ATTACHMENT

Consumers Power Company
Palisades Plant
Docket 50-225

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE AND WASTE DISPOSAL REPORT JULY THROUGH DECEMBER 1987

February 26, 1988

16 Pages

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Palisades Nuclear Plant Semiannual Radioactive Effluent Release Report

JULY - DECEMBER 1987

This report provides information relating to radioactive effluent releases and solid radioactive waste disposal operations of the Palisades Nuclear Plant during the period of July through December 1987. The report format is detailed in Plant Technical Specification 6.9.3.1a. During this reporting period, Palisades was off-line from October 1 - November 12, 1987 and December 4, 1987 - January 26, 1988 due to maintenance outages.

1. Supplemental Information

A. Batch Releases

Information relating to batch releases of gaseous and liquid effluents is provided in Table HP 10.5-1.

B. Abnormal Releases

There were two (2) reportable incidents of abnormal gaseous releases from the Palisades Plant during the July - December 1987 reporting period. A brief description of each is provided:

1. On July 8, 1987, at approximately 0300 hours, the gaseous contents of Waste Gas Decay Tank (WGDT) T-68A were accidentally released to the atmosphere without being held for a minimum of fifteen (15) days. This was contrary to Palisades Technical Specification 3.24.6.1 and resulted in an Event Report (E-PAL-87-029) to the NRC. Cause of the WGDT release was determined to be the performance of maintenance activity on the (then in-service) T-68A WGDT relief valve. Approximately 5.78 m^3 of noble gas escaped from the WGDT into the Auxiliary Building. The noble gas was vented from the Auxiliary Building via the ventilation system and out the plant stack. The release was monitored by the stack noble gas monitor (RIA 2326) and occurred over an approximate thirty (30) minute time period. The release totaled 0.224 curies and is included in the third quarter gaseous effluent totals. No release limits were exceeded.

2. On October 19, 1987, at approximately 1900 hours, the gaseous contents of Waste Gas Decay Tank (WGDT) T-101B were released to the atmosphere without being held for a minimum of fifteen (15) days. This was contrary to Palisades Technical Specification 3.24.6.1 and resulted in an Event Report (E-PAL-87-047) to the NRC. Cause of the unauthorized WGDT release was inattention to detail and procedure non-compliance. The activity of WGDT-101B was known as it had been isolated and sampled prior to the release. No release limits were exceeded. A total of 7.20

curies was released and is included in the fourth (4th) quarter gaseous effluent totals.

2. Gaseous Effluents

Table HP 10.5-2 lists and summarizes all gaseous radioactive effluents released during the reporting period. The unidentified beta was 4.09E-05% of the total release.

3. Liquid Effluents

Table HP 10.5-3 lists and summarizes all liquid radioactive effluents released during the reporting period. The unidentified beta was 4.60E-03% of the total release.

4. Solid Waste

Solid radwaste classification, sources, volume shipped, curie and nuclide content are detailed in Table HP 10.5-4. All radwaste shipments were made to either Barnwell, South Carolina or Richland, Washington for burial.

5. Summary of Radiological Impact on Man

Potential doses to individuals and populations were calculated using GASPAR and LADTAP computer program codes. The third and fourth quarter values for curies released were input for each nuclide and summarized as follows:

A. The maximum offsite air dose at the site boundary due to noble gases was 2.62E-02 millirad beta and 8.80E-03 millirad gamma for the third quarter; and 2.73E-02 millirads beta and 9.21E-03 millirads gamma for the fourth quarter.

B. The most restrictive organ dose to an individual in an unrestricted area (based on identified critical receptors) from gaseous effluents (tritium, particulate and iodine) was the child bone. Doses were 6.63E-02 and 1.14E-01 millirem for the third and fourth quarters, respectively.

C. The maximum total body dose to individuals (adult) in unrestricted water-related exposure pathways was 4.38E-03 millirem for the third quarter and 5.86E-02 millirem for the fourth quarter. The maximum organ dose (teenage liver) was 7.83E-03 and 9.72E-02 millirem for the third and fourth quarters, respectively.

D. Integrated total body doses to the general population and average doses to individuals within the population from liquid effluent releases within a distance of 50 miles from the site boundary were: 1.48E-02 manRem and 1.41E-05 millirem for the third quarter; and 1.91E-01 manRem and 1.82E-04 millirem for the fourth quarter.

E. Integrated total body doses to the general population and average doses to individuals (adults) within the population from gaseous effluent releases within a distance of 50 miles from the site boundary were: 3.34E-02 manRem and 3.18E-05 millirem for the third quarter; and 4.94E-02 manRem and 4.70E-05 millirem for the fourth quarter.

F. The Selenium-75 in gaseous effluent releases (fourth quarter only) and the entrained noble gases present in both the third and fourth quarter liquid releases were not significant in either wholebody or organ doses.

6. Process Control Program (PCP)

There are no changes to the PCP during this reporting period.

7. Offsite Dose Calculation Manual (ODCM)

There are no changes to the ODCM during this reporting period.

8. Supplemental Information for the January-June 1987 Semiannual Radioactive Effluent Release Report

The Palisades Nuclear Plant Semiannual Radioactive Effluent Release Report; January - June 1987, Table HP 10.5-2 Gaseous Effluents and HP 10.5-3 Liquid Effluents are being submitted as an attachment for the following revisions:

A. Table HP 10.5-2, Gaseous Effluents - Summation of Releases, item C.3., 2nd Quarter only:

Change the Particulate Percent of Annual Average Limit MPC from 2.62E-06 to 2.64E-05.

B. Table HP 10.5-2, Gaseous Effluents (isotopic Ci listings), item 3, Particulates, 2nd Quarter only:

Change Sr-89 from 3.2E-07 Ci to 5.9E-07 Ci.
Change Sr-90 from 2.8E-07 Ci to 5.5E-07 Ci.
Change Net Unidentified Beta from 4.31E-05 Ci to 4.26E-05 Ci.

C. Table HP 10.5-3, Liquid Effluents - Summation of Releases, item A.3., 2nd Qaurter only:

Change the Fission and Activation Gases Percent of MPC from 2.31E-02 to 2.19E-02.

D. Table HP 10.5-3, Liquid Effluents (isotopic Ci listings), item 1, Nuclides Released, 2nd Quarter only:

Change Sr-89 from 5.4E-05 Ci to 2.6E-05 Ci.
Change Sr-90 from 9.1E-05 Ci to 5.5E-05 Ci.
Change Net Unidentified Beta from 1.93E-03 Ci to 1.99E-03 Ci.

Reasons for the above data revisions to the Palisades Nuclear Plant Semiannual Radioactive Effluent Release Report, January - June 1987 was that the calculated Sr-89 and Sr-90 release quantities (for both gaseous and liquid effluents) were based on estimated values for the month of June. Teledyne Isotopes Midwest Laboratory had not yet completed the actual sample analyses prior to the Technical Specification Semiannual report due date. All data changes are indicated by "#" in the right-hand margins. There were no reportable changes in doses to the public.

TABLE HP 10.5-2 (Revised)

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

GASEOUS EFFLUENTS - SUMMATION OF RELEASES

JAUNARY 1987 to JUNE 1987

A.	FISSION AND ACTIVATION GASES	UNITS	1st QUARTER	2nd QUARTER	Est Total Error %
	1. Total release	Ci	None	6.27E+02	
	2. Average release rate for period	uCi/sec	None	7.98E+01	4.22
	3. Percent of annual avg MPC	%	None	3.81E-02	
B.	IODINES				
	1. Total Iodine	Ci	None	6.59E-03	
	2. Average release rate for period *	uCi/sec	None	8.38E-04	4.17*
	3. Percent of annual avg MPC *	%	None	6.86E-04	
C.	PARTICULATES				
	1. Particulates with half-life > 8 days	Ci	1.74E-05	4.38E-05	
	2. Average release rate for period	uCi/sec	2.24E-06	5.57E-06	
	3. Percent of annual avg limit MPC	%	2.52E-06	2.64E-05	51.0**
	4. Gross alpha radioactivity	Ci	2.50E-06	2.31E-06	
	5. Gross alpha average release rate for period	uCi/Sec	3.21E-07	2.94E-07	
D.	TRITIUM				
	1. Total release	Ci	6.64E-01	9.59E-01	
	2. Average release rate for period	uCi/sec	8.53E-02	1.22E-01	
	3. Percent of annual avg MPC	%	6.10E-05	8.72E-05	
E.					
	1. Beta air dose at site boundary due to Noble Gases (TS 3.24.5.2a)	mRads	None	2.99E-02	
	2. Percent limit	%	None	2.99E-01	
	3. Gamma air dose at site boundary due to Noble Gases (TS 3.24.5.21)	mRads	None	1.01E-02	
	4. Percent limit	%	None	2.02E-01	
F.					
	1. Maximum organ dose to public based based on critical receptors (TS 3.24.5.3)	mRem	1.68E-03	1.68E-02	
	2. Percent of limit	%	2.24E-02	2.24E-01	

* Note: Data is reported for I-131 and I-133 only.

** Note: Large error factor due to very small amount of particulates present in gaseous effluents.

TABLE HP 10.5-2 (Revised)

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

GASEOUS EFFLUENTS

JANUARY 1987 to JUNE 1987

3. PARTICULATES*	Units	1st QUARTER	2nd QUARTER	
Chromium-51	Ci	None	None	
Manganese-54	Ci	None	None	
Cobalt-58	Ci	None	None	
Cobalt-60	Ci	1.22E-06	9.63E-08	
Cesium-134	Ci	None	None	
Cesium-137	Ci	4.37E-06	None	
Selenium-75	Ci	7.51E-06	None	
Strontium-89**	Ci	6.7E-07	5.9E-07	#
Strontium-90**	Ci	5.6E-07	5.5E-07	#
Net unidentified beta	Ci	3.06E-06	4.26E-05	#
Total	Ci	1.74E-05	4.38E-05	

* Particulates with half-lives >8 days.
** Calculated from vendor analysis of monthly stack gas filters.
Note: Reported net beta and vendor analyzed Sr-89/90 results were input to GASPAR code as Sr-90 to yield conservative dose estimates.

TABLE HP 10.5-3 (Revised)

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

JANUARY 1987 to JUNE 1987

	UNITS	1st QUARTER	2nd QUARTER	Est Total Error %
A. FISSION AND ACTIVATION GASES				
1. Total release (not including tritium, gases, alpha)	Ci	3.61E-03	1.11E-02	
2. Average diluted concentration during period	uCi/ml	1.09E-10	3.40E-10	9.55
3. Percent of MPC	%	5.16E-03	2.19E-02	#
B. TRITIUM				
1. Total release	Ci	5.85E+00	1.16E+01	
2. Average diluted concentration during period	uCi/ml	1.77E-07	3.55E-7	18.8
3. Percent of MPC	%	5.91E-03	1.18E-02	
C. DISSOLVED AND ENTRAINED GASES				
1. Total Release	Ci	None	6.24E-03	
2. Average diluted concentration during period	uCi/ml	None	1.91E-10	18.8
3. Percent of MPC	%	None	9.55E-05	
D. GROSS ALPHA RADIOACTIVITY (Total Release) **	Ci	4.1E-06	1.6E-05	
1. Gross alpha average diluted concentration during period	uCi/ml	1.2E-13	4.9E-13	
E. VOLUME OF WASTE RELEASED (Prior to Dilution)	Liters	4.38E+05	4.76E+05	
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	3.30E+10	3.27E+10	
G. MAXIMUM DOSE COMMITMENT - WHOLEBODY	mRem	3.59E-03	6.24E-03	
Percent of TS 3.24.4.1a limit	%	2.39E-01	4.16E-01	
H. MAXIMUM DOSE COMMITMENT - ORGAN	mRem	4.73E-03	1.10E-02	
Percent of TS 3.24.4.1a limit	%	9.46E-02	2.20E-01	

** Note: Calculated from vendor analysis of monthly radwaste composite samples.

TABLE HP 10.5-3 (Revised)

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

LIQUID EFFLUENTS

JANUARY 1987 to JUNE 1987

1. NUCLIDES RELEASED	Units	1st QUARTER	2nd QUARTER	
Cesium-137	Ci	1.43E-03	2.44E-03	
Cobalt-58	Ci	2.60E-04	9.81E-05	
Manganese-54	Ci	1.55E-04	6.31E-04	
Cobalt-60	Ci	9.88E-04	5.58E-03	
Cesium-134	Ci	3.04E-04	2.75E-04	
Strontium-89**	Ci	5.6E-06	2.6E-05***	#
Strontium-90**	Ci	4.8E-06	5.5E-05***	#
Net Unidentified Beta	Ci	4.61E-04	1.99E-03	#
Fission & Activation Product Total (Above)	Ci	3.61E-03	1.11E-02	
Xenon-133	Ci	None	6.12E-03	
Xenon-135	Ci	None	1.22E-04	
Tritium	Ci	5.85E+00	1.16E+01	
Grand Total	Ci	5.85E+00	1.16E+01	

** Calculated from vendor analysis of monthly radwaste composite samples.

*** June Sr-89/90 sample results were unavailable from vendor; 2nd quarter Sr-89/90 calculation incorporated a June estimate.

NOTE: Reported net beta and vendor analyzed Sr-89/90 results were input to LADTAP code as Sr-90 to yield conservative dose estimates.

TABLE HP 10.5-1

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

BATCH RELEASES

JULY 1987 to DECEMBER 1987

A. GASEOUS	Units	3rd Quarter	4th Quarter
Number of Releases		16	13
Total Release Time	Minutes	3.50E+03	3.17E+03
Maximum Release Time	Minutes	6.50E+02	3.90E+02
Average Release Time	Minutes	2.19E+02	2.44E+02
Minimum Release Time	Minutes	3.00E+01	1.30E+02

B. LIQUID	Units	3rd Quarter	4th Quarter
Number of Releases		27	44
Total Release Time	Minutes	4.00E+03	1.15E+04
Maximum Release Time	Minutes	7.60E+02	6.30E+02
Average Release Time	Minutes	1.48E+02	2.61E+02
Minimum Release Time	Minutes	2.30E+01	1.40E+01

TABLE HP 10.5-2

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

GASEOUS EFFLUENTS - SUMMATION OF RELEASES

JULY 1987 to DECEMBER 1987

A. FISSION AND ACTIVATION GASES	UNITS	3rd QUARTER	4th QUARTER	Est Total Error %
1. Total release	Ci	5.49E+02	5.70E+02	
2. Average release rate for period	uCi/sec	6.89E+01	7.17E+01	25.0
3. Percent of annual avg MPC	%	3.29E-02	3.43E-02	
B. IODINES				
1. Total Iodine	Ci	5.49E-03	1.49E-02	
2. Average release rate for period *	uCi/sec	6.90E-04	1.88E-03	4.66*
3. Percent of annual avg MPC *	%	7.71E-04	2.59E-03	
C. PARTICULATES				
1. Particulates with half-life > 8 days	Ci	1.80E-04	4.45E-04	
2. Average release rate for period	uCi/sec	2.26E-05	5.60E-05	
3. Percent of annual avg MPC	%	1.03E-04	1.76E-04	20.8**
4. Gross alpha radioactivity	Ci	6.15E-06	6.40E-06	
5. Gross alpha average release rate for period	uCi/sec	7.74E-07	8.05E-07	
D. TRITIUM				
1. Total release	Ci	8.25E-01	7.56E-01	
2. Average release rate for period	uCi/sec	1.04E-01	9.51E-02	
3. Percent of annual avg MPC	%	7.41E-05	6.79E-05	
E.				
1. Beta air dose at site boundary due to Noble Gases (TS 3.24.5.2a)	mRads	2.62E-02	2.73E-02	
2. Percent limit	%	2.62E-01	2.73E-01	
3. Gamma air dose at site boundary due to Noble Gases (TS 3.24.5.21)	mRads	8.80E-03	9.21E-03	
4. Percent limit	%	1.76E-01	1.84E-01	
F.				
1. Maximum organ dose to public based based on critical receptors (TS 3.24.5.3)	mRem	6.63E-02	1.14E-01	
2. Percent of limit	%	8.84E-01	1.52E00	

* Note: Data is reported for I-131 and I-133 only.

** Note: Large error factor due to very small amount of particulates present in gaseous effluents.

TABLE HP 10.5-2

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

GASEOUS EFFLUENTS

JULY 1987 to DECEMBER 1987

1. FISSION GASES	Units	3rd QUARTER	4th QUARTER
Krypton-85	Ci	9.17E-01	6.04E-01
Krypton-85m	Ci	1.79E-02	3.23E-02
Krypton-87	Ci	1.97E-02	3.16E-02
Krypton-88	Ci	2.58E-02	3.81E-02
Xenon-131m	Ci	9.50E-01	1.95E+00
Xenon-133	Ci	5.47E+02	5.63E+02
Xenon-133m	Ci	4.18E-02	3.70E+00
Xenon-135	Ci	1.10E-01	6.01E-01
Xenon-135m	Ci	7.27E-02	4.70E-02
Xenon-138	Ci	1.05E-02	6.56E-02
Argon-41	Ci	4.17E-03	1.43E-02
Total for Period	Ci	5.49E+02	5.70E+02

2. IODINES			
Iodine-131	Ci	3.89E-03	1.42E-02
Iodine-132	Ci	None	None
Iodine 133	Ci	1.60E-03	7.12E-04
Iodine-135	Ci	None	None
Total for Period	Ci	5.49E-03	1.49E-02

TABLE HP 10.5-2

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

GASEOUS EFFLUENTS

JULY 1987 to DECEMBER 1987

3. PARTICULATES***	Units	3rd QUARTER	4th QUARTER
Chromium-51	Ci	None	None
Manganese-54	Ci	None	None
Cobalt-58	Ci	None	6.77E-05
Cobalt-60	Ci	7.44E-06	6.48E-06
Selenium-75	Ci	None	6.56E-05
Niobium-95	Ci	None	1.10E-06
Cesium-134	Ci	None	None
Cesium-137	Ci	None	9.35E-06
Strontium-89****	Ci	1.7E-06	4.8E-06
Strontium-90****	Ci	4.1E-07	1.6E-06
Net Unidentified Beta	Ci	1.70E-04	2.88E-04
Total	Ci	1.80E-04	4.45E-04

*** NOTE: Particulates with half-lives >8 days.

**** NOTE: Calculated from vendor analysis of monthly stack gas filters; November and December data are estimates due to unavailability of completed sample results. Reported net beta and vendor analyzed Sr89/90 results were input to GASPAR code as Sr-90 to yield conservative dose estimates.

TABLE HP 10.5-3

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

JULY 1987 to DECEMBER 1987

A. FISSION AND ACTIVATION PRODUCTS	UNITS	3rd QUARTER	4th QUARTER	Est Total Error %
1. Total release (not including tritium, gases, alpha)	Ci	8.80E-03	6.88E-02	
2. Average diluted concentration during period	uCi/ml	2.62E-10	2.27E-09	15
3. Percent of MPC	%	1.06E-02	6.17E-02	
B. TRITIUM				
1. Total release	Ci	5.73E+01	4.47E+01	
2. Average diluted concentration during period	uCi/ml	1.71E-06	1.47E-06	16
3. Percent of MPC	%	5.68E-02	4.92E-02	
C. DISSOLVED AND ENTRAINED GASES				
1. Total Release	Ci	7.97E-02	3.76E-02	
2. Average diluted concentration during period	uCi/ml	2.37E-09	1.24E-09	5.6*
3. Percent of MPC	%	1.19E-03	6.20E-04	
D. GROSS ALPHA RADIOACTIVITY (Total Release) **	Ci	2.6E-05	2.7E-05	
1. Gross alpha average diluted concentration during period	uCi/ml	7.7E-13	8.9E-13	
E. VOLUME OF WASTE RELEASED (Prior to Dilution)	Liters	9.55E+05	1.40E+06	
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	3.36E+10	3.03E+10	
G. MAXIMUM DOSE COMMITMENT - WHOLEBODY	mRem	4.38E-03	5.86E-02	
Percent of TS 3.24.4.1a limit	%	2.92E-01	3.91E00	
H. MAXIMUM DOSE COMMITMENT - ORGAN	mRem	7.83E-03	9.72E-02	
Percent of TS 3.24.4.1a limit	%	1.57E-01	1.94E00	

* Note: Data is reported for Xe-133

** Note: Calculated from vendor analysis of monthly radwaste composite samples; November and December data results are estimates due to unavailability of completed sample data.

TABLE HP 10.5-3

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

LIQUID EFFLUENTS

JULY 1987 to DECEMBER 1987

1. NUCLIDES RELEASED	Units	3rd QUARTER	4th QUARTER
Cesium-137	Ci	1.65E-03	2.20E-02
Cobalt-58	Ci	9.85E-05	1.77E-03
Manganese-54	Ci	5.62E-04	9.70E-03
Cobalt-60	Ci	4.39E-03	2.42E-02
Cesium-134	Ci	2.46E-04	5.94E-03
Rubidium-88	Ci	8.58E-04	None
Molybdenum-99	Ci	None	2.95E-05
Strontium-89***	Ci	7.2E-06	5.6E-06
Strontium-90***	Ci	8.5E-06	6.1E-04
Cobalt 57	Ci	None	1.13E-05
Antimony-125	Ci	None	1.90E-04
Iodine-131	Ci	5.51E-06	4.67E-04
Iodine-133	Ci	2.49E-06	None
Chromium-51	Ci	None	1.04E-04
Net Unidentified Beta	Ci	9.72E-04	3.73E-03
Fission & Activation Product Total (Above)	Ci	8.80E-03	6.88E-02
Noble Gases	Ci	7.97E-02	3.76E-02
Tritium	Ci	5.73E+01	4.47E+01
Grand Total	Ci	5.74E+01	4.48E+01

*** NOTE: Calculated from vendor analysis of monthly radwaste composite samples; November and December data are estimates due to unavailability of completed sample results. Reported net beta and vendor analyzed Sr89/90 results were input to LADTAP dose as Sr-90 to yield conservative dose estimates.

TABLE HP 10.5-4

PALISADES NUCLEAR PLANT SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

SOLID RADIOACTIVE WASTE

JULY 1987 to DECEMBER 1987

Waste Class	Source of Waste	Solidification Agent	Container Type	Volume (Cu.ft.)	Total Curies	Principal Radionuclides*
A	DAW	N/A	B-25 Box-LSA	4214.0	7.5	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129
A	Filters	Cement	Steel liner	180.0	0.11	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129 Sb-125
A	Dewatered Filters	N/A	HIC-14-195H	194.1	4.1	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129 Sb-125
A	Concentrates	Asphalt	Metal drums-LSA	481.4	18.7	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129
A	Spent Fuel Racks**	N/A	Wood boxes	1382.7	0.39	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129
B	Dewatered Resins	N/A	HIC-14-195H	205.8	12.4	H_3,Mn-54,Fe-55,Co-57, Co-58,Co-60,Ni-63 Cs-134,Cs-137,Sr-90, Tc-99, C-14, I-129 Sb-125
		Total Shipped		6659.0	43.2	

* NOTE: Gamma isotopes are measured quantities; all other isotopes are estimated.

** NOTE: Volume reduced and shipped to burial ground by Westinghouse under Palisades allocation.

Consumers Power
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February 26, 1988

Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE AND WASTE
DISPOSAL REPORT - JULY THROUGH DECEMBER 1987

Attached is the Semiannual radioactive Effluent Release and Waste Disposal Report for the Palisades Plant covering the period from July through December 1987. This submittal is made in accordance with 10CFR50.36a(2) and Technical Specification Section 6.9.3.1.a.

Brian D Johnson
Staff Licensing Engineer

CC Administrator, Region III, NRC
NRC Resident Inspector - Palisades

Attachment

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