

WISCONSIN ELECTRIC

POWER COMPANY

POINT BEACH NUCLEAR PLANT

UNIT NOS. 1 AND 2

SEMIANNUAL

MONITORING REPORT

January 1, 1985 through June 30, 1985

8509050013 850630
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IE25
41
U.S. Nuclear Regulatory Commission
Docket Nos. 50-266 and 50-301
Facility Operating License Nos.
DPR-24 and DPR-27

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1.0 RADIOACTIVE LIQUID RELEASES

Radioactive liquid releases via the circulating water discharge are summarized for total release and by individual source on a monthly basis in Table 1-1. An isotopic breakdown of the total radioactive liquid release is presented in Table 1-2.

The total radioactive liquid release excluding tritium for this reporting period was 1.2685 curies which included 1.0316 curies of processed radioactive waste and primary coolant system letdown, 0.0329 curies of Unit 1 steam generator blowdown and 0.2028 curies of Unit 2 steam generator blowdown. There was 0.0012 curies of detectable activity in retention pond effluent (other than tritium). The total tritium release for this reporting period was 398.92 curies, which included 397.500 curies of processed radioactive waste and primary coolant system letdown, 0.074 curies of Unit 1 steam generator blowdown, 1.262 curies of Unit 2 steam generator blowdown, and 0.081 curies of retention pond effluent. All radioactive liquid releases to Lake Michigan were made through the circulating water discharge.

1.1 Additions to Semi-Annual Monitoring Report - July 1, 1984 through December 31, 1984

The following data which was not available at the time of report preparation should be added to Table 1-1 of the Semi-Annual Monitoring Report, July 1, 1984 through December 31, 1984.

	<u>October</u>	<u>November</u>	<u>December</u>	<u>Total (Ci)</u>
Total Activity Released, Ci				
Gross Alpha	6.60E-06	3.34E-05	*	*
Averaged Diluted Discharge Concentration, $\mu\text{Ci/cc}$				
Gross Alpha	1.10E-13	6.71E-13	*	--
% MPC	3.67E-04	2.24E-03	*	--

The following data which was not available at the time of report preparation should be added to Table 1-2 of the Semi-Annual Monitoring Report, July 1, 1984 through December 31, 1984.

	<u>October</u>	<u>November</u>	<u>December</u>	<u>Total</u>
Sr-89	3.70E-04	5.70E-04	*	*
Sr-90	5.98E-06	1.17E-04	*	*

* Data not available at the time of report.

TABLE 1-1

RADIOACTIVE LIQUID CIRCULATING WATER RELEASE SUMMARY
PERIOD OF JANUARY 1, 1985 TO JUNE 30, 1985

	<u>Jan</u>	<u>Feb</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total</u>
<u>Total Activity Released, (Ci)</u>							
Gamma Scan	1.06E-01	2.73E-02	3.81E-02	8.24E-01	2.68E-02	2.45E-01	1.27E+00
Gross Alpha	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Tritium	6.25E+01	2.66E+01	1.11E+02	9.43E+01	3.70E+01	6.71E+01	3.99E+02
<u>Total Volumes Released (Gal)</u>							
Processed Waste	8.37E+04	3.86E+04	1.09E+05	2.89E+05	7.06E+05	2.13E+05	1.44E+06
Steam Generator							
Blowdown, U1	2.14E+06	2.41E+06	2.68E+06	5.18E+05(1)	(1)	1.63E+06(1)	9.38E+06
Steam Generator							
Blowdown, U2	2.27E+06	2.40E+06	2.68E+06	2.53E+06	2.68E+06	2.49E+06	1.51E+07
Retention Pond	1.66E+06	1.25E+06	2.35E+06	1.88E+06	1.82E+06	3.05E+06	1.22E+07
Total	6.35E+06	6.10E+06	7.82E+06	5.22E+06	5.21E+06	7.38E+06	3.81E+07
<u>Volume of Dilution Water, (cc)</u>							
	3.52E+13	3.16E+13	3.73E+13	6.28E+13	6.70E+13	6.51E+13	2.99E+14
<u>Average Diluted Discharge Concentration (µCi/cc)-</u>							
Gross Gamma	3.03E-09	8.65E-10	1.02E-09	1.31E-08	4.00E-10	3.77E-09	
% MPC	5.19E-02	4.60E-02	5.65E-02	4.83E-01	2.29E-02	3.77E-02	
Gross Alpha	(2)	(2)	(2)	(2)	(2)	(2)	
% MPC	(2)	(2)	(2)	(2)	(2)	(2)	
Tritium	1.78E-06	8.41E-07	2.98E-06	1.50E-06	5.53E-07	1.03E-06	
% MPC	5.93E-02	2.80E-02	9.93E-02	5.01E-02	1.84E-02	3.43E-02	
<u>Maximum Discharge Concentration During Release Period, (µCi/cc)</u>							
Gross Gamma	9.42E-10	1.51E-08	2.00E-08	3.71E-07	1.38E-09	3.04E-07	
Tritium	9.05E-05	9.60E-05	1.37E-04	1.39E-05	1.17E-05	3.14E-05	

(1) Unit 1 refueling shutdown 04-07-85 to 06-18-85

(2) Data unavailable at time of report writing

TABLE 1-2

ISOTOPIC COMPOSITION OF CIRCULATING WATER DISCHARGES
PERIOD OF JANUARY 1, 1985 TO JUNE 30, 1985

<u>Nuclides Released</u>	<u>Jan (Curies)</u>	<u>Feb (Curies)</u>	<u>March (Curies)</u>	<u>April (Curies)</u>	<u>May (Curies)</u>	<u>June (Curies)</u>	<u>Total (Curies)</u>
Tritium	6.25E+01	2.66E+01	1.11E+02	9.43E+01	3.70E+01	6.71E+01	3.99E+02
I-131	1.12E-03	5.25E-04	1.43E-03	8.00E-02	1.08E-03	1.36E-03	8.55E-02
I-132	2.63E-03	4.14E-03	6.49E-03	3.35E-03	3.67E-03	4.05E-03	2.43E-02
I-133	9.08E-03	9.04E-03	1.07E-02	8.47E-03	7.81E-03	1.04E-02	5.55E-02
I-134	1.59E-03	2.60E-03	2.61E-03	1.42E-03	1.24E-03	2.50E-03	1.20E-02
I-135	4.91E-03	6.24E-03	5.62E-03	4.55E-03	7.61E-03	9.35E-03	3.83E-02
Xe-133	5.26E-04	3.91E-03	7.49E-03	1.34E-02	3.68E-04	4.43E-04	2.61E-02
Kr-88	<MDA	<MDA	<MDA	9.10E-04	<MDA	<MDA	9.10E-04
Xe-133M	1.72E-04	2.41E-05	1.11E-04	9.76E-05	<MDA	<MDA	4.05E-04
Xe-135	1.31E-03	6.04E-04	8.23E-04	8.39E-04	2.93E-03	9.01E-04	7.41E-03
Xe-135M	1.01E-03	<MDA	1.37E-03	5.16E-04	1.07E-03	4.93E-03	8.90E-03
Xe-131M	<MDA	<MDA	<MDA	<MDA	9.18E-05	<MDA	9.18E-05
Co-57	2.45E-06	<MDA	<MDA	2.31E-03	<MDA	2.03E-04	2.52E-03
Ce-141	<MDA	<MDA	<MDA	<MDA	<MDA	1.31E-03	1.31E-03
Cr-51	<MDA	<MDA	<MDA	<MDA	<MDA	2.69E-02	2.69E-02
Sn-113	5.90E-07	<MDA	8.00E-07	<MDA	<MDA	1.07E-03	1.07E-03
Sb-125	<MDA	<MDA	<MDA	1.11E-02	<MDA	5.97E-06	1.11E-02
Ru-103	<MDA	<MDA	<MDA	<MDA	<MDA	3.58E-03	3.58E-03
Ba-140	<MDA	<MDA	<MDA	<MDA	6.90E-06	<MDA	6.90E-06
Cs-134	9.73E-06	<MDA	3.35E-05	4.54E-02	3.89E-05	5.15E-04	4.60E-02
Ru-106	<MDA	<MDA	<MDA	<MDA	<MDA	5.08E-05	5.08E-05
Ag-110M	<MDA	<MDA	<MDA	<MDA	<MDA	1.43E-05	1.43E-05
Cs-137	1.55E-04	1.11E-04	6.97E-04	8.00E-02	4.40E-04	6.79E-03	8.82E-02
Zr-95	<MDA	<MDA	<MDA	<MDA	<MDA	3.45E-05	3.45E-05
Zr-97	<MDA	<MDA	<MDA	<MDA	1.49E-06	<MDA	1.49E-06
Nb-95	6.18E-06	<MDA	2.70E-05	6.05E-04	1.12E-05	5.53E-03	6.18E-03
Co-58	1.92E-04	4.25E-05	3.18E-04	3.09E-01	1.65E-04	9.47E-02	4.04E-01
Mn-54	3.80E-06	<MDA	1.34E-05	5.75E-03	4.63E-06	1.56E-03	7.33E-03
Co-60	6.90E-05	1.01E-04	3.36E-04	2.55E-01	1.76E-04	3.08E-02	2.87E-01
Na-24	8.36E-02	<MDA	<MDA	<MDA	<MDA	<MDA	3.36E-02
Sb-124	<MDA	<MDA	<MDA	2.11E-05	1.27E-04	3.83E-02	3.85E-02
Rb-88	<MDA	<MDA	8.46E-05	<MDA	<MDA	<MDA	8.46E-05
Nb-97	2.26E-06	<MDA	<MDA	1.31E-03	6.83E-06	3.28E-05	1.35E-03
Sr-89	*	*	*	*	*	*	*
Sr-90	*	*	*	*	*	*	*
TOTAL	1.06E-01	2.73E-02	3.81E-02	8.24E-01	2.68E-02	2.45E-01	1.27E+00

NOTE: *Data unavailable at time of report.

1.3 Additions to the Semi-Annual Report, July 1, 1984 through December 31, 1984.

The following data which was not available at the time of the report preparation and constitutes Table 1-3 of Section 1.0 of the Semi-Annual Monitoring Report covering the period July 1, 1984, through December 31, 1984.

TABLE 1-3
SUBSOIL SYSTEM DRAINS
TRITIUM SUMMARY

JULY 1, 1984 THROUGH DECEMBER 31, 1984

	<u>LOCATION</u>				
	<u>S-1</u>	<u>S-3</u>	<u>S-9</u>	<u>S-10</u>	<u>TOTALS</u>
<u>Third Quarter</u>					
H-3 ($\mu\text{Ci/cc}$)	$\leq \text{MDA}$	5.20E-07	No Sample	1.48E-05	-
Aver. Flow, gpd	3995	1563	No Flow	18070	-
<u>Fourth Quarter</u>					
H-3 ($\mu\text{Ci/cc}$)	1.05E-06	2.74E-06	5.10E-07	7.10E-07	-
Aver. Flow, gpd	13582	3346	6616	10928	-
<u>Semiannual Totals</u>					
Total Released, Ci	4.97E-03	3.48E-03	1.18E-03	9.58E-02	1.05E-01
Total flow, gal	1.62E+06	4.52E+05	6.09E+05	2.67E+06	5.35E+06

TABLE 1-3
SUBSOIL SYSTEM DRAINS
TRITIUM SUMMARY

JANUARY 1 THROUGH JUNE 30, 1985

	<u>LOCATION</u>				
	<u>S-1</u>	<u>S-3</u>	<u>S-9</u>	<u>S-10</u>	<u>TOTALS</u>
<u>First Quarter</u>					
H ³ (μCi/cc)	4.60E-07	4.70E-07	≤MDA	≤MDA	-
Aver. Flow, gpd	22752	2768	5376	13038	-
<u>Second Quarter</u>					
H ³ (μCi/cc)	(*)	(*)	(*)	(*)	-
Aver. Flow, gpd	4115	2675	No Flow	8642	-
<u>Semiannual Totals</u>					
Total Released, Ci	(*)	(*)	(*)	(*)	
Total flow, gal	2.42E+06	4.93E+05	4.84E+05	1.96E+06	5.36E+06

(*) Data unavailable at time of report writing.

TABLE 1-4
RADIOACTIVE SEWAGE SLUDGE
LAND APPLICATIONS

Trace amounts of radionuclides below 10 CFR 20 Table II - Column 2 "Maximum Permissible Concentration" levels were land-applied with sewage sludges on various Department of Natural Resources approved Wisconsin Electric properties surrounding the Point Beach Nuclear Plant.

Semi-annual report: 01-01-85 to 06-30-85:

<u>Date of Application</u>	<u>Gallons</u>	<u>Radionuclides (μCi)</u>
06-03-85	14,300	Co-60: 32.02
		Cs-137: <u>10.41</u>
		TOTAL 42.43 μCi

2.0 RADIOACTIVE AIRBORNE RELEASES

Radioactive airborne releases during normal plant operation are reported by total release in Table 2-1, and summarized by isotope in Table 2-2. The release paths contributing to radioactive airborne releases during this reporting period were the auxiliary building vent stack, Unit 1 containment purge stack, Unit 2 containment purge stack, drumming area vent stack, gas stripper building ventilation exhaust, combined air ejector decay exhaust and turbine building ventilation exhaust.

There were three gas decay tank releases during this report period.

2.1 Additions to the Semiannual Report, July 1, 1984, through December 31, 1984

The following data which was not available at the time of the report preparation should be added to Table 2-2 in Section 2.0 of the Semiannual Monitoring Report covering the period July 1, 1984, through December 31, 1984.

	<u>October</u>	<u>November</u>	<u>December</u>	<u>Total, (Ci)</u>
Sr-89	<MDA	<MDA	<MDA	6.21E-07
Sr-90	<MDA	<MDA	<MDA	<MDA

TABLE 2-1

RADIOACTIVE AIRBORNE RELEASE SUMMARY
PERIOD OF JANUARY 1, 1985 TO JUNE 30, 1985

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total</u>
Total Curies Released (Excluding Tritium)	8.86E+00	1.34E+00	6.31E+00	1.51E+01	1.17E+01	4.40E-01	4.38E+01
Total Xe-133 Equivalent Curies Released (1)	1.42E+02	3.33E+01	6.65E+01	3.61E+03	1.28E+03	5.85E+00	5.14E+03
Average Release Rate (Curies/Second) (2)	5.30E-05	1.38E-05	2.48E-05	1.39E-03	4.78E-04	2.26E-06	
Percent of Annual Technical Specifica- tion Limits (3)	2.65E-02	6.88E-03	1.24E-02	6.95E-01	2.39E-01	1.13E-03	
Maximum Hourly Average Release Rate (Curies/Second) (4)	9.79E-03	1.62E-02	2.15E-02	3.48E-02	4.34E-02	7.62E-03	
Monthly Average Site Boundary Concentra- tion (μ Ci/cc) (2)	7.95E-11	2.07E-11	3.72E-11	2.09E-09	7.17E-10	3.39E-12	

(1) All gaseous particulate releases are converted to "Xe-133 equivalent" for calculational purposes using the ratio $MPC(Xe-133)/MPC(i)$. MPC's for isotopes of iodine and particulate with half-lives longer than eight days are reduced by a factor of 700.

(2) Averaged over one month and based on Xe-133 equivalent.

(3) Annual average Technical Specification limits are 0.2 Ci/sec, Xe-133 based on $X/Q:1.5E-06$ sec./m³. Maximum Technical Specification limits are 2.0 Ci/sec. Xe-133 based on $X/Q:1.5E-06$ sec/m³.

(4) Expressed as Xe-133 equivalent.

TABLE 2-2
 RADIOACTIVE AIRBORNE RELEASE SUMMARY
 PERIOD OF JANUARY 1, 1985 TO JUNE 30, 1985

Nuclides Released	January (Curies)	February (Curies)	March (Curies)	April (Curies)	May (Curies)	June (Curies)	Total (Curies)
Tritium	8.15E+00	1.28E+01	2.10E+00	6.24E+00	3.60E+00	3.31E+00	3.62E+01
Noble Gases							
Xe-133	1.29E+00	4.60E-01	1.25E+00	9.13E+00	1.15E+00	2.76E-01	1.36E+01
Kr-85M	4.44E-01	3.91E-02	2.67E-01	4.68E-01	4.45E-01	8.84E-03	1.67E+00
Kr-88	9.33E-01	6.91E-02	5.43E-01	4.96E-01	1.17E+00	1.52E-02	3.23E+00
Xe-133M	4.88E-02	8.46E-03	4.10E-02	1.84E-02	<MDA	5.92E-03	1.23E-01
Xe-135	1.90E+00	2.41E-01	1.33E+00	1.24E+00	2.26E+00	9.66E-02	7.07E+00
Xe-138	1.61E+00	7.98E-02	9.10E-01	1.31E+00	3.75E+00	4.34E-03	7.66E+00
Kr-87	8.08E-01	3.63E-02	3.83E-01	3.93E-01	1.02E+00	6.00E-03	2.65E+00
Xe-135M	5.94E-01	2.59E-02	3.30E-01	6.09E-01	1.46E+00	1.40E-03	3.02E+00
Ar-41	8.15E-02	6.81E-03	2.38E-02	1.09E-01	2.32E-01	1.14E-03	4.54E-01
Kr-85	1.16E+00	3.77E-01	1.23E+00	1.27E+00	1.79E-01	2.45E-02	4.24E+00
Xe-131M	<MDA	<MDA	7.13E-03	7.83E-02	<MDA	<MDA	8.54E-02
Particulates with half-lives less than eight days							
Zr-97	<MDA	<MDA	<MDA	<MDA	2.97E-10	<MDA	2.97E-10
Cs-138	7.21E-07	2.43E-07	<MDA	<MDA	<MDA	<MDA	9.64E-07
Rb-88	1.35E-05	5.49E-06	<MDA	<MDA	<MDA	<MDA	1.90E-05

TABLE 2-2 (Continued)
 RADIOACTIVE AIRBORNE RELEASE SUMMARY
 PERIOD OF JANUARY 1, 1985 TO JUNE 30, 1985

Nuclides Released	January (Curies)	February (Curies)	March (Curies)	April (Curies)	May (Curies)	June (Curies)	Total (Curies)
Particulates with half-lives greater than eight days and iodines							
I-131	2.09E-05	1.13E-05	1.14E-05	1.69E-03	5.57E-04	2.28E-06	2.29E-03
I-132	<MDA	<MDA	<MDA	9.78E-09	<MDA	<MDA	9.78E-09
I-133	4.12E-05	9.65E-07	7.58E-06	1.24E-05	1.83E-05	<MDA	8.05E-05
I-135	<MDA	3.55E-09	1.11E-08	<MDA	<MDA	<MDA	1.47E-08
Sr-89	*	*	*	*	*	*	*
Sr-90	*	*	*	*	*	*	*
Cd-109	8.46E-07	3.44E-06	1.49E-06	<MDA	9.58E-07	1.75E-09	6.74E-06
Sn-113	6.95E-11	<MDA	<MDA	<MDA	<MDA	<MDA	6.95E-11
Sb-125	4.14E-08	<MDA	<MDA	<MDA	<MDA	<MDA	4.14E-08
Ru-103	<MDA	<MDA	<MDA	<MDA	<MDA	2.41E-11	2.41E-11
Cs-134	3.48E-06	4.56E-08	3.45E-07	3.32E-07	2.59E-07	<MDA	4.46E-06
Cs-137	7.46E-06	1.48E-06	7.50E-06	1.62E-05	5.69E-06	4.42E-08	3.90E-05
Nb-95	1.39E-10	<MDA	<MDA	2.32E-08	<MDA	2.92E-11	2.34E-08
Co-58	7.36E-08	<MDA	<MDA	3.78E-06	1.24E-06	3.44E-07	5.44E-06
Co-60	6.25E-07	3.88E-06	9.90E-07	4.88E-07	5.39E-06	1.62E-10	1.14E-05
Alpha	8.38E-07	5.75E-08	3.56E-08	4.25E-08	3.44E-10	<MDA	9.74E-07

NOTE: * Data Unavailable at Report Time.

3.0 RADIOACTIVE SOLID WASTE SHIPMENTS

Shipments offsite of solid waste for burial during this reporting period were as follows.

<u>Date</u>	<u>Volume (Ft³)</u>	<u>Total Activity (Ci)</u>
01-07-85	178.0	19.1 (1)
03-28-85	1708.5	0.118
06-11-85	1302.0	0.327
06-25-85	178.0	2.009
06-27-85	126.0	1095.0 (1)

(1) Involved spent resin.

4.0 NEW & SPENT FUEL SHIPMENTS AND RECEIPTS

During this reporting period, a total of 28 new fuel assemblies were received from Westinghouse Electric Corporation for Unit 1. The new fuel assemblies received for Unit 1 were used for the Spring, 1985 refueling.

No spent fuel shipments were made.

5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING

Radiological environmental monitoring conducted by Point Beach Nuclear Plant from January 1, 1985, through June 30, 1985, consisted of air filters, TLDs, milk, lake water, well water, vegetation, soil, algae, fish, and shoreline sediment samples collected and analyzed in accordance with Technical Specification 15.4.10.

No measurements with significant departures from the normal attributable to the operation of PBNP were noted during this period.

<u>No.</u>	<u>Sample Type</u>	<u>Low</u>	<u>Average</u> [*]	<u>High</u>	<u>Units</u>
<u>TLDs</u>					
44	Environmental radiation	0.78	1.15±0.50	2.14	mR/wk
<u>Air</u>					
148	Gross Beta ¹	<0.01	0.02±0.01	0.04	pCi/m ³
152	Radioiodine		all <0.03		pCi/m ³
12	Gamma Scan		all <0.01		pCi/m ³
<u>Milk</u>					
18	Radioiodine		all <0.5		pCi/ℓ
18	Sr-89		all <5		pCi/ℓ
18	Sr-90	<1	<1.77±1.23	3.1	pCi/ℓ
18	Gamma Scan		all <5		pCi/ℓ
<u>Lake Water</u>					
29	Gross Beta	1.5	3.4±2.9	7.6	pCi/ℓ
30	Gamma Scan		all <10		pCi/ℓ
10	Tritium		all <500		pCi/ℓ
10	Sr-89		all <5		pCi/ℓ
10	Sr-90	<1	<1.1±0.5	1.7	pCi/ℓ
30	Radioiodine		all <0.5		pCi/ℓ
<u>Well Water</u>					
2	Gross Beta	<5.9	7.2±3.7	8.5	pCi/ℓ
2	Gamma Scan		both <10		pCi/ℓ
2	Tritium		both <500		pCi/ℓ
2	Sr-89		both <5		pCi/ℓ
2	Sr-90		both <1		pCi/ℓ

<u>No.</u>	<u>Sample Type</u>	<u>Low</u>	<u>Average</u> [*]	<u>High</u>	<u>Units</u>
<u>Vegetation</u>					
8	Gross Beta	6.0	12.4±9.3	17.9	pCi/g(dry)
8	Gamma Scan		all <1		pCi/g(dry)
<u>Soil</u>					
8	Gross Beta	11.5	21.4±16.6	30.0	pCi/g(dry)
8	Gamma Scan				pCi/g(dry)
	Cs-137		all <1		
	Others		all <1		
<u>Algae</u> ²					
1	Gross Beta		5.3±3.2		pCi/g(dry)
1	Gamma Scan		<5		pCi/g(dry)
<u>Fish</u>					
6	Gross Beta	6.3	8.6±4.9	10.7	pCi/g(dry)
6	Gamma Scan		all <1		pCi/g(dry)
<u>Shoreline Sediment</u>					
5	Gross Beta	4.2	5.2±3.8	7.5	pCi/g(dry)
5	Gamma Scan		all <1		pCi/g(dry)

1 Four contaminated samples not included.

2 No algae were available at one of the stations.

* 95% confidence level given when applicable. Whenever samples below the detection limit are included in the computation of the average, the average is shown as a "less than" value.

6.0 NON-RADIOACTIVE CHEMICAL RELEASES

6.1 Scheduled Chemical Waste Releases

Scheduled chemical waste releases to the circulating water system for the period of January 1, 1985, to June 30, 1985, included 4,133,045 gallons of neutralized clear water waste. The waste water contained 555 pounds of suspended solids and 458,833 pounds of dissolved solids.*

The concentration increases of chemical waste in the circulating water system during the period of chemical releases ranged from 1.531 to 23.182 ppm dissolved solids and from 0.001 to 0.068 ppm suspended solids.**

Plant chemical records indicated that the following amounts of chemicals were released in the form of neutralized waste:

Sodium	114,496 pounds
Sulfate	292,111 pounds

* Chemical releases calculated are based upon each neutralized tank analysis prior to discharge.

** Based on calculations during times of actual discharges for each individual neutralizing tank.

6.2 Miscellaneous Chemical Waste Releases

Miscellaneous chemical waste releases to the circulating water system from the retention pond for the period of January 1, 1985 to June 30, 1985, including 12,210,000 gallons of clear water waste. The waste water contained 1440 pounds of suspended solids and 86,079 pounds of dissolved solids.*

Retention pond analysis and sewage plant chemical records indicate that the following chemicals were released in the form of clear water waste from the retention pond.

Sodium	432 pounds
Chloride	667 pounds
Phosphate	95 pounds

The balance of the dissolved solids were in the form of soluble calcium and magnesium compounds resulting from the in-plant makeup water cold lime softening process.

* Chemical release calculations are based on retention pond and sewage plant effluent analyses during the period January 1, 1985 to June 30, 1985.

7.0 CIRCULATING WATER SYSTEM OPERATIONS

The circulating water system operation during this reporting period for periods of plant operation is described in Table 7-1.

8.0 LEAK TESTING OF RADIOACTIVE SOURCES

During the reporting period, all applicable sealed radioactive sources were leak tested according to Technical Specification requirement 15.4.12. Leak test results were all $<0.005 \mu\text{Ci}$.

TABLE 7-1

CIRCULATING WATER SYSTEM OPERATION
1985

		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>
Average Volume Cooling Water Discharge, Million Gal/Day	UNIT 1	299.7	298.1	318.3	338.5(1)	(1)	475.9(1)
	UNIT 2	276.7	294.6	318.8	552.6	571.3	573.5
Average Cooling Water Intake Temperature Degrees F	UNIT 1	39.4	37.2	36.7	38.3(1)	(1)	49.6(1)
	UNIT 2	39.4	37.2	36.7	42.2	46.7	49.3
Average Cooling Water Discharge Temperature Degrees F	UNIT 1	72.6	70.2	67.5	57.3(1)	(1)	71.4(1)
	UNIT 2	74.7	72.0	67.8	60.1	65.7	68.8
Average Ambient Lake Temperature Degrees F		35.5	36.2	35.9	41.7	44.9	49.4

(1) Unit 1 refueling shutdown from 04-05-85 to 06-19-85.

9.0 ERRATUM FOR 1984 SEMIANNUAL MONITORING REPORTS

A confirmatory measurements program conducted on the Point Beach Nuclear Plant gamma spectroscopy system identified incorrect radioiodine charcoal cartridge calibration factors for one of the four GeLi detectors. The calibration factors used to quantify radioiodines in gaseous effluents were found to be non-conservative by a factor of approximately three (3). The gaseous effluent radioiodine values determined on the one detector have been corrected and the appropriate revisions have been made to the gaseous effluent release data. Revised Tables 2-1 for gross activity and corrected radioiodine values for Tables 2-2 for both 1984 Semiannual Monitoring Reports are presented herein. The appropriate changes should be made to the corresponding tables in the 1984 reports.

REVISED

TABLE 2-1

RADIOACTIVE AIRBORNE RELEASE SUMMARY
PERIOD OF JANUARY 1, 1984 TO JUNE 30, 1984

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total</u>
Total Curies Released (Excluding Tritium)	3.94E+00	2.83E+00	6.51E+00	7.59E+00	1.52E+00	8.35E+00	3.07E+01
Total Xe-133 Equivalent Curies Released (1)	4.13E+01	3.71E+01	5.38E+01	1.26E+02	1.55E+02	7.20E+01	4.85E+02
Average Release Rate (Curies/Second) (2)	1.54E-05	1.48E-05	2.01E-05	4.86E-05	5.79E-05	2.78E-05	
Percent of Annual Technical Specifica- tion Limits (3)	7.71E-03	7.41E-03	1.00E-02	2.43E-02	2.89E-02	1.39E-02	
Maximum Hourly Average Release Rate (Curies/Second) (4)	3.54E-05	4.79E-04	5.08E-03	1.36E-03	2.33E-03	1.19E-04	
Monthly Average Site Boundary Concentra- tion ($\mu\text{Ci/cc}$) (2)	2.31E-11	2.22E-11	3.01E-11	7.29E-11	8.68E-11	4.17E-11	

(1) All gaseous particulate releases are converted to "Xe-133 equivalent" for calculational purposes using the ratio $\text{MPC}(\text{Xe-133})/\text{MPC}(\text{i})$. MPC's for isotopes of iodine and particulate with half-lives longer than eight days are reduced by a factor of 700.

(2) Averaged over one month and based on Xe-133 equivalent.

(3) Annual average Technical Specification limits are 0.2 Ci/sec, Xe-133 based on $X/Q:1.5\text{E-}06 \text{ sec./m}^3$. Maximum Technical Specification limits are 2.0 Ci/sec. Xe-133 based on $X/Q:1.5\text{E-}06 \text{ sec/m}^3$.

(4) Expressed as Xe-133 equivalent.

REVISED

TABLE 2-1

RADIOACTIVE AIRBORNE RELEASE SUMMARY
PERIOD OF JULY 1, 1984 TO DECEMBER 31, 1984

	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	<u>Total</u>
Total Curies Released (Excluding Tritium)	1.88E+01	7.99E+00	8.68E+00	8.90E+00	5.41E+00	1.25E+01	6.23E+01
Total Xe-133 Equivalent Curies Released (1)	2.59E+02	3.36E+02	4.47E+02	8.07E+02	8.08E+01	1.19E+02	2.05E+03
Average Release Rate (Curies/Second) (2)	9.67E-05	1.25E-04	1.72E-04	3.01E-04	3.12E-05	4.44E-05	
Percent of Annual Technical Specifica- tion Limits (3)	4.84E-02	6.27E-02	8.62E-02	1.51E-01	1.56E-02	2.22E-02	
Maximum Hourly Average Release Rate (Curies/Second) (4)	1.15E-04	2.28E-04	4.11E-04	2.69E-04	5.08E-05	1.59E-03	
Monthly Average Site Boundary Concentra- tion (μ Ci/cc) (2)	1.45E-10	1.88E-10	2.59E-10	4.52E-10	4.68E-11	6.66E-11	

(1) All gaseous particulate releases are converted to "Xe-133 equivalent" for calculational purposes using the ratio MPC(Xe-133)/MPC(i). MPC's for isotopes of iodine and particulate with half-lives longer than eight days are reduced by a factor of 700.

(2) Averaged over one month and based on Xe-133 equivalent.

(3) Annual average Technical Specification limits are 0.2 Ci/sec, Xe-133 based on $X/Q:1.5E-06 \text{ sec./m}^3$. Maximum Technical Specification limits are 2.0 Ci/sec. Xe-133 based on $X/Q:1.5E-06 \text{ sec/m}^3$.

(4) Expressed as Xe-133 equivalent.

Corrections to past semiannual reports are to be made as follows:

TABLE 2-2
RADIOACTIVE AIRBORNE RELEASE SUMMARY
PERIOD OF JANUARY 1, 1984 TO JUNE 30, 1984

<u>Nuclides Released</u>	<u>January (Curies)</u>	<u>February (Curies)</u>	<u>March (Curies)</u>	<u>April (Curies)</u>	<u>May (Curies)</u>	<u>June (Curies)</u>	<u>Total (Curies)</u>
I-131	7.76E-06	3.33E-06	3.15E-06	1.29E-05	4.26E-05	1.21E-05	8.18E-05
I-133	2.32E-06	1.52E-06	8.86E-06	2.86E-05	1.11E-04	1.37E-05	1.66E-04

TABLE 2-2
RADIOACTIVE AIRBORNE RELEASE SUMMARY
PERIOD OF JULY 1, 1984 TO DECEMBER 31, 1984

<u>Nuclides Released</u>	<u>July (Curies)</u>	<u>August (Curies)</u>	<u>September (Curies)</u>	<u>October (Curies)</u>	<u>November (Curies)</u>	<u>December (Curies)</u>	<u>Total (Curies)</u>
I-131	4.63E-05	7.69E-05	1.35E-04	2.49E-04	1.34E-05	2.16E-05	5.42E-04
I-132	<MDA	<MDA	<MDA	2.13E-03	<MDA	<MDA	2.13E-03
I-133	4.56E-05	1.74E-04	8.73E-05	1.84E-05	1.38E-05	2.51E-05	3.64E-04



Wisconsin Electric POWER COMPANY

231 W. MICHIGAN, P.O. BOX 2046. MILWAUKEE, WI 53201

August 29, 1985

VPNPD-85-293

NRC-85-97

Mr. H. R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Dear Mr. Denton:

DOCKET NOS. 50-266 AND 50-301
SEMIANNUAL MONITORING REPORT
POINT BEACH NUCLEAR PLANT, UNITS 1 and 2

Enclosed is the Semiannual Monitoring Report for the Point Beach Nuclear Plant, Units 1 and 2, for the period from January 1 through June 30, 1985. This report is submitted in accordance with Technical Specification 15.6.9.3.C and contains information regarding plant releases, solid waste and new and spent fuel shipments, environmental monitoring, circulating water system operations, and leak testing of sources during this reporting period. Forty bound copies of this report are being forwarded to you under separate cover.

Very truly yours,

Vice President-Nuclear Power

C. W. Fay

Enclosure

Copy to NRC Resident Inspector

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