1.33E+8
Liquid Dilution Volume (l)..	5.60E+11	6.02E+11	7.07E+11	8.03E+11
SOLID WASTES				
Volume (m^3).....	6.70E+1	1.59E+2	2.31E+2	1.80E+2
Activity (curies).....	3.24E+0	5.30E+2	1.48E+3	5.04E+2
Shipments.....	5	14	30	16
POWER PRODUCTION				
Gross Thermal (MWD).....	4.51E+5	4.81E+5	6.12E+5	8.11E+5

[1] Isotopic sum, not reported value
[2] January to September
[3] Does not included continuous release of Sr-90 for first quarter

Facility Millstone Point Unit 2 Utility Northeast Nuclear Energy Co.

Type PWR (CE) EPA Region I Rated Power Level 860 MWe 2560 MWt

Location Waterford, Connecticut

AIRBORNE RELEASES (curies)			1975	1976
Total Noble Gases.....			< 1.70E-6	1.55E+3
Krypton-85.....			< 3.00R-6	1.02E+2
Xenon-133.....			ND	1.43E+3
Total Halogens.....			4.59E-5	< 4.90E-2
Iodine-131.....			2.37E-5	9.57E-3
Particulates.....			8.81E-6	5.36E-4
Tritium.....			1.69E+0	< 1.50E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....			2.03E-2	< 4.20E-1
Cobalt-58.....			1.40E-2	< 1.17E-1
Cobalt-60.....			7.11E-4	< 7.71E-3
Strontium-90.....			5.21E-5	< 3.73E-3
Iodine-131.....			9.27E-4	< 3.37E-2
Cesium-134.....			9.03E-4	5.48E-4
Cesium-137.....			1.43E-3	1.13E-2
Tritium.....			7.60E+0	2.77E+2
Dissolved Gases.....			7.64E-3	< 4.00E+0
Liquid Waste Volume (l).....			2.38E+6	8.31E+6
Liquid Dilution Volume (l)..			7.81E+9	5.55E+10
SOLID WASTES				
Volume (m^3).....			0	2.80E+2
Activity (curies).....			0	1.80E+0
Shipments.....			0	26
POWER PRODUCTION				
Gross Thermal (MWD).....			2.66E+4	6.31E+5

Facility Oconee Units 1, 2 & 3 Utility Duke Power Company

Type PWR (B&W) EPA Region IV Rated Power Level each 922 MWe 2568 MWt

Location Seneca, South Carolina

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	9.34E+3	1.94E+4	1.52E+4	4.40E+4
Krypton-85.....	8.86E-2	7.34E-1	7.04E+0	3.47E+1
Xenon-133.....	8.63E+3	1.86E+4	1.38E+4	4.21E+4
Total Halogens.....	1.77E-2	3.21E-2	1.07E-2	1.56E-1
Iodine-131.....	1.23E-2	3.17E-2	8.87E-3	1.25E-1
Particulates.....	ND	9.17E-4	2.68E-4	3.10E-1
Tritium.....	1.31E+1	8.78E+2	1.66E+3	5.02E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.83E+0	1.93E+0	5.06E+0	6.67E+0
Cobalt-58.....	4.85E-1	4.68E-1	2.21E+0	2.01E+0
Cobalt-60.....	4.52E-2	2.80E-2	5.59E-1	3.68E-1
Strontium-90.....	ND	1.95E-3	6.36E-4	6.50E-4
Iodine-131.....	1.55E+0	1.10E+0	1.16E+0	1.91E+0
Cesium-134.....	ND	4.00E-2	1.66E-1	6.36E-1
Cesium-137.....	1.10E-2	6.02E-2	4.36E-1	1.04E+0
Tritium.....	7.07E+1	3.50E+2	3.55E+3	2.19E+3
Dissolved Gases.....	5.66E+0	2.01E+0	2.87E+0	1.27E+0
Liquid Waste Volume (l).....	1.36E+7	1.11E+7	2.95E+7	1.95E+7
Liquid Dilution Volume (l)..	7.24E+11	1.04E+12	1.47E+12	1.21E+12
SOLID WASTES [1]				
Volume (m^3).....	2.36E+2	5.71E+2	1.42E+3	2.22E+3
Activity (curies).....	3.23E+1	2.19E+2	1.68E+3	7.83E+2
Shipments.....	24	96	104	168
POWER PRODUCTION				
Gross Thermal (MWD).....	3.11E+5	7.07E+5	1.96E+6	1.65E+6

[1] Liquid waste has been trucked offsite: 4.44E+5 liters and 3.63 Ci (total activity) in 1973, 3.36E+5 liters and 1.05E+1 Ci (total) in 1974, and 3.79E+4 liters and 1.01Ci (total) in 1975.

Facility Palisades Utility Consumers Power Co.

Type PWR (CE) EPA Region V Rated Power Level 811 MWe 2472 MWt

Location South Haven, Michigan

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases	4.54E+2	3.36E-2	2.61E+3	2.99E+1
Krypton-85	2.40E+0	ND	4.78E+0	1.68E+0
Xenon-133	4.20E+2	1.67E-2	2.52E+3	2.30E+1
Total Halogens	2.89E-1	3.29E-2	4.27E-1	3.06E-2
Iodine-131	2.85E-1	9.95E-3	3.75E-1	2.92E-2
Particulates	1.51E-1	3.65E-3	6.18E-4	1.43E-2
Tritium	1.80E-1	NR	0	NR
LIQUID RELEASES (curies)				
Total MF & Act. Products	2.78E+1	5.87E+0	3.45E+0	4.30E-1 [2] [3]
Cobalt-58	1.02E+1	7.01E-1	1.49E-1	2.08E-1
Cobalt-60	4.58E-1	4.30E-1	1.18E-1	3.91E-2
Strontium-90	1.63E-3	2.26E-3	NR	NR
Iodine-131	3.65E-1	5.59E-3	1.86E-1	3.71E-3
Cesium-134	8.82E-1	7.01E-1	4.50E-2	2.51E-2
Cesium-137	1.88E+0	1.61E+0	1.43E-1	5.59E-2
Tritium	1.85E+2	8.28E+0	4.16E+1	9.63E+0
Dissolved Gases	2.57E+0	4.74E-2	5.18E-2	1.94E-3
Liquid Waste Volume (l)	1.90E+7	4.10E+7	2.98E+7	5.40E+5
Liquid Dilution Volume (l)	6.27E+11	1.14E+11	1.23E+11	1.25E+11
SOLID WASTES				
Volume (m^3)	6.30E+1 [1]	2.34E+2	8.01E+2	6.80E+2
Activity (curies)	2.86E+1 [1]	2.66E+1	2.10E+2	5.26E+1
Shipments	5 [1]	13	57	42
POWER PRODUCTION				
Gross Thermal (MWD)	3.25E+5	1.65E+4	3.71E+5	4.03E+5

[1] Second half of the year only
[2] Laundry system drains
[3] An additional 1.68E+7 liters was discharged from the modified liquid waste system containing 1.07E-2 Ci total activity (2.40E-4 Ci Co-58, 1.60E-5 Ci Cs-137, 1.31E-4 Ci Mn-54 and the remainder unidentified)

Facility Point Beach Units 1 & 2 Utility Wisconsin Michigan Power Co. Wisconsin Electric Power Co.

Type PWR (W) EPA Region V Rated Power Level each 497 MWe 1518 MWt

Location Manitowoc, Wisconsin

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	4.49E+3	9.74E+3	4.53E+4	2.01E+3
Krypton-85.....	2.32E+2	2.31E+1	4.48E+1	1.29E+1
Xenon-133.....	3.65E+3	6.04E+3	2.05E+4	6.62E+2
Total Halogens.....	2.35E-2	9.15E-2	1.89E-1	6.26E-3
Iodine-131.....	1.07E-2	5.31E-22.	2.41E-2	2.44E-3
Particulates.....	5.39E-1	6.93E-3	9.40E-2	1.82E+1
Tritium.....	2.55E+1	4.28E+1	4.20E+2	3.95E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	7.46E-1	1.96E-1	3.35E+0	3.56E+0 [3]
Cobalt-58.....	2.07E-4	1.25E-3	3.35E-1	2.14E-1
Cobalt-60.....	2.32E-4	2.12E-4	7.93E-2	9.39E-2
Strontium-90.....	ND	1.60E-4	2.34E-3 [1]	1.34E-5 [3]
Iodine-131.....	1.20E-5	1.82E-2	2.52E-1	1.06E-1
Cesium-134.....	3.25E-1	3.84E-2	2.06E-2	2.22E-1
Cesium-137.....	4.21E-1	9.82E-2	3.96E-2	2.86E-1
Tritium.....	5.56E+2	8.33E+2	1.02E+3	6.95E+2
Dissolved Gases.....	7.19E-3	2.11E-1	4.51E-1	2.82E-1
Liquid Waste Volume (l).[2]....	7.92E+7	6.61E+7	1.20E+8	1.87E+8
Liquid Dilution Volume (l)..	1.01E+12	5.95E+11	5.55E+11	5.25E+11
SOLID WASTES				
Volume (m^3).....	2.95E+2	1.32E+2	4.08E+2	1.93E+2
Activity (curies).....	1.83E+3	2.12E+3	8.23E+3	3.04E+2
Shipments.....	19	12	29	17
POWER PRODUCTION				
Gross Thermal (MWD).....	7.68E+5	8.48E+5	8.72E+5	9.46E+5

[1] Through November 1975. December not available
[2] Includes volumes from liquid waste system and steam generator blow down
[3] 4th quarter Sr-90 release not available

Facility Prairie Island Units 1 & 2 Utility Northern States Power Co.

Type PWR (W) EPA Region V Rated Power Level each 538 MWe 1650 MWt

Location Red Wing, Minnesota

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.72E+0	3.58E+2	2.18E+3	1.74E+3
Krypton-85.....	ND	5.36E-4	ND	< 3.04E+1
Xenon-133.....	7.00E+0	3.57E+2	2.13E+3	< 1.53E+3
Total Halogens.....	1.02E-4	6.03E-4	2.10E-2	< 2.46E-2
Iodine-131.....	1.35E-5	4.49E-4	1.84E-2	1.12E-2
Particulates.....	ND	ND	3.60E-3	2.26E-4
Tritium.....	NR	3.91E+0	1.01E+1	3.31E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products....	1.56E-8	2.78E-4	4.54E-1	1.18E-2
Cobalt-58.....	ND	2.60E-4	4.02E-1	< 1.83E-2
Cobalt-60.....	ND	4.00E-5	3.13E-2	< 1.76E-2
Strontium-90.....	ND	ND	ND	< 1.50E-3
Iodine-131.....	ND	ND	4.58E-3	< 7.72E-3
Cesium-134.....	ND	ND	1.73E-3	< 1.19E-2
Cesium-137.....	ND	ND	3.06E-3	< 1.07E-2
Tritium.....	7.30E-5	1.42E+2	7.63E+2	1.93E+3
Dissolved Gases.....	ND	1.28E-1	2.79E+0	1.88E+0
Liquid Waste Volume (l).....	2.44E+7	3.00E+8	4.30E+8	3.38E+8
Liquid Dilution Volume (l)..	1.15E+10	1.21E+11	3.84E+11	3.23E+11
SOLID WASTES				
Volume (m^3).....	0	1.36E+2	1.50E+2	1.52E+2
Activity (curies).....	0	7.61E+0	3.47E+1	6.53E+1
Shipments.....	0	10	13	14
POWER PRODUCTION				
Gross Thermal (MWD).....	5.33E+3	2.19E+5	9.38E+5	8.58E+5

Facility Rancho Seco Utility Sacramento Municipal Utility Dist.

Type PWR (B&W) EPA Region IX Rated Power Level 889 MWe 2568 MWt

Location Sacramento, California

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	2.98E-3	1.18E+2	1.27E+2
Krypton-85.....	8.72E-4	5.50E-4	8.79E-2
Xenon-133.....	2.03E-3	1.05E+2	1.19E+2
Total Halogens.....	ND	1.90E-4	1.13E-3
Iodine-131.....	ND	1.90E-4	1.12E-3
Particulates.....	9.56E-6	8.18E-5	5.26E-5
Tritium.....	6.06E-3	7.73E-4	9.12E+0
LIQUID RELEASES (curies)			
Total MF & Act. Products....	2.28E-3	2.87E-4	1.10E+0 [2]
Cobalt-58.....	ND	2.87E-4	7.90E-1 [2]
Cobalt-60.....	ND	ND	9.61E-2 [2]
Strontium-90.....	ND	ND	NR [2]
Iodine-131.....	ND	ND	6.19E-3 [2]
Cesium-134.....	ND	ND	1.48E-2 [2]
Cesium-137.....	ND	ND	5.68E-2 [2]
Tritium.....	1.97E-2	1.32E+2	1.53E+1 [2]
Dissolved Gases.....	ND	ND	NR
Liquid Waste Volume (l).....	2.26E+6	5.19E+7	3.63E+5 [2]
Liquid Dilution Volume (l)..	1.47E+7	1.75E+8	NR
SOLID WASTES			
Volume (m^3).....	0	1.10E-2	1.10E+2
Activity (curies).....	0	1.15E-1	2.04E+1
Shipments.....	0	1 [1]	6 [1]
POWER PRODUCTION			
Gross Thermal (MWD).....	3.94E+4	5.50E+4	2.88E+5

[1] Liquid waste is also trucked offsite:
1974: 3.88E+4 liters, 1.34E-1 Ci H-3, 1.86E-2 Ci non H-3
1975: 3.70E+5 liters, 1.55E+1 Ci H-3, 1.09E+0 Ci non H-3

[2] Liquid waste trucked offsite for burial in 32 truck loads of 3000 gal. each

Facility H. B. Robinson Utility Carolina Power Light Co.

Type PWR (W) EPA Region IV Rated Power Level 772 MWe 2300 MWt

Location Hartsville, South Carolina

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	3.10E+3	2.50E+3	1.17E+3	7.91E+2
Krypton-85.....	9.37E-3	1.47E+1	7.99E+1	2.32E+1
Xenon-133.....	1.65E+3	2.45E+3	1.00E+3	5.66E+2
Total Halogens.....	2.99E-1	5.15E-2	2.34E-2	2.54E-1
Iodine-131.....	2.96E-1	4.63E-2	1.79E-2	9.89E-1
Particulates.....	4.75E-5	1.69E-3	1.34E-3	5.68E-4
Tritium.....	2.50E+0	5.15E+1	1.93E+2	1.58E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	3.06E-1 [1]	2.90E+0	4.40E-1	3.75E-1
Cobalt-58.....	8.46E-2	2.15E-1	1.05E-1	3.12E-2
Cobalt-60.....	8.11E-2	1.62E-1	8.05E-2	2.61E-1
Strontium-90.....	2.49E-2	1.07E-3	ND	0
Iodine-131.....	4.07E-2	8.23E-1	4.37E-2	1.53E-3
Cesium-134.....	4.91E-2	1.35E-1	6.74E-2	1.46E-2
Cesium-137.....	9.97E-2	1.52E-1	7.55E-2	1.88E-2
Tritium.....	4.32E+2	4.49E+2	6.24E+2	9.80E+2
Dissolved Gases.....	2.53E-1	4.38E-1	9.98E-2	1.21E-2
Liquid Waste Volume (l).....	6.87E+6	4.26E+7	9.57E+7	1.53E+8
Liquid Dilution Volume (l)..	1.46E+11	5.57E+11	6.48E+11	6.18E+11
SOLID WASTES				
Volume (m^3).....	2.92E+2	3.53E+2 [2]	3.56E+2	3.16E+2
Activity (curies).....	9.67E+1	1.97E+2 [2]	1.34E+3	6.29E+1
Shipments.....	31	29	44	23
POWER PRODUCTION				
Gross Thermal (MWD).....	5.08E+5	6.48E+5	5.66E+5	6.61E+5

[1] Number was adjusted to exclude Dissolved Noble Gases for the first half year
[2] Liquid waste was also trucked offsite: 3.33E+4 liters; 1.96E-1 Ci H-3, 3.76E+0 Ci non H-3

Facility Salem Unit 1 Utility Public Service Electric & Gas Co.

Type PWR EPA Region _____ Rated Power Level _____ MWe _____ MWt

Location _____

AIRBORNE RELEASES (curies)				1976
Total Noble Gases.....				8.90E-5
Krypton-85.....				0
Xenon-133.....				8.90E-5
Total Halogens.....				ND
Iodine-131.....				ND
Particulates.....				ND
Tritium.....				1.46E-5
LIQUID RELEASES (curies)				
Total MF & Act. Products....				3.04E-4
Cobalt-58.....				ND
Cobalt-60.....				ND
Strontium-90.....				3.04E-4
Iodine-131.....				ND
Cesium-134.....				ND
Cesium-137.....				ND
Tritium.....				3.77E-2
Dissolved Gases.....				0
Liquid Waste Volume (1).....				NR
Liquid Dilution Volume (1)..				NR
SOLID WASTES				
Volume (m^3).....				0
Activity (curies).....				0
Shipments.....				0
POWER PRODUCTION				
Gross Thermal (MWD).....				2.03E+3

Facility St. Lucie Unit 1 Utility _____

Type PWR EPA Region _____ Rated Power Level _____ MWe _____ MWt

Location _____

				1976
AIRBORNE RELEASES (curies)				
Total Noble Gases.....				1.79E+3
Krypton-85.....				1.24E+0
Xenon-133.....				1.72E+3
Total Halogens.....				1.98E-3
Iodine-131.....				1.89E 3
Particulates.....				2.01E-3
Tritium.....				2.07E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....				8.14E-2
Cobalt-58.....				5.77E-2
Cobalt-60.....				3.89E-3
Strontium-90.....				ND
Iodine-131.....				1.76E-3
Cesium-134.....				5.15E-5
Cesium-137.....				2.58E-4
Tritium.....				1.33E+1
Dissolved Gases.....				2.07E-3
Liquid Waste Volume (1).....				4.51E+6
Liquid Dilution Volume (1)..				3.68E+10
SOLID WASTES				
Volume (m^3).....				8.64E+1
Activity (curies).....				1.59E+0
Shipments.....				4
POWER PRODUCTION				
Gross Thermal (MWD).....				1.45E+4

Facility San Onofre Utility Southern California Edison Co. San Diego Gas & Electric Co.

Type PWR (W) EPA Region IX Rated Power Level 450 MWe 1347 MWt

Location San Clemente, California

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases	1.07E+4	1.78E+3	1.79E+3	4.17E+2
Krypton-85	5.46E+1	6.39E+1	3.61E+0	8.91E+0
Xenon-133	7.50E+3	1.42E+3	1.11E+3	3.87E+2
Total Halogens	6.51E-1	2.31E-4	2.46E-1	4.47E-3
Iodine-131	4.23E-1	1.88E-4	4.50E-3	4.12E-3
Particulates	1.18E+0	8.74E-5	3.56E-2	1.11E+0
Tritium	2.69E+2	9.14E+1	3.43E+1	4.72E+1
LIQUID RELEASES (curies)				
Total MF & Act. Products	1.60E+1	5.80E+0	1.22E+0	7.43E+0
Cobalt-58	1.31E+0	3.53E-1	2.70E-1	1.07E+0
Cobalt-60	1.09E-1	6.97E-2	2.36E-2	9.92E-2
Strontium-90	1.80E-3	4.56E-3	2.60E-3	3.24E-3 [2]
Iodine-131	2.70E-1	4.70E-2	5.95E-5	2.02E-2
Cesium-134	1	1	2.67E-1	1.86E+0
Cesium-137	1.06E+1	3.97E+0	5.95E-1	3.83E+0
Tritium	4.07E+3	3.81E+3	4.00E+3	3.38E+3
Dissolved Gases	5.36E+1	3.37E+0	4.74E+0	1.25E+1
Liquid Waste Volume (l)	9.03E+6	2.64E+7	1.31E+7	1.05E+7
Liquid Dilution Volume (l)	5.11E+11	5.47E+11	4.66E+11	4.55E+11
SOLID WASTES				
Volume (m^3)	1.13E+2	6.83E+1	7.96E+1	1.42E+2
Activity (curies)	3.81E+2	2.30E+2	2.60E+1	6.98E+2
Shipments	13	11	6	9
POWER PRODUCTION				
Gross Thermal (MWD)	2.93E+5	4.06E+5	4.17E+5	3.23E+5

[1] Included with Cs-137
[2] December not included

Facility Surry Units 1 & 2 Utility Virginia Electric Power Co.

Type PWR (W) EPA Region III Rated Power Level each 788 MWe 2441 MWt

Location Surry, Virginia

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	8.66E+2	6.86E+3	8.04E+3	1.92E+4
Krypton-85.....	2.62E+0	8.12E+0	ND	1.95E+1
Xenon-133.....	8.61E+2	6.61E+3	7.87E+3	1.81E+4
Total Halogens.....	4.26E-2	1.22E-1	1.33E-1	5.45E-1
Iodine-131.....	4.22E-2	1.02E-1	1.16E-1	2.83E-1
Particulates.....	1.52E-3	4.29E-2	7.80E-2	3.22E-1
Tritium.....	4.24E+1	6.04E+1	3.20E+1	3.72E+2
LIQUID RELEASES (curies)				
Total MF & Act. Products....	1.34E-1	2.96E+1 [1]	3.19E+1	3.36E+1
Cobalt-58.....	4.43E-2	1.93E+0	2.46E+0	6.33E+0
Cobalt-60.....	6.96E-3	1.00E+0	1.51E+0	1.77E+0
Strontium-90.....	1.30E-4	1.49E-3	1.34E-3	7.40E-3
Iodine-131.....	4.43E-2	1.10E+1	2.43E+0	6.49E+0
Cesium-134.....	8.26E-3	3.73E+0	8.13E+0	2.60E+0
Cesium-137.....	2.35E-2	6.83E+0	1.40E+1	2.46E+0
Tritium.....	4.48E+2	2.96E+2	4.42E+2	7.82E+2
Dissolved Gases.....	1.29E+0	8.02E+0	2.81E+1	2.96E+1
Liquid Waste Volume (1).....	1.65E+7	1.61E+8	7.08E+7	3.38E+8
Liquid Dilution Volume (1) .	5.48E+11	1.26E+12	2.45E+12	2.32E+12
SOLID WASTES				
Volume (m^3).....	3.65E+2	1.25E+3 [2]	9.22E+3 [2]	6.99E+2
Activity (curies).....	1.59E+0	5.07E+1	2.64E+3	6.17E+2
Shipments.....	28	68	94	101
POWER PRODUCTION				
Gross Thermal (MWD).....	9.46E+5	8.00E+5	1.21E+6	1.05E+6

[1] Value given represents the sum of the reported isotopes
[2] Includes liquid trucked offsite: 1974 - 5.55E+1 m^3; 1975 - 1.54E+2 m^3

Facility Three Mile Island Unit 1 Utility Metropolitan Edison & Others

Type PWR (B&W) EPA Region III Rated Power Level 870 MWe 2535 MWt

Location Middletown, Pennsylvania

AIRBORNE RELEASES (curies)	1974	1975	1976
Total Noble Gases.....	9.18E+2	3.63E+3	2.76E+3
Krypton-85.....	ND	2.86E-1	1.31E+1
Xenon-133.....	8.91E+2	2.28E+1	2.63E+3
Total Halogens.....	3.11E-3	9.38E-4	8.64E-3
Iodine-131.....	2.83E-3	9.20E-4	6.30E-3
Particulates.....	2.49E-4	9.61E-5	< 4.43E-3
Tritium.....	1.22E+1	4.02E+1	7.17E+2
LIQUID RELEASES (curies)			
Total MF & Act. Products....	3.99E-2	6.50E-2	1.02E-1
Cobalt-58.....	1.79E-2	5.18E-2	6.57E-2
Cobalt-60.....	1.31E-4	3.85E-3	5.79E-3
Strontium-90.....	ND	1.15E-4	7.28E-5
Iodine-131.....	9.21E-3	4.60E-3	2.24E-3
Cesium-134.....	3.29E-5	3.12E-4	6.34E-3
Cesium-137.....	3.52E-3	3.39E-3	1.22E-2
Tritium.....	1.30E+2	4.63E+2	1.89E+2
Dissolved Gases.....	1.27E+0	1.08E+0	2.90E-1
Liquid Waste Volume (l).....	2.96E+6	1.78E+6	3.36E+6
Liquid Dilution Volume (l)..	6.40E+9	2.93E+10	4.09E+10
SOLID WASTES			
Volume (m^3).....	2.00E+2	4.58E+2	1.55E+2
Activity (curies).....	6.06E+0	2.58E+2	5.93E+0
Shipments.....	16	39	9
POWER PRODUCTION			
Gross Thermal (MWD).....	3.26E+5	7.34E+5	5.80E+5

Facility Turkey Point Units 3 & 4 Utility Florida Power & Light

Type PWR (W) EPA Region IV Rated Power Level each 760 MWe 2300 MWt

Location Miami, Florida

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	5.30E+2	4.66E+3	1.34E+4	1.56E+4
Krypton-85.....	3.73E+0	2.92E+2	3.18E+2	5.72E+1
Xenon-133.....	4.64E+2	3.98E+3	1.24E+4	1.46E+4
Total Halogens.....	6.58E-2	3.45E+0	4.65E-1	5.22E-1
Iodine-131.....	5.47E-2	3.41E+0	4.16E-1	3.47E-1
Particulates.....	2.48E-4	2.20E-1	5.89E-2	7.65E-2
Tritium.....	4.10E+0	9.22E+0	3.49E+0	5.23E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	3.69E-2	1.69E+0	3.07E+0	8.65E+0
Cobalt-58.....	1.09E-2	1.57E-1	2.08E-1	3.29E-1
Cobalt-60.....	1.53E-3	2.86E-2	8.68E-2	7.53E-2
Strontium-90.....	2.64E-5	1.93E-4	3.13E-4	2.47E-3
Iodine-131.....	1.46E-2	1.07E+0	4.25E-1	2.47E+0
Cesium-134.....	6.50E-4	3.56E-2	4.75E-2	3.72E-1
Cesium-137.....	1.21E-3	6.74E-2	7.39E-2	4.27E-1
Tritium.....	3.29E+2	5.80E+2	7.93E+2	7.70E+2
Dissolved Gases.....	4.51E-2	2.43E-1	4.75E+0	5.46E-1
Liquid Waste Volume (l).....	8.18E+6	4.03E+7	1.10E+8	1.26E+8
Liquid Dilution Volume (l)..	1.87E+11	5.27E+11	1.33E+12	2.96E+12
SOLID WASTES				
Volume (m^3).....	2.33E+2	4.49E+2	8.89E+2	1.11E+3
Activity (curies).....	3.98E+0	4.47E+1	1.04E+2	1.56E+2
Shipments.....	12	22	50	73
POWER PRODUCTION				
Gross Thermal (MWD).....	6.43E+5	1.06E+6	1.16E+6	1.12E+6

Facility Yankee (Rowe) Utility Yankee Atomic Electric Co.

Type PWR (W) EPA Region I Rated Power Level 185 MWe 600 MWt

Location Rowe, Massachusetts

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases.....	4.30E+1 [1]	3.97E+1	2,47E+1	2.71E+1
Krypton-85.....	2.32E-1 [2]	1.47E+0	2.72E+0	7.49E-2
Xenon-133.....	2.66E+1 [2]	1.64E+1	1.45E+1	1.91E+1
Total Halogens.....	1.95E-3 [2]	1.01E-3	2.73E-3	1.34E-4
Iodine-131.....	1.95E-3 [2]	7.10E-4	2.19E-3	3.66E-5
Particulates.....	3.63E-4 [2]	4.09E-3	8.02E-3	3.98E-5
Tritium.....	6.12E+0 [1]	3.84E+0	2.06E+0	2.02E+0
LIQUID RELEASES (curies)				
Total MF & Act. Products....	2.27E-2 [1]	8.55E-3	9.51E-3	9.05E-3
Cobalt-58.....	ND [2]	1.21E-4	6.53E-4	2.46E-5
Cobalt-60.....	3.11E-5 [2]	3.96E-4	2.38E-4	2.00E-4
Strontium-90.....	ND [2]	7.16E-5	2.90E-4	5.59E-6
Iodine-131.....	1.40E-3 [2]	5.86E-4	1.21E-3	1.24E-3
Cesium-134.....	2.94E-5 [2]	2.04E-3	5.90E-4	2.11E-4
Cesium-137.....	1.31E-4 [2]	3.21E-3	6.76E-4	4.38E-4
Tritium.....	6.87E+2 [1]	3.14E+2	2.47E+2	1.56E+2
Dissolved Gases.....	1.66E-2 [2]	7.70E-2	2.03E-1	2.78E-2
Liquid Waste Volume (l).....	1.66E+7	1.46E+7	1.58E+7	1.86E+7
Liquid Dilution Volume (l) .	1.71E+11 [3]	2.00E+11	2.28E+11	2.50E+11
SOLID WASTES				
Volume (m^3).....	1.74E+2	2.18E+2	2.38E+2	3.59E+2
Activity (curies).....	3.39E+0	1.27E+2	3.33E+0	2.60E+1
Shipments.....	14	24	11	25
POWER PRODUCTION				
Gross Thermal (MWD).....	1.58E+5	1.28E+5	1.68E+5	1.77E+5

[1] Not including December
[2] June to November only
[3] June to December only

Facility Zion Units 1 & 2 Utility Commonwealth Edison Co.

Type PWR (W) EPA Region V Rated Power Level each 1050 MWe 3250 MWt

Location Zion, Illinois

AIRBORNE RELEASES (curies)	1973	1974	1975	1976
Total Noble Gases	4.24E+0	2.94E+3	4.53E+4	1.42E+5
Krypton-85	ND	ND	7.68E-1	5.95E+2 [1]
Xenon-133	3.97E+0	2.88E+3	4.29E+4	1.23E+5
Total Halogens	1.19E-6	1.56E-2	2.17E-1	8.92E-2
Iodine-131	6.70E-7	1.42E-2	1.34E-1	7.64E-2
Particulates	5.50E-6	7.40E-3	1.90E-3	2.86E-3
Tritium	ND	1.80E+2	ND	NR
LIQUID RELEASES (curies)				
Total MF & Act. Products	2.00E-4	4.90E-3	8.70E-3	ND [2]
Cobalt-58	ND	4.90E-3	3.80E-3	ND
Cobalt-60	ND	ND	1.90E-3	ND
Strontium-90	ND	ND	NR	ND
Iodine-131	ND	ND	ND	ND
Cesium-134	ND	ND	ND	ND
Cesium-137	ND	ND	7.60E-4	ND
Tritium	ND	2.30E+0	4.00E+1	1.05E+0
Dissolved Gases	ND	ND	ND	ND
Liquid Waste Volume (l)	3.60E+6	1.12E+6	1.20E+7	1.84E+6
Liquid Dilution Volume (l)	7.23E+11	6.10E+11	7.40E+11	3.58E+11 [3]
SOLID WASTES				
Volume (m^3)	4.16E+2	1.62E+3	1.58E+3	2.05E+3 [4]
Activity (curies)	1.59E-1	4.65E+0	1.54E+1	6.82E+1
Shipments	33	58 [1]	105	155
POWER PRODUCTION				
Gross Thermal (MWD)	1.14E+5	7.03E+5	1.37E+6	1.29E+6

[1] January to June only
[2] Discharge from Unit 1 in September only
[3] Dilution flow for Unit 1 in September only
[4] Includes 165 m^3 packed in wooden crates containing 1.80E-1 Ci, remainder in drums solidified with cement

SECTION II

SUMMARY OF AIRBORNE EFFLUENTS

TABLE 1

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1973

Boiling Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Dresden 1	836,000	NR	.465	.318
Big Rock Point	225,000	77.1	4.68	.37
Humboldt Bay 3	351,000	1.93	.867	.122
La Crosse	91,200	50.6	.235	126.
Oyster Creek 1	812,000	.32	30.3	.424
Nine Mile Point 1	872,000	26.7	3.80	.18
Millstone Point 1	78,900	1.69	.154	.041
Monticello	870,000	NR	6.53	.0242
Vermont Yankee	184,000	1.04	.0604	.0103
Pilgrim 1	228,000	14.	8.17	.0207
Multi Units				
Dresden 2 & 3	881,000	10.	26.5 [2]	2.62
Quad Cities 1 & 2	900,000	34. [1]	12.4	.119

[1] July to December only
[2] July to December only, monitors inoperative during January to June

TABLE 2

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Boiling Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Dresden 1	99,400	NR	13.5	.335
Big Rock Point	188,000	38.7	.355	.0907
Humboldt Bay 3	572,000	1.73	1.70	.334
La Crosse	49,100	18.3	.0633	65.
Oyster Creek 1	279,000	.415	23.3	.216
Nine Mile Point 1	618,000	27.	2.55	.143
Millstone Point 1	912,000	7.85	3.18	.0877
Monticello	1,570,000	NR	47.6	.412
Vermont Yankee	64,500	4.07	.484	.013
Pilgrim 1	546,000	7.97	1.45	.0187
Cooper	1,570	.0159	3.54	.176
Duane Arnold 1	936	1.5	.00273	.00152
Hatch 1	3,200	.26	.00171	7.5E-5
FitzPatrick 2	ND	ND	ND	ND
Multi Units				
Dresden 2 & 3	628,000	114.	37.7	2.83
Quad Cities 1 & 2	950,000	NR	36.6	.21
Browns Ferry 1 & 2	2,000	17.8	21.1	.0218
Peach Bottom 2 & 3	248	.557[1]	.00104	.00065

[1] Not reported for January to June

TABLE 3

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Boiling Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Dresden 1	520,000	34.2	5.7	.359
Big Rock Point	50,600	7.39	.267	.098
Humboldt Bay 3	296,000	2.49	1.07	.839
La Crosse	57,100	16.7	.133	79.2
Oyster Creek 1	206,000	2.77	41.3	.178
Nine Mile Point 1	1,300,000	92.0	5.96	.441
Millstone Point 1	2,970,000	17.2	62.9	.188
Monticello	155,000	NR	15.2	.673
Vermont Yankee	3,360	7.12	.398	.00197
Pilgrim 1	105,000	74.4	6.22	.660
Cooper	19,700	43.0	.419	.0312
Duane Arnold 1	1,540	18.5	.406	.00888
Hatch 1	1,550	1.77	.00642	.000281
FitzPatrick 2	4,080[1]	.33[2]	<.0182	[3]
Brunswick 2	185	2.02	.0027	.00383
Multi Units				
Dresden 2 & 3	369,000	221.	11.7	4.16
Quad Cities 1 & 2	110,000	38.7	2.92	.415
Browns Ferry 1 & 2	25,200	5.08	.597	.0589
Peach Bottom 2 & 3	13,000	.306	.0363	.00384

[1] Stack and building vents [2] July to December only [3] included in Halogens

TABLE 4

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Boiling Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Dresden 1	460,000	61.3	2.34	.47
Big Rock Point	15,200	7.76	.0164	.0582
Humboldt Bay 3	93,000	1.28	.368	.0271
La Crosse	124,000	12.6	.101	95.2
Oyster Creek 1	166,000	1.11	46.4	< .220
Nine Mile Point 1	176,000	18.5	8.64	< .103
Millstone Point 1	507,000	28.7	36.5	.149
Monticello	11,400	76.9	< 1.02	.0502
Vermont Yankee	< 2,870	14.2	.0706	.00568
Pilgrim 1	183,000	37.4	1.98	.332
Cooper	38,100	67.1	.0906	< .014
Duane Arnold	5,260	16.4	.108	.00678
Hatch 1	3,110	1.35	.00366	4.48E-4
FitzPatrick 2	46,200	15.4	< 5.77	.0189
Multi Units				
Dresden 2 & 3	32,400	13.7	12.9	4.55
Quad Cities 1 & 2	31,500	297.	4.26	.538
Browns Ferry 1, 2 & 3	< 80,400	< .578	< .598	< .060
Peach Bottom 2 & 3	209,000	26.6	1.88	.0442
Brunswick 1 & 2	18,500	22.3	.463	.0193

TABLE 5

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1973

Pressurized Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Yankee (Rowe)	43. [2]	612. [2]	.00195 [3]	3.63E-4 [3]
Indian Point 1	122.	25.4	.012	.056
San Onofre 1	10,700.	269.	.651	1.18
Haddam Neck	31.8	50.6	.00154	.0273
Ginna, R. E.	576.	1.14	9.85E-4	3.32E-5
Robinson, H. B.	3,100.	2.5	.299	4.75E-5
Palisades	454.	.18	.289	.151
Maine Yankee	162.	1.89	.00196	1.30E-4
Indian Point 2	15.4	2.0	2.90E-4	2.80E-4
Zion 1[1]	4.24	ND	1.19E-6	5.50E-6
Fort Calhoun 1	66.6	.33	1.2E-4	5.5E-6
Prairie Island 1	8.72	NR	1.02E-4	ND
Multi Units				
Point Beach 1 & 2	4,490.	25.5	.0235	.539
Surry 1 & 2	866.	42.4	.0426	.00152
Turkey Point 3 & 4	530.	4.10	.0658	2.48E-4
Oconee 1 & 2	9,340.	13.1	.0177	ND

[1] Considered as single unit for 1973, Unit 2 did not achieve criticality until December 24, 1973.
[2] not including December
[3] June to November only

TABLE 6

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Pressurized Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Yankee (Rowe)	39.7	3.84	.00101	.00409
Indian Point 1	611.	32.3	.0947	.342
San Onofre 1	1,780.	91.4	2.31E-4	8.74E-5
Haddam Neck	7.73	.213	4.57E-8	1.6E-4
Ginna, R. E.	757.	.356	4.46E-4	4.19E-5
Robinson, H. B.	2,500.	51.5	.0515	.00169
Palisades	.0336	NR	.0329	.00365
Maine Yankee	7,340.	7.46	.152	.00257
Indian Point 2	5,590.	19.9	.425	.286
Fort Calhoun 1	303.	.751	5.65E-4	1.14E-5
Kewaunee	3,350.	103.	.0288	.386
Three Mile Island 1	918.	12.2	.00311	2.49E-4
Arkansas One 1	196.	.03	.053	4.4E-4
Rancho Seco 1	.00298	.00606	ND	9.56E-6
Calvert Cliffs 1	87.7	.0455	8.32E-4	4.81E-5

TABLE 6 (Continued)

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Pressurized Water Reactors	Releases in Curies			
Multi Units	Noble Gases	Tritium	Halogens	Particulates
Point Beach 1 & 2	9,740.	42.8	.0915	.00693
Surry 1 & 2	6,860.	60.4	.122	.0429
Turkey Point 3 & 4	4,660.	9.22	3.45	.220
Oconee 1, 2 & 3	19,400.	878.	.0321	9.17E-4
Zion 1 & 2	2,940.	180.	.0156	.0074
Prairie Island 1 & 2	358.	3.91	6.03E-4	ND

TABLE 7

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Pressurized Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Yankee (Rowe)	24.7	2.06	.00273	.00802
Indian Point 1	< 366.	11.1	.0104	.0293
San Onofre 1	1,790.	34.3	.246	.0356
Haddam Neck	480.	69.7	8.91E-4	.00205
Ginna, R. E.	10,500.	5.83	.0654	4.18E-5
Robinson, H. B.	1,170.	193.	.0234	.00134
Palisades	2,610.	0.0	.427	6.18E-4
Maine Yankee	4,120.	4.71	.0059	2.51E-4
Indian Point 2	8,200.	13.4	.40	1.25
Fort Calhoun 1	429.	2.44	.00689	1.11E-4
Kewaunee	2,450.	37.3	.0199	.646
Three Mile Island 1	3,630.	40.2	9.38E-4	9.61E-5
Arkansas One 1	1,040.	.52	< .0218	.0111
Rancho Seco 1	118.	7.73E-4	1.9E-4	8.18E-5
Calvert Cliffs 1	7,720.	1.23	.0356	.0107
Cook, Donald C. 1	2.64	.0182	1.65E-4	NR
Millstone Point 2	< 1.70E-6	1.69	4.59E-5	8.81E-6

TABLE 7 (Continued)

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Pressurized Water Reactors	Releases in Curies			
Multi Units	Noble Gases	Tritium	Halogens	Particulates
Point Beach 1 & 2	45,300.	420.	.189	.094
Surry 1 & 2	*8,040.*	32.	*.133*	*.078*
Turkey Point 3 & 4	13,400.	3.49	.465	.0589
Oconee 1, 2 & 3	15,200.	1,660.	.0107	2.68E-4
Zion 1 & 2	45,300.	ND	.217	.0019
Prairie Island 1 & 2	2,180.	10.1	.021	.0036

TABLE 8

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Pressurized Water Reactors	Releases in Curies			
Single Units	Noble Gases	Tritium	Halogens	Particulates
Yankee (Rowe)	27.1	2.02	1.34E-4	3.98E-5
Indian Point 1	Reported with Units 2 & 3			
San Onofre 1	417	47.2	.00447	1.11
Haddam Neck	492	739.	7.33E-4	9.00E-4
Ginna, R.E.	5,520	23.6	.0335	8.96E-5
Robinson, H.B.	791	158.	.254	5.68E-4
Palisades	29.9	NR	.0306	.0143
Maine Yankee	1,300	3.68	.00164	4.33E-4
Fort Calhoun	2,150	2.48	.717	.00163
Kewaunee	1,600	.697	.00327	4.68E-4
Three Mile Island 1	2,760	717.	.00864	< .00443
Arkansas One 1	5,690	6.74	.0408	.0166
Rancho Seco	127	9.12	.00113	5.26E-5
Cook, Donald C. 1	975	.105	.00137	< 2.41E-6
Millstone Point 2	1,550	< 15.0	< .0490	5.36E-4
Trojan	527	1.52	3.70E-4 [1]	.00488
St. Lucie	1,790	2.07	.00198	.00201
Beaver Valley 1	1.08	3,720.	4.32E-6	1.43E-6
Salem 1	8.90E-5	1.46E-5	ND	ND

[1] July to December only

TABLE 8 (Continued)

SUMMARY OF AIRBORNE RADIOACTIVITY RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Pressurized Water Reactors	Releases in Curies			
Multi Units	Noble Gases	Tritium	Halogens	Particulates
Point Beach 1 & 2	2,010	395.	.00626	18.2
Surry 1 & 2	19,200	372.	.545	.311
Turkey Point 3 & 4	15,600	5.23	.522	.0765
Oconee 1, 2 & 3	44,000	502.	.156	.310
Zion 1 & 2	142,000	NR	.0892	.00286
Prairie Island 1 & 2	1,740	33.1	< .0246	2.26E-4
Indian Point 1, 2 & 3	10,600	23.7	.273	.0281
Calvert Cliffs 1 & 2				

SECTION III

SUMMARY OF LIQUID EFFLUENTS

TABLE 9

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1973

Boiling Water Reactors		Releases in Curies			
Single Units	Liquid Waste Volume *	Total Curies	MF and Act. Products	Tritium	Dissolved Gases
Dresden 1	3.1	27.7	9.24	18.5	NR
Big Rock Point	.817	22.4	2.65	19.7	.0173
Humboldt Bay 3	1.92	53.7	2.37	51.3	NR
La Crosse	2.46	140.	35.9	103.	.61
Oyster Creek 1	12.4	43.0	4.15	35.9	2.97
Nine Mile Point 1	13.8	87.3	40.8	46.5	ND
Millstone Point 1	9.8	37.3	33.4	3.67	.25
Monticello		No Liquid Releases			
Vermont Yankee	.116	.198	1.25E-4	.197	7.9E-4
Pilgrim 1	.878	1.34	.909	.429	ND
Multi Units					
Dresden 2 & 3	25.6	51.7	25.9	25.8	NR
Quad Cities 1 & 2	33.0	45.9	21.4	24.5	.034

* 10^6 liters

TABLE 10

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Boiling Water Reactors		Releases in Curies			
Single Units	Liquid Waste Volume*	Total Curies	MF and Act. Products	Tritium	Dissolved Gases
Dresden 1	6.77	25.7	6.89	18.8	ND
Big Rock Point	.433	6.14	1.07	5.07	NR
Humboldt Bay 3	2.06	36.1	4.40	31.7	.027
La Crosse	1.83	128.	13.1	115.	.083
Oyster Creek 1	7.34	16.4	.66	14.1	1.67
Nine Mile Point 1	13.1	44.4	25.7	18.7	ND
Millstone Point 1	10.6	222.	198.	24.1	.185
Monticello		No Liquid Releases			
Vermont Yankee		No Liquid Releases			
Pilgrim 1	8.82	14.7	4.22	10.5	NR
Cooper	13.2	3.15	1.42	1.7	.0287
Duane Arnold 1	.80	.171	.0006	.17	5.5E-5
Hatch, Edwin I. 1	2.97	.0984	.00255	.0781	.0177
FitzPatrick, James A. 2	14.6	.00146	.00146	NR	NR
Multi Units					
Dresden 2 & 3	14.7	55.8	33.2	22.6	NR
Quad Cities 1 & 2	30.0	72.7	38.7	34.0	NR
Browns Ferry 1 & 2	17.8	5.18	.721	4.44	.0196
Peach Bottom 2 & 3	46.9	11.7	.945	10.7	.00691

* 10^6 liters

TABLE 11

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Boiling Water Reactors		Releases in Curies			
Single Units	Liquid Waste Volume*	Total Curies	MF and Act. Products	Tritium	Dissolved Gases
Dresden 1	5.60	1.37	.84	.53	NR
Big Rock Point	.458	7.76	2.02	5.73	.00724
Humboldt Bay 3	1.70	23.6	3.47	20.1	.008
La Crosse	2.19	141.5	14.1	127.	.407
Oyster Creek 1	3.16	18.7	.408	17.9	.426
Nine Mile Point 1	8.84	49.2	21.0	28.1	.104
Millstone Point 1	21.8	280.4	199.	80.3	1.11
Monticello			No Liquid Releases		
Vermont Yankee	6.81E-5	4.06E-6	4.06E-6	0.0	NR
Pilgrim 1	1.39	20.26	2.06	18.2	7.05E-4
Cooper	10.9	9.99	1.73	8.25	.0055
Duane Arnold 1	.381	.28	2.07E-3	.326	NR
Hatch, Edwin I. 1	14.6	6.41	.0579	6.12	.234
FitzPatrick, James A. 2	22.1[1]	-	9.39	.342[1]	ND
Brunswick 2	27.3	5.12	1.92	3.20	.00107
Multi Units					
Dresden 2 & 3	15.6	54.8	.81	54.	NR
Quad Cities 1 & 2	40.3	55.8	17.1	38.7	ND
Browns Ferry 1 & 2	60.6	13.3	2.79	10.4	.143
Peach Bottom 2 & 3	45.7	31.7	.929	30.8	ND

* 10^6 liters [1] January to June only

TABLE 12

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Boiling Water Reactors		Releases in Curies			
Single Units	Liquid Waste Volume*	Total Curies	MF and Act. Products	Tritium	Dissolved Gases
Dresden 1	1.99	.377	.353	.024	NR
Big Rock Point	.497	3.18	.770	2.41	NR
Humboldt Bay 3	1.59	8.31	1.08	7.23	< .00415
La Crosse	1.24	46.7	5.68	41.0	.0930
Oyster Creek 1	3.11	38.8	< .221	38.6	.0464
Nine Mile Point 1	1.63	4.60	2.14	2.46	< .00558
Millstone Point 1	7.85	30.1	9.65	20.1	.356
Monticello	0.0	0.0	0.0	0.0	0.0
Vermont Yankee	.314	1.61	5.07E-4	1.60	< .00628
Pilgrim 1	5.28	49.0	2.34	46.7	.00122
Cooper	7.49	9.04	.653	8.34	< .0462
Duane Arnold	.531	.342	.00711	.335	ND
Hatch 1	14.8	9.13	.0418	8.98	.104
FitzPatrick 2	24.3	10.2	6.01	4.21	ND
Multi Units					
Dresden 2 & 3	5.20	20.9	1.21	19.7	NR
Quad Cities 1 & 2	22.3	30.4	6.99	23.4	ND
Browns Ferry 1, 2 & 3	66.4	< 8.04	< 3.95	< 3.98	< .109
Peach Bottom 2 & 3	41.9	79.4	2.82	73.7	2.84
Brunswick 1 & 2	51.4	9.88	3.28	5.90	.703

* 10^6 liters

TABLE 13

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1973

Pressurized Water Reactors		Releases in Curies		
Single Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Yankee (Rowe)	16.6	.0227[2]	687.[2]	.0166[4]
Indian Point 1	8.78	1.07	138.	4.09
San Onofre 1	9.03	16.0	4,070.	53.6
Haddam Neck	26.8	3.04	3,900.	1.23
Ginna, R. E.	1.7	.074	286.	3.03E-4
Robinson, H. B.	6.87	.306[3]	432.	.253
Palisades	19.0	27.8	185.	2.57
Maine Yankee	96.9	.457	154.	.0705
Indian Point 2	7.93	2.17	27.5	3.31
Zion 1[1]	3.6	2.0E-4	ND	ND
Fort Calhoun 1	3.3	.0173	15.8	.059
Prairie Island 1	24.4	1.56E-8	7.3E-5	ND
Multi Units				
Point Beach 1 & 2	79.2	.746	556.	.00719
Surry 1 & 2	16.5	.134	448.	1.29
Turkey Point 3 & 4	8.18	.0369	329.	.0451
Oconee 1 & 2	13.6	2.83	70.7	5.66

* 10^6 liters

[1] Considered as single unit for 1973, Unit 2 did not achieve criticality until December 24, 1973

[2] not including December

[3] number adjusted to remove dissolved noble gases for the first half of the year

[4] June to November only

TABLE 14

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Pressurized Water Reactors		Releases in Curies		
Single Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Yankee (Rowe)	14.6	.00855	314.	.077
Indian Point 1	52.1	2.88	684.	7.57
San Onofre 1	26.4	5.80	3,810.	3.37
Haddam Neck	40.5	2.23	2,240.	.753
Ginna, R. E.	1.92	.138	195.	ND
Robinson, H. B.	42.6	2.90	449.	.438
Palisades	41.0	5.87	8.28	.0474
Maine Yankee	107.	2.92 [1]	219.	1.18
Indian Point 2	19.8	4.19	47.9	5.28
Fort Calhoun 1	8.14	.194	124.	.262
Kewaunee	6.23	.422	92.4	.0319
Three Mile Island 1	2.96	.0399	130.	1.27
Arkansas One 1	4.80	12.2	25.5	1.15
Rancho Seco 1	2.26	.00228	.0197	ND
Calvert Cliffs 1	7.76	.0199	.00448	.00953

* 10 liters
[1]Isotopic sum, not a reported value

TABLE 14 (Continued)

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1974

Pressurized Water Reactors		Releases in Curies		
Multi Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Point Beach 1 & 2	66.1	.196	833.	.211
Surry 1 & 2	*161.*	*29.6* [2]	*296.*	*8.02*
Turkey Point 3 & 4	40.3	1.69	580.	*.243*
Oconee 1, 2 & 3	11.1	1.93	350.	2.01
Zion 1 & 2	1.12	.0049	2.3	ND
Prairie Island 1 & 2	300.	2.78E-4	142.	.128

* 10^6 liters

[2] Value given represents the sum of the reported isotopes and not the sum reported

TABLE 15

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Pressurized Water Reactors		Releases in Curies		
Single Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Yankee (Rowe)	15.8	.00951	247.	.203
Indian Point 1	11.0	1.30	287.	.298
San Onofre 1	13.1	1.22	4,000.	4.74
Haddam Neck	261.	1.24	5,670.	.256
Ginna, R. E.	3.76	.42	260.	5.19E-5
Robinson, H. B.	95.7	.44	624.	.0998
Palisades	29.8	3.45	41.6	.0518
Maine Yankee	126.	3.20	177.	.0377
Indian Point 2	47.0	4.95	79.3	.54
Fort Calhoun 1	8.26	.133	111.	< .0816
Kewaunee	9.45	.447	277.	.247
Three Mile Island 1	1.78	.065	463.	1.08
Arkansas One 1	7.89	3.11	460.	33.1
Rancho Seco 1	51.9	2.87E-4	132.	ND
Calvert Cliffs 1	103.	1.49	263.	13.1
Cook, Donald C. 1	2.40	.26	56.4	.000422
Millstone Point 2	2.38	.0203	7.6	.00764

* 10^6 liters

TABLE 15 (Continued)

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1975

Pressurized Water Reactors		Releases in Curies		
Multi Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Point Beach 1 & 2	120.	3.35	1,020.	.451
Surry 1 & 2	70.8	31.9	442.	28.1
Turkey Point 3 & 4	110.	3.07	793.	4.75
Oconee 1, 2 & 3	29.5	5.06	3,550.	2.87
Zion 1 & 2	12.	.0087	40.	ND
Prairie Island 1 & 2	430.	.454	763.	2.79

* 10^6 liters

TABLE 16

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Pressurized Water Reactors		Releases in Curies		
Single Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Yankee (Rowe)	18.6	.00905	156.	.0278
Indian Point 1	Included with Units 2 & 3			
San Onofre	10.5	7.43	3,380.	12.5
Haddam Neck	60.9	.130	4,850.	.0318
Ginna, R.E.	42.8	.685	242.	393.
Robinson, H.B.	153.	.375	980.	.0121
Palisades	17.3	.441	9.63	.00194
Maine Yankee	133.	2.84	368.	.0575
Fort Calhoun	165.	.549	53.9	4.19
Kewaunee	7.66	2.85	214.	.0848
Three Mile Island 1	3.36	.102	189.	.290
Arkansas One 1	9.62	13.1	212.	90.0
Rancho Seco	Liquid Waste Trucked Offsite			
Coo, Donald C. 1	2.60	.282	192.	1.31
Millstone Point 2	8.31	< .420	277.	< 4.00
Trojan	17.9	2.72	36.0	2.36
St. Lucie	4.51	.0814	13.3	.00207
Beaver Valley 1	14.2	.175	8.56	< 2.80E-7
Salem 1	NR	3.04E-4	.0377	0

* 10^6 liters

TABLE 16 (Continued)

SUMMARY OF RADIOACTIVITY IN LIQUIDS RELEASED TO THE ENVIRONMENT IN CALENDAR YEAR 1976

Pressurized Water Reactors		Releases in Curies		
Multi Units	Liquid Waste Volume*	MF and Act. Products	Tritium	Dissolved Gases
Point Beach 1 & 2	187. [1]	3.56	695.	.282
Surry 1 & 2	338.	33.6	782.	29.6
Turkey Point 3 & 4	126.	8.65	770.	.546
Oconee 1, 2 & 3	19.5	6.67	2,190.	1.27
Zion 1 & 2	1.84	ND	1.05	ND
Prairie Island 1 & 2	338.	.0118	1,930.	1.88
Indian Point 1, 2 & 3	75.	5.90	332.	13.4
Calvert Cliffs 1 & 2				

[1] Includes Steam Generator Blowdown

SECTION IV

SUMMARY OF SOLID RADIOACTIVE WASTE

TABLE 17

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1973 - BWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Dresden 1	1	1	1
Big Rock Point	4.78	55.9	2
Humboldt Bay 3	88.3	17.6	34
La Crosse	253.	34.5 [2]	2 [3]
Oyster Creek 1	832.	2890.	153
Nine Mile Point 1	545.	1010.	66
Millstone Point 1	351. [4]	2370.	87
Monticello	211.	393.	35
Vermont Yankee	186.	23.5	37
Pilgrim 1	210.	567.	19
Multi Units			
Dresden 2 & 3	2200. [5]	134.	196
Quad Cities 1 & 2	1010.	294	158

[1] included with units 2 & 3
[2] curie content of shipments for March and July not reported
[3] number of shipments in Febuary and March not reported
[4] plus 17 LSA boxes
[5] does not include 34 shipments of high level waste containing 2.80E+4 curies

TABLE 18

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1974 - BWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Dresden 1	[1]	[1]	1
Big Rock Point	39.4	94.5	4
Humboldt Bay 3	39.3 [2]	32.4	3
La Crosse	41.9	471.	5
Oyster Creek 1	1210.	1570.	163
Nine Mile Point 1	542.	1930.	75
Millstone Point 1	838.	257.	NR
Monticello	268.	2480.	47
Vermont Yankee	198.	108.	34
Pilgirm 1	406.	1460.	34
Cooper	379.	17.2	26
Duane Arnold 1	321.	61.4	26
Hatch, Edwin I. 1	128.	8.33	7
FitzPatrick, James A. 2	0	0	0
Multi Units			
Dresden 2 & 3	2190. [3]	5050. [3]	627 [3]
Quad Cities 1 & 2	831.	735.	NR
Browns Ferry 1 & 2	261.	70.9	60
Peach Bottom 2 & 3	397.	58.	41

[1] included with units 2 & 3
[2] plus 90 boxes of unspecified size
[3] from NUREG 0077

TABLE 19

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1975 - BWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Dresden 1	1	1	1
Big Rock Point	NR	1230.	16
Humboldt Bay 3	127	43.1	7
La Crosse			
Oyster Creek 1	990.	2810.	162
Nine Mile Point 1	489.	3260.	95
Millstone Point 1	1780.	2580.	NR
Monticello	380.	5430.	49
Vermont Yankee	308.	22.5	43
Pilgrim 1	456.	3800.	67
Cooper	290.	266.	36
Duane Arnold 1	262.	79.	22
Hatch, Edwin I. 1	583.	271.	31
FitzPatrick, James A. 2	510.	132.	NR
Brunswick 2	411.	6.96	34
Multi Units			
Dresden 2 & 3	5850.	7340.	823
Quad Cities 1 & 2	1400.	2410.	NR
Browns Ferry 1 & 2	1270.	1250.	121
Peach Bottom 2 & 3	582.	217.	68

[1] included with units 2 & 3

TABLE 20

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1976 - BWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Dresden 1	Included with Units 2 & 3		
Big Rock Point	28.8	3.69	3
Humboldt Bay 3	85.0	4.09	3
La Crosse	NR	NR	NR
Oyster Creek 1	1,200.	1,280.	146
Nine Mile Point 1	538.	2,510.	86
Millstone Point 1	1.330. [1]	1,700. [1]	153
Monticello	285.	3,790.	43
Vermont Yankee	238.	29.2	30
Pilgrim 1	900.	5,410.	155
Cooper	301.	320.	38
Duane Arnold 1	595.	187.	43
Hatch, Edwin I 1	411.	289.	28
FitzPatrick, James A 2	609.	341.	127
Multi Units			
Dresden 2 & 3	6,530.	4,300.	989
Quad Cities 1 & 2	1,000.	2,350.	283
Browns Ferry 1, 2 & 3	1,250. [2]	102. [2]	142
Peach Bottom 2 & 3	1,200.	585.	203
Brunswick 1 & 2	1,780.	640.	146

[1] Includes 478m (5.82 Ci) of dry compressible waste from Unit 2
[2] An additional 1766 boxes of unspecified size were also shipped offsite containing <.087 Curies

TABLE 21

SUMMARY OF SOLID RADIOACTIVITY WASTE SHIPPED
IN CALENDAR YEAR 1973 - PWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Yankee (Rowe)	174.	3.39	14
Indian Point 1	[1]	[1]	[1]
San Onofre 1	113.	381.	13
Haddam Neck	159.	571.	11
Ginna, R. E.	198.	599.	29
Robinson, H. B.	292.	96.7	31
Palisades	63. [3]	28.6	5
Maine Yankee	67.	3.24	5
Indian Point 2	411.	208.	12 [3]
Zion [2]	416.	.159	33
Fort Calhoun 1	45.4	.02	2
Prairie Island 1	0	0	0
Multi Units			
Point Beach 1 & 2	295.	1830.	19
Surry 1 & 2	365.	1.59	28
Turkey Point 3 & 4	233.	3.98	12
Oconee 1 & 2	263.	32.3	24

[1] included with unit 2
[2] considered as single unit for 1973, Unit 2 did not achieve criticality until December 24, 1973
[3] July to December only

TABLE 22

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1974 - PWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Yankee (Rowe)	218.	127.	24
Indian Point 1	[1]	[1]	[1]
San Onofre	68.3	230.	11
Haddam Neck	204.	942.	24
Ginna, R. E.	275.	614.	26
Robinson, H. B.	353. [2]	197.	29
Palisades	234.	26.6	13
Maine Yankee	159.	530.	14
Indian Point 2	445.	61.9	27
Fort Calhoun	323.	10.	18
Kewaunee	0	0	0
Three Mile Island 1	200.	6.06	16
Arkansas One 1	0	0	0
Rancho Seco 1	0 [3]	0	0
Calvert Cliffs 1	0	0	0

[1] included witn unit 2
[2] liquid waste shipped offsite- 3.33E+4 liters ; 1.96E-1 Ci H-3, 3.76E+0 non H-3
[3] liquid waste shipped offsite- 3.88E+4 liters ; 1.34E-1 Ci H-3, 1.86E-2 non H-3

TABLE 22 (Continued)

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1974 - PWR

Multi Units	Volume (m^3)	Activity (Curies)	Shipments
Point Beach 1 & 2	132.	2,120.	12
Surry 1 & 2	1,250. [4]	50.7	68
Turkey Point 3 & 4	449.	44.7	22
Oconee 1, 2 & 3	571.	219.	96
Zion 1 & 2	1,620.	4.65	58 [5]
Prairie Island 1 & 2	136.	7.61	10

[4] includes liquid shipped offsite- 5.55E+1 m^3 (5.55E+4 liters)
[5] number of shipments for January to June only

TABLE 23

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1975 - PWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Yankee (Rowe)	238.	3.30	11
Indian Point 1	[1]	[1]	[1]
San Onofre 1	79.6	26.	6
Haddam Neck	624.	1320.	33
Ginna, R. E.	458.	138.	22
Robinson, H. B.	356.	1340.	44
Palisades	801.	210.	57
Maine Yankee	231.	1480.	30
Indian Point 2	622.	2000.	76
Fort Calhoun 1	537.	56.1	38
Kewaunee	15.9	2.12	1
Three Mile Island 1	458.	258.	39
Arkansas One 1	0	0	0
Rancho Seco 1 [2]	.011	.115	1
Calvert Cliffs 1	0	0	0
Cook, Donald C. 1	172.	.537	9
Millstone Point 2	0	0	0

[1] included with unit 2
[2] liquid waste shipped offsite- 3.70E+5 liters ; 1.55E+1 Ci H-3, 1.09E+0 non H-3

TABLE 23 (Continued)

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1975 - PWR

Multi Units	Volume (m^3)	Activity (Curies)	Shipments
Point Beach 1 & 2	408.	8230.	29
Surry 1 & 2	9220.[3]	2640.	94
Turkey Point 3 & 4	889.	104.	50
Oconee 1, 2 & 3	1420.	1680.	104
Zion 1 & 2	1580.	15.4	105
Prairie Island 1 & 2	150.	34.7	13

3 includes liquid waste shipped offsite- 1.54E+2 m^3 (1.54E+5 liters)

TABLE 24

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1976 - PWR

Single Units	Volume (m^3)	Activity (Curies)	Shipments
Yankee (Rowe)	359.	26.0	25
Indian Point 1	Included with Units 2 & 3		
San Onofre 1	142.	698.	9
Haddam Neck	766.	746.	42
Ginna, R.E.	280.	97.8	23
Robinson, H.B.	316.	62.9	23
Palisades	680.	52.6	42
Maine Yankee	180.	504.	16
Fort Calhoun	572.	97.8	48
Kewaunee	503.	38.9	5
Three Mile Island 1	155.	5.93	9
Arkansas One 1	NR	NR	NR
Rancho Seco 1	110.	20.4	6
Cook, Donald C 1	194.	25.8	16
Millstone Point 2	280.	1.80	26
Trojan	43.7	4.32	6
St. Lucie	86.4	1.59	4
Beaver Valley 1	43.0	.0426	2
Salem 1	0	0	0

TABLE 24 (Continued)

SUMMARY OF SOLID RADIOACTIVE WASTE SHIPPED
IN CALENDAR YEAR 1976 - PWR

Multi Units	Volume (m^3)	Activity (Curies)	Shipments
Point Beach 1 & 2	193.	304.	17
Surry 1 & 2	699.	617.	101
Turkey Point 3 & 4	1,110.	156.	73
Oconee 1, 2 & 3	2,220.	783.	168
Zion 1 & 2	2,050.	68.2	155
Prairie Island 1 & 2	152.	65.3	14
Indian Point 1, 2 & 3	533.	511.	34
Calvert Cliffs 1 & 2			

SECTION V

INDIVIDUAL ISOTOPIC SUMMARIES

TABLE 25

SUMMARY OF KRYPTON 85 RELEASES IN AIRBORNE EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	NR	NR	NR
Big Rock Point	1200	448	160	33.6
Humboldt Bay 3	NR	NR	NR	NR
La Crosse	NR	NR	NR	233
Oyster Creek 1	NR	NR	NR	NR
Nine Mile Point 1	NR	NR	NR	NR
Millstone Point 1	NR	NR	RN	710
Monticello	8680	9740	16600	56.5
Vermont Yankee	NR	254	450	< 143
Pilgrim 1	NR	NR	NR	196
Cooper	--	3.21E-4	37.6	120
Duane Arnold	--	NR	NR	NR
Hatch, Edwin I 1	--	1.51E-5	7.91E-4	0
FitzPatrick, James A 2	--	ND	NR	NR
Multi Units				
Dresden 2 & 3	NR	NR	NR	NR
Quad Cities 1 & 2	5800	6600	7330	.248
Browns Ferry 1, 2 & 3	--	728	6890	< 68800
Peach Bottom 2 & 3	--	NR	NR	NR
Brunswick 1 & 2	--	--	ND	ND

TABLE 26

SUMMARY OF XENON 133 RELEASES IN AIRBORNE EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	24,000 [1]	2,100	24,900	15,100
Big Rock Point	25,600	16,500	5,790	1,720
Humboldt Bay 3	23,800	36,200	7,160	2,180
La Crosse	4,090	1,560	2,290	5,080
Oyster Creek 1	126,000	22,600	9,290	8,800
Nine Mile Point 1	82,600	59,300	128,000	7,180
Millstone Point 1	7,220	255,000	820,000	40,900
Monticello	98,600	216,000	110,000	697
Vermont Ynakee	46,100	22,200	256	< 447
Pilgrim 1	45,400	81,400	NR	30,100 [3]
Cooper	--	14.4	4,900	12,500
Duane Arnold 1	--	7.7	336	3,200
Hatch, Edwin I 1	--	1.11	2.46	1,080
FitzPatrick, James A 2	--	--	610 [2]	16,100
Multi Units				
Dresden 2 & 3	64,000 [1]	83,800	73,500	7,300
Quad Cities 1 & 2	218,000	193,000	35,100	25,500
Browns Ferry 1, 2 & 3	--	167	1,610	< 2,660
Peach Bottom 2 & 3	--	NR	NR	124,000
Brunswick 1 & 2	--	--	ND	5,520

1 July to December only, monitor inoperative during January to June
2 stack only
3 4th quarter only

TABLE 27

SUMMARY OF IODINE 131 RELEASES IN AIRBORNE EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	.465	.427	.60	.37
Big Rock Point	4.60	.0901	.0219	.0105
Humboldt Bay 3	.174	.503	.207	.0562
La Crosse	.177	.0327	.0873	.0477
Oyster Creek 1	6.73	3.31	5.46	6.17
Nine Mile Point 1	1.96	.719	2.35	2.10
Millstone Point 1	.154	3.18	9.73	2.18
Monticello	1.20	5.69	3.54	.0121
Vermont Yankee	.0465	.351	.00281	.00218
Pilgrim 1	.456	1.44	2.19	.343
Cooper	--	.0127	.0228	.0263
Duane Arnold 1	--	.00273	.0206	.075
Hatch, Edwin I 1	--	3.40E-5	1.16E-4	.00307
FitzPatrick, James A 2	--	ND	NR	.660
Multi Units				
Dresden 2 & 3	4.90 [1]	3.87	.812	.984
Quad Cities 1 & 2	5.49	8.80	.978 [2]	.787
Browns Ferry 1, 2 & 3	--	.00627	.189	.0357
Peach Bottom 2 & 3	--	NR	NR	.733
Brunswick 1 & 2	--	--	6.08E-4	.438

[1] July to December only
[2] does not include I-131 released in particulate form - 2.30E-2 curies

TABLE 28

SUMMARY OF COBALT 58 RELEASES IN LIQUID EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	.00603 [1]	.093	.0209
Big Rock Point	.029	NR	.000851	.00155
Humboldt Bay 3	.0107	.00306	.00324	.00614
La Crosse	11.8	6.81	9.12	3.07
Oyster Creek 1	.043	.0092	.0065	< .0002
Nine Mile Point 1	0	.015	.226	.0446
Millstone Point 1	.417	.497	.594	.0716
Monticello	0	0	0	0
Vermont Yankee	NR	0	NR	8.73E-5
Pilgrim 1	.0499	.296	.0608	.174
Cooper	--	.565	.114	.0619
Duane Arnold 1	--	.00012	.000535	.0009
Hatch, Edwin I 1	--	.000271	.00701	.00192
FitzPatrick, James A 2	--	NR	1.63	1.52
Multi Units				
Dresden 2 & 3	.144 [1]	.227	.014	.0298
Quad Cities 1 & 2	.97	.43	.0921	.0522
Browns Ferry 1, 2 & 3	--	.00629	.0357	< .0304
Peach Bottom 2 & 3	--	.0447	.0479	.00964
Brunswick 1 & 2	--	--	.345	.296

[1] July to December only

TABLE 29

SUMMARY OF COBALT 60 RELEASES IN LIQUID RELEASES FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	.724 [1]	.43	.258
Big Rock Point	.21	.0989	.344	.157
Humboldt Bay 3	.158	.28	.114	.138
La Crosse	1.26	.528	.649	.381
Oyster Creek 1	.272	.0735	.0744	.0536
Nine Mile Point 1	4.99	5.16	3.77	.615
Millstone Point 1	5.39	9.67	8.67	.338
Monticello	0	0	0	0
Vermont Yankee	NR	0	1.97E-6	8.73E-5
Pilgrim 1	.00498	.955	.351	.549
Cooper	--	.0766	.236	.133
Duane Arnold 1	--	3.40E-5	.000419	.00206
Hatch, Edwin I 1	--	1.70E-6	.00239	.00108
FitzPatrick, James A 2	--	NR	.403	.951
Multi Units				
Dresden 2 & 3	2.09 [1]	12.3	.32	.438
Quad Cities 1 & 2	.83	3.01	1.31	.752
Browns Ferry 1, 2 & 3	--	.00775	.0384	<.0629
Peach Bottom 2 & 3	--	.00749	.0183	.0286
Brunswick 1 & 2	--	--	.0268	.276

[1] July to December only

TABLE 30

SUMMARY OF STRONTIUM 90 RELEASES IN LIQUID EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	.00192 [1]	.075	4.60E-4
Big Rock Point	.00011	NR	.00177	6.92E-4
Humboldt Bay 3	.0116	.0177	.00628	.00444
La Crosse	.021	.012	.023	.012
Oyster Creek 1	.028	.0062	.0006	< .0008
Nine Mile Point 1	0	.123	.047	.00735
Millstone Point 1	.0202	.205	.289	.0215
Monticello	0	0	0	0
Vermont Yankee	NR	0	NR	1.44E-5
Pilgrim 1	3.16E-5	.00271	.0217	.0141
Cooper	--	.00085	.000877	.00109
Duane Arnold 1	--	NR	NR	8.13E-6
Hatch, Edwin I 1	--	1.68E-8	4.88E-6	1.17E-4
FitzPatrick, James A 2	--	NR	.00299	.00379
Multi Units				
Dresden 2 & 3	.01 [1]	.0578	.0084	.00155
Quad Cities 1 & 2	.0025	.0134 [2]	.0106	.00181 [3]
Browns Ferry 1, 2 & 3	--	.00259	.00324	< .00205
Peach Bottom 2 & 3	--	NR	.00025	.000417
Brunswick 1 & 2	--	--	.00449	.000256

[1] July to December only
[2] Sr-90 for June and December was not available
[3] not reported for the 2nd and 4th quarters

TABLE 31

SUMMARY OF IODINE 131 RELEASES IN LIQUID EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases inCuries			
	1973	1974	1975	1976
Dresden 1	NR	.0341 [1]	.00096	NR
Big Rock Point	.063	.00523	.00803	NR
Humboldt Bay 3	.0736	.0336	.314	.00593
La Crosse	3.13	.474	.995	.285
Oyster Creek	.082	.0142	.0589	.00090
Nine Mile Point 1	2.50	1.01	.514	.0162
Millstone Point 1	.15	13.4	15.1	.398
Monticello	0	0	0	0
Vermont Yankee	NR	0	NR	NR
Pilgrim 1	.332	.171	.265	.0128
Cooper	--	.00279	.00717	.103
Duane Arnold 1	--	NR	NR	NR
Hatch, Edwin I 1	--	NR	NR	NR
FitzPatrick, James A 2	--	NR	.00399	.244
Multi Units				
Dresden 2 & 3	1.41 [1]	.554	.015	.453
Quad Cities 1 & 2	3.80	2.09	.18	.255
Browns Ferry 1, 2 & 3	--	.00519	.051	.0448
Peach Bottom 2 & 3	--	NR	.0256	.187
Brunswick 1 & 2	--	--	.000631	.584

[1] July to December only

TABLE 32

SUMMARY OF CESIUM 134 RELEASES IN LIQUID EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	.672 [1]	.053	.00772
Big Rock Point	.24	.0752	.167	.121
Humboldt Bay 3	.645	1.37	.963	.167
La Crosse	5.66	1.51	.781	.551
Oyster Creek 1	.083	.0256	.0667	.0168
Nine Mile Point 1	9.01	4.64	4.94	.291
Millstone Point 1	8.63	72.1	61.8	2.34
Monticello	0	0	0	0
Vermont Yankee	NR	0	6.80E-8	6.53E-5
Pilgrim 1	1.89E-4	.499	.21	.111
Cooper	--	.0022	.00506	.0127
Duane Arnold 1	--	1.50E-6	4.45E-5	6.20E-6
Hatch, Edwin I 1	--	1.24E-4	2.03E-4	1.83E-4
FitzPatrick, James A 2	--	NR	.0119	.150
Multi Units				
Dresden 2 & 3	1.17 [1]	2.77	.0039	.0553
Quad Cities 1 & 2	.21	2.95	1.83	.725
Browns Ferry 1, 2 & 3	--	.00414	.0379	< .0267
Peach Bottom 2 & 3	--	NR	.219	.913
Brunswick 1 & 2	--	--	2.47E-5	.0293

[1] July to December only

TABLE 33

SUMMARY OF CESIUM 137 RELEASES IN LIQUID EFFLUENTS FROM BWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Dresden 1	NR	1.37 [1]	.078	.0207
Big Rock Point	.51	.184	.516	.322
Humboldt Bay 3	.933	2.10	2.08	.412
La Crosse	10.1	2.72	1.41	.857
Oyster Creek 1	.084	.015	.0821	.432
Nine Mile Point 1	19.4	9.77	9.04	.517
Millstone Point 1	16.7	95.2	84.5	3.50
Monticello	0	0	0	0
Vermont Yankee	NR	0	1.74E-7	1.83E-4
Pilgrim 1	.0358	1.58	.521	.258
Cooper	--	.00193	.00321	.0227
Duane Arnold 1	--	2.60E-6	1.69E-5	NR
Hatch, Edwin I 1	--	4.55E-6	1.69E-5	4.11E-4
FitzPatrick, James A 2	--	NR	.00144	.0523
Multi Units				
Dresden 2 & 3	4.24 [1]	6.79	.036	.0299
Quad Cities 1 & 2	.530	8.10	3.10	1.32
Browns Ferry 1, 2 & 3	--	.00533	.0938	< .0363
Peach Bottom 2 & 3	--	NR	.00387	.742
Brunswick 1 & 2	--	--	4.26E-5	.0813

[1] July to December only

TABLE 34

SUMMARY OF KRYPTON 85 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	.232 [1]	1.47	2.72	.0749
Indian Point 1	NR	NR	NR	[3]
San Onofre 1	54.6	63.9	3.61	8.91
Haddam Neck	11.2	4.01	241.	129.
Ginna, R.E.	60.3	8.90	32.5	153.
Robinson, H.B.	.00937	14.7	79.9	23.2
Palisades	2.40	ND	4.78	1.68
Maine Yankee	1.51	786.	140.	68.9
Fort Calhoun 1	6.17	.325 [2]	< 4.91	131.
Kewaunee	--	ND	ND	.064
Three Mile Island 1	--	ND	.286	13.1
Arkansas One 1	--	.056	3.15	39.5
Rancho Seco 1	--	8.72E-4	5.50E-4	.0879
Cook, Donald C 1	--	--	NR	50.2
Millstone Point 2	--	--	< 3.00E-6	102.
Trojan	--	--	--	ND
St Lucie 1	--	--	--	1.24
Beaver Valley	--	--	--	< 4.00E-5
Salem 1	--	--	--	0

[1] June to November only
[2] July to December only
[3] Included with Units 2 & 3

TABLE 34 (Continued)

SUMMARY OF KRYPTON 85 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	232.	23.1	44.8	12.9
Surry 1 & 2	2.62	8.12	ND	19.5
Turkey Point 3 & 4	3.73	292.	318.	57.2
Oconee 1, 2 & 3	.0886	.734	7.04	34.7
Zion 1 & 2	ND	ND	.768	595.
Prairie Island 1 & 2	ND	5.36E-4	ND	< 30.4
Indian Point 2 & 3	NR	NR	NR	96.3 [4] [5]
Calvert Cliffs 1 & 2	--	NR	.812	

[4] July to December only
[5] Includes Unit 1

TABLE 35

SUMMARY OF XENON 133 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	26.6 [1]	16.4	14.5	19.1
Indian Point 1	NR	NR	NR	[3]
San Onofre 1	7,500.	1,420.	1,110.	387.
Haddam Neck	17.8	2.34	182.	298.
Ginna, R.E.	440.	630.	10,200.	5,150.
Robinson, H.B.	1,650.	2,450.	1,000.	566.
Palisades	420.	.0167	2,520.	23.
Maine Yankee	158.	6,220.	3,930.	1,210.
Fort Calhoun 1	23.6	157 [2]	412.	2,000.
Kewaunee	--	2,690.	2,070.	1,320.
Three Mile Island 1	--	891.	22.8	2,630.
Arkansas One 1	--	193.	969.	5,160.
Rancho Seco 1	--	.00203	.0105	119.
Cook, Donald C 1	--	--	2.43	767.
Millstone Point 2	--	--	ND	1,430.
Trojan	--	--	--	66.9
St Lucie 1	--	--	--	1,720.
Beaver Valley	--	--	--	.919
Salem 1	--	--	--	8.90E-5

[1] June to November only
[2] July to December only
[3] Included with Units 2 & 3

TABLE 35 (Continued)

SUMMARY OF XENON 133 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	3,650.	6,040.	20,500.	662.
Surry 1 & 2	861.	*6,610.*	*7,870.*	18,100.
Turkey Point 3 & 4	464.	3,980.	12,400.	14,600.
Oconee 1, 2 & 3	8,630.	18,600.	13,800.	42,100.
Zion 1 & 2	3.97	2,880.	42,900.	123,000.
Prairie Island 1 & 2	7.00	357.	2,130.	< 1,530.
Indian Point 2 & 3	NR	NR	NR	6,010. [4] [5]
Calvert Cliffs 1 & 2	--	87.7	7,420.	

[4] July to December only
[5] Includes Unit 1

TABLE 36

SUMMARY OF IODINE 131 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	.00195 [1]	.00071	.00219	3.66E-5
Indian Point 1	.012	.09	.0104	[2]
San Onofre 1	.423	1.88E-4	.0045	.00412
Haddam Neck	.00129	4.57E-8	8.91E-4	7.33E-4
Ginna, R.E.	5.31E-4	2.82E-4	.0212	.0311
Robinson, H.B.	.296	.0463	.0179	.0989
Palisades	.285	.00995	.375	.0292
Maine Yankee	.00163	.116	.00521	.00156
Fort Calhoun 1	4.30E-5	4.22E-4	.00658	.0189
Kewaunee	--	.024	.0138	.00298
Three Mile Island 1	--	.00283	.00092	.00630
Arkansas One 1	--	.053	< .00728	.0407
Rancho Seco 1	--	ND	.00019	.00112
Cook, Donald C 1	--	--	1.49E-4	.00131
Millstone Point 2	--	--	2.37E-5	9.57E-3
Trojan	--	--	--	.0140
St Lucie 1	--	--	--	.00189
Beaver Valley	--	--	--	2.24E-5
Salem 1	--	--	--	ND

[1] June to November only
[2] Included with Units 2 & 3

TABLE 36 (Continued)

SUMMARY OF IODINE 131 RELEASES IN AIRBORNE EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	.0107	.0531	.0241	.00244
Surry 1 & 2	.0422	.102	.116	.283
Turkey Point 3 & 4	.0547	3.41	.416	.347
Oconee 1, 2 & 3	.0123	.0317	.00887	.125
Zion 1 & 2	6.70E-7	.0142	.134	.0764
Prairie Island 1 & 2	1.34E-5	4.49E-4	.0184	.0112
Indian Point 2 & 3	2.90E-4	.369	.365	.214 [3]
Calvert Cliffs 1 & 2	--	8.32E-4	.0219	

[3] Includes Unit 1

TABLE 37

SUMMARY OF COBALT 58 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	ND [1]	1.21E-4	6.53E-4	2.46E-5
Indian Point 1	.0321	.123	.0971	[3]
San Onofre 1	1.31	.353	.270	1.07
Haddam Neck	.757	.423	.328	.0137
Ginna, R.E.	.00327	.0135	.00929	.0380
Robinson, H.B.	.0846	.215	.105	.0312
Palisades	10.2	.701	.149	.208
Maine Yankee	.0262	.282	.23	.131
Fort Calhoun 1	4.69E-5	.135	.163	.137
Kewaunee	--	< .291 [2]	.194	1.63
Three Mile Island 1	--	.0179	.0518	.0657
Arkansas One 1	--	.033	1.94	3.39
Rancho Seco 1	--	ND	2.87E-4	0 [4]
Cook, Donald C 1	--	--	.159	.0753
Millstone Point 2	--	--	.014	< .117
Trojan	--	--	--	1.45
St Lucie 1	--	--	--	.0577
Beaver Valley	--	--	--	.124
Salem 1	--	--	--	ND

[1] June to November only
[2] Calculated value based on concentration of < 1.0E-5 μCi/ml for March to June
[3] Included with Units 2 & 3
[4] All liquid waste trucked offsite

TABLE 37 (Continued)

SUMMARY OF COBALT 58 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	2.07E-4	.00125	.335	.214
Surry 1 & 2	.0443	1.93	2.46	6.33
Turkey Point 3 & 4	.0109	.157	.208	.329
Oconee 1, 2 & 3	.485	.468	2.21	2.01
Zion 1 & 2	ND	.0049	.0038	ND
Prairie Island 1 & 2	ND	.00026	.402	< .0183
Indian Point 2 & 3	2.31 [5]	1.35	.469	.415 [6]
Calvert Cliffs 1 & 2	--	NR	.563	

[5] Co-58 releases reported is greater than total release
[6] Includes Unit 1

TABLE 38

SUMMARY OF COBALT 60 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	3.11E-5 [1]	3.96E-4	2.38E-4	2.00E-4
Indian Point 1	.108	.156	.0535	[3]
San Onofre 1	.109	.0697	.0236	.0992
Haddam Neck	.588	.679	.332	.0734
Ginna, R.E.	.00924	.0319	.0208	.0496
Robinson, H.B.	.0811	.162	.0805	.261
Palisades	.458	.430	.118	.0391
Maine Yankee	.0115	.0200	.0348	.177
Fort Calhoun 1	ND	.00287	.00500	.00627
Kewaunee	--	< .0302 [2]	.0148	.125
Three Mile Island 1	--	1.31E-4	.00385	.00579
Arkansas One 1	--	.000570	.046	.584
Rancho Seco 1	--	ND	ND	0 [4]
Cook, Donald C 1	--	--	.0147	.0299
Millstone Point 2	--	--	7.11E-4	< .00771
Trojan	--	--	--	.206
St Lucie 1	--	--	--	.00389
Beaver Valley	--	--	--	.0188
Salem 1	--	--	--	ND

[1] June to November only
[2] Calculated value based on concentration of < 1.0E-5 μCi/ml for March to June
[3] Included with Units 2 & 3
[4] All liquid waste trucked offsite

TABLE 38 (Continued)

SUMMARY OF COBALT 60 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	2.32E-4	2.12E-4	.0793	.0939
Surry 1 & 2	.00696	1.00	1.51	1.77
Turkey Point 3 & 4	.00153	.0286	.0868	.0753
Oconee 1, 2 & 3	.0452	.028	.559	.368
Zion 1 & 2	ND	ND	.0019	ND
Prairie Island 1 & 2	ND	4.00E-5	.0313	< .0176
Indian Point 2 & 3	.0664	.139	2.42	.393 [5]
Calvert Cliffs	--	NR	.0291	

[5] Includes Unit 1

TABLE 39

SUMMARY OF STRONTIUM 90 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	ND [1]	7.16E-5	.00029	5.59E-6
Indian Point 1	6.04E-4	7.98E-4	< .00111	[4]
San Onofre 1	.0018	.00456	.0026	.00325 [5]
Haddam Neck	3.14E-4	9.11E-4	.00558	1.11E-5
Ginna, r.e.	NR	ND	NR	ND
Robinson, H.B.	.0249	.00107	ND	0
Palisades	.00163	.00226	NR	NR
Maine Yankee	ND	NR	5.87E-4 [3]	.00445 [6]
Fort Calhoun	1.69E-5	6.95E-5	< 3.53E-6	2.76E-5
Kewaunee	--	.00053 [2]	8.82E-5	9.83E-4
Three Mile Island 1	--	ND	1.15E-4	7.28E-5
Arkansas One 1	--	.0025	< .0126	ND
Rancho Seco 1	--	ND	ND	0 [7]
Cook, Donald C 1	--	--	NR	NR
Millstone Point 2	--	--	5.21E-5	< .00373
Trojan	--	--	--	.00907
St Lucie 1	--	--	--	ND
Beaver Valley	--	--	--	4.68E-4
Salem 1	--	--	--	3.04E-4

[1] June to November only
[2] For the first half of 1974 Sr-89and Sr-90 were combined; < 2.58E-4 Ci
[3] January to September
[4] Included with Units 2 & 3
[5] December not included
[6] 1st quarter continuous release not included
[7] All liquid trucked offsite

TABLE 39 (Continued)

SUMMARY OF STRONTIUM 90 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	ND	1.60E-4	.00234 [8]	1.34E-5 [9]
Surry 1 & 2	.00013	.00149	.00134	.00740
Turkey Point 3 & 4	2.64E-5	1.93E-4	3.13E-4	.00247
Oconee 1, 2 & 3	ND	.00195	6.36E-4	6.50E-4
Zion 1 & 2	ND	ND	NR	ND
Prairie Island 1 & 2	ND	ND	ND	< .00150
Indian Point 2 & 3	8.93E-4	2.65E-4	.00137	.00748 [10]
Calvert Cliffs 1 & 2	--	4.33E-5	.00275	

[8] through November, December not available
[9] 4th quarter not available
[10] Includes Unit 1

TABLE 40

SUMMARY OF IODINE 131 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	.0014 [1]	5.86E-4	.00121	.00124
Indian Point 1	.0603	.396	.163	[2]
San Onofre 1	.270	.047	5.95E-5	.0202
Haddam Neck	.0548	9.01E-5	.00767	.00112
Ginna, R.E.	6.85E-4	9.80E-5	.0165	.338
Robinson, H.B.	.0407	.823	.0437	.0153
Palisades	.365	.00559	.186	.00371
Maine Yankee	.00344	.358	.0593	.191
Fort Calhoun 1	.00448	.0166	< .0636	.0900
Kewaunee	--	.0211	.0717	.0324
Three Mile Point 1	--	.00921	.0046	.00224
Arkansas One 1	--	.019	.28	3.75
Rancho Seco 1	--	ND	ND	0 [3]
Cook, Donald C 1	--	--	.00182	.0352
Millstone Point 2	--	--	9.27E-4	< .0337
Trojan	--	--	--	.137
St Lucie 1	--	--	--	.00176
Beaver Valley	--	--	--	2.48E-4
Salem 1	--	--	--	ND

[1] June to November only
[2] Included with Units 2 & 3
[3] All liquid trucked offsite

TABLE 40 (Continued)

SUMMARY OF IODINE 131 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	1.20E-5	.0182	.252	.106
Surry 1 & 2	.0443	11.0	2.43	6.49
Turkey Point 3 & 4	.0146	1.07	.425	2.47
Oconee 1, 2 & 3	1.55	1.10	1.16	1.91
Zion 1 & 2	ND	ND	ND	ND
Prairie Island 1 & 2	ND	ND	.00458	< .00772
Indian Point 2 & 3	.162	2.18	.331	2.05 [4]
Calvert Cliffs 1 & 2	--	.0053	.235	

[4] Includes Unit 1

TABLE 41

SUMMARY OF CESIUM 134 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	2.94E-5 [1]	.00204	.00059	2.11E-4
Indian Point 1	.33	.195	.314	[4]
San Onofre 1	[2]	[2]	.267	1.86
Haddam Neck	NR	.00297	.039	.00314
Ginna, R.E.	.0168	.0126	.00585	.0473
Robinson, H.B.	.0491	.135	.0674	.0146
Palisades	.882	.701	.045	.0251
Maine Yankee	ND	.734	.200	.655
Fort Calhoun 1	ND	ND	.00212	.0528
Kewaunee	--	< .0143 [3]	.0309	.176
Three Mile Island 1	--	3.29E-5	3.12E-4	.00634
Arkansas One 1	--	NR	.0765	.983
Rancho Seco 1	--	ND	ND	0 [5]
Cook, Donald C 1	--	--	4.46E-5	.0425
Millstone Point 2	--	--	9.03E-4	5.48E-4
Trojan	--	--	--	ND
St Lucie 1	--	--	--	5.15E-5
Beaver Valley	--	--	--	ND
Salem 1	--	--	--	ND

[1]June to November only
[2]Included with Cs-137
[3]Calculated value based on concentration of <1.0E-5 μCi/ml for March to June
[4]Included with Units 2 & 3
[5]All liquids trucked offsite

TABLE 41 (Continued)

SUMMARY OF CESIUM 134 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	.325	.0384	.0206	.222
Surry 1 & 2	.00826	3.73	8.13	2.60
Turkey Point 3 & 4	6.50E-4	.0356	.0475	.372
Oconee 1, 2 & 3	ND	.0400	.166	.636
Zion 1 & 2	ND	ND	ND	ND
Prairie Island 1 & 2	ND	ND	.00173	< .0119
Indian Point 2 & 3	.0242	.113	.367	.755 [6]
Calvert Cliffs 1 & 2	--	NR	4.36E-5	

[6] Includes Unit 1

TABLE 42

SUMMARY OF CESIUM 137 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Single Units	Releases in Curies			
	1973	1974	1975	1976
Yankee (Rowe)	1.31E-4 [1]	.00321	6.76E-4	4.38E-4
Indian Point 1	.514	.459	.613	[4]
San Onofre 1	10.6 [2]	3.97 [2]	.595	3.83
Haddam Neck	.312	.272	.159	.0228
Ginna, R.E.	.0344	.0386	.0206	.113
Robinson, H.B.	.0997	.152	.0755	.0188
Palisades	1.88	1.61	.143	.0559
Maine Yankee	ND	.987	1.54	1.54
Fort Calhoun 1	ND	5.02E-4	.00556	.0989
Kewaunee	--	< .0204 [3]	.105	.369
Three Mile Island 1	--	.00352	.00339	.0122
Arkansas one 1	--	1.90E-4	.256	3.17
Rancho Seco 1	--	ND	ND	0 [5]
Cook, Donald C 1	--	--	3.32E-4	.0620
Millstone Point 2	--	--	.00143	.0113
Trojan	--	--	--	.0823
St Lucie 1	-- -	--	--	2.58E-4
Beaver Valley	--	--	--	ND
Salem 1	--	--	--	ND

[1] June to November only
[2] Includes Cs-134
[3] Calculated value based on concentration of < 1.0E-5 μCi/ml for March to June
[4] Included with Units 2 & 3
[5] All liquids trucked offsite

TABLE 42 (Continued)

SUMMARY OF CESIUM 137 RELEASES IN LIQUID EFFLUENTS FROM PWRs FOR 1973 TO 1976

Multi Units	Releases in Curies			
	1973	1974	1975	1976
Point Beach 1 & 2	.421	.0982	.0396	.286
Surry 1 & 2	.0235	6.83	14.0	2.46
Turkey Point 3 & 4	.00121	.0674	.0739	.427
Oconee 1, 2 & 3	.011	.0602	.436	1.04
Zion 1 & 2	ND	ND	7.60E-4	ND
Prairie Island 1 & 2	ND	ND	.00306	< .0107
Indian Point 2 & 3	.051	.239	.830	1.54 [6]
Calvert Cliffs 1 & 2	--	.00632	.112	

[6] Includes Unit 1

☆ U. S. GOVERNMENT PRINTING OFFICE : 1978 720-335/6028