

WISCONSIN ELECTRIC

POWER COMPANY

POINT BEACH NUCLEAR PLANT

UNIT NOS. 1 AND 2

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SEMIANNUAL
MONITORING REPORT
July 1, 1984 through December 31, 1984

U.S. Nuclear Regulatory Commission
Docket Nos. 50-266 and 50-301
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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 11.777 Curies which included 11.078 Curies of processed radioactive waste and primary coolant system letdown, 0.166 Curies of Unit 1 steam generator blowdown and 0.533 Curies of Unit 2 steam generator blowdown. Detectable activity in retention pond effluent totaled 0.00028 curies. The total tritium release for this reporting period was 1067.5 Curies, which included 1067.2 Curies of processed radioactive waste and primary coolant system letdown, 0.086 Curies of Unit 1 steam generator blowdown, 0.246 Curies of Unit 2 steam generator blowdown, and 0.00 Curies of retention pond effluent. All radioactive liquid releases to Lake Michigan were made through the circulating water discharge.

1.1 Additions to Semiannual Monitor Report January 1, 1984 through June 30, 1984

	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total (Ci)</u>
Total Activity Released, Ci				
Gross Alpha	≤MDA	4.07E-07	≤MDA	1.96E-03
Average Diluted Discharge Concentration, μCi/cc				
Gross Alpha	≤MDA	7.88E-15	≤MDA	6.02E-11
% MPC	--	2.63E-05	--	2.01E-01

The following data which was not available at time of report preparation should be added to Table 1-2 of the Semiannual Monitoring Report January 1, 1984, through June 30, 1984.

	<u>April</u>	<u>May</u>	<u>June</u>	<u>(6 Month Adjusted Total (Ci))</u>
Sr-89	8.04E-05	2.93E-06	≤MDA	1.22E-04
Sr-90	9.24E-05	7.89E-05	≤MDA	2.19E-04
Alpha	≤MDA	4.07E-07	≤MDA	1.96E-03

TABLE 1-1

RADIOACTIVE LIQUID CIRCULATING WATER RELEASE SUMMARY
PERIOD OF JULY 1, 1984 TO DECEMBER 31, 1984

	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
<u>Total Activity Released, (Ci)</u>							
Gamma Scan	3.21E-03	1.06E-02	6.94E-01	3.88E-07	1.10E+01	5.14E-02	1.18E+01
Gross Alpha	ΣMDA	ΣMDA	ΣMDA	(2)	(2)	(2)	(2)
Tritium	1.49E+07	1.06E+02	9.93E+01	1.53E+02	4.44E+02	1.16E+02	1.07E+03
<u>Total Volumes Released (Gal)</u>							
Processed Waste	9.47E+04	8.38E+04	7.90E+04	3.29E+05	5.42E+05	1.27E+05	1.26E+06
Steam Generator							
Blowdown, U1	2.58E-06	3.54E+06	3.54E+06	2.76E+06	2.71E+06	2.13E+06	1.73E+07
Steam Generator							
Blowdown, U2	2.64E+06	3.38E+06	3.17E+06(1)	(1)	1.44E+06(1)	2.68E+06	1.33E+07
Retention Pond	2.11E+06	1.59E+06	1.67E+06	3.32E+06	3.94E+06	3.09E+06	1.57E+07
Total	7.42E+06	8.59E+06	8.46E+06	6.41E+06	8.63E+06	8.04E+06	4.76E+07
<u>Volume of Dilution Water, (cc)</u>							
	5.81E+13	5.73E+13	5.58E+13	5.99E+13	4.98E+13	3.51E+13	3.16E+14
<u>Average Diluted Discharge Concentration (pCi/cc)-</u>							
Gross Gamma	5.52E-11	1.84E-10	1.24E-08	6.48E-10	2.21E-07	1.47E-09	
% MPC	1.05E-03	2.81E-03	1.07E-01	1.21E-02	3.41E-01	4.24E-02	
Gross Alpha	ΣMDA	ΣMDA	ΣMDA	(2)	(2)	(2)	
% MPC	--	--	--	(2)	(2)	(2)	
Tritium	2.56E-06	1.85E-06	1.78E-06	2.55E-06	8.92E-06	3.32E-06	
% MPC	8.55E-02	6.17E-02	5.93E-02	8.51E-02	2.97E-01	1.11E-01	
<u>Maximum Discharge Concentration During Release Period, (pCi/cc)</u>							
Gross Gamma	4.71E-09	4.48E-09	7.54E-08	2.58E-08	1.50E-06	1.25E-07	
Tritium	1.10E-04	6.66E-05	9.92E-05	1.22E-04	1.82E-04	1.22E-04	

(1) Unit 2 refueling shutdown 09-29-84 to 11-19-84

(2) Data not received at time of reporting

TABLE 1-2

ISOTOPIC COMPOSITION OF CIRCULATING WATER DISCHARGES
PERIOD OF JULY 1, 1984 TO DECEMBER 31, 1984

<u>Nuclides Released</u>	<u>Jul (Curies)</u>	<u>Aug (Curies)</u>	<u>Sept (Curies)</u>	<u>Oct (Curies)</u>	<u>Nov (Curies)</u>	<u>Dec (Curies)</u>	<u>Total (Curies)</u>
Tritium	1.49E+02	1.06E+02	9.93E+01	1.53E+02	4.44E+02	1.16E+02	1.07E+03
I-131	6.11E-05	2.18E-04	6.36E-04	3.30E-04	1.79E-04	1.73E-03	3.15E-03
I-132	≤MDA	≤MDA	2.73E-03	3.20E-03	2.41E-03	2.50E-03	1.08E-02
I-133	≤MDA	1.52E-05	5.04E-03	3.67E-03	4.01E-03	6.82E-03	1.96E-02
I-134	≤MDA	≤MDA	2.31E-03	1.98E-03	7.67E-04	7.77E-04	5.83E-03
I-135	≤MDA	≤MDA	3.62E-03	1.25E-03	2.55E-03	1.36E-03	8.78E-03
Xe-133	3.34E-04	9.35E-04	5.53E-04	1.05E-03	1.71E-02	2.71E-04	2.02E-02
Kr-85M	≤MDA	≤MDA	≤MDA	≤MDA	1.29E-04	≤MDA	1.29E-04
Xe-133M	≤MDA	≤MDA	≤MDA	≤MDA	1.26E-04	≤MDA	1.26E-04
Xe-135	5.75E-04	1.56E-04	4.93E-04	9.08E-04	5.44E-04	1.40E-03	4.08E-03
Xe-135M	≤MDA	≤MDA	3.35E-04	2.45E-04	2.72E-04	3.30E-04	1.18E-03
Xe-131M	≤MDA	≤MDA	≤MDA	≤MDA	1.81E-04	≤MDA	1.81E-04
Cd-109	≤MDA	≤MDA	≤MDA	≤MDA	5.59E-04	≤MDA	5.59E-04
Co-57	≤MDA	1.81E-05	≤MDA	≤MDA	1.82E-02	2.94E-05	1.82E-02
Ce-144	2.76E-05	7.04E-04	≤MDA	7.79E-05	2.94E-02	4.66E-05	3.03E-02
Ce-141	≤MDA	≤MDA	1.15E-06	2.37E-05	1.60E-02	≤MDA	1.60E-02
Te-132	≤MDA	≤MDA	≤MDA	8.49E-05	≤MDA	≤MDA	8.49E-05
Cr-51	≤MDA	≤MDA	≤MDA	7.72E-04	1.98E+00	4.31E-03	1.99E+00
Sn-113	≤MDA	1.33E-05	≤MDA	≤MDA	3.97E-02	1.49E-04	3.99E-02
Sb-125	≤MDA	2.40E-04	≤MDA	2.25E-04	6.24E-02	4.32E-04	6.33E-02
Ru-103	≤MDA	≤MDA	≤MDA	8.94E-05	5.08E-02	1.83E-04	5.11E-02
Ba-140	≤MDA	≤MDA	1.15E-03	1.17E-04	≤MDA	≤MDA	1.27E-03
Cs-134	1.68E-04	1.28E-03	9.32E-04	2.68E-03	2.16E-02	2.44E-03	2.91E-02
Ru-106	1.05E-04	2.74E-04	≤MDA	≤MDA	≤MDA	≤MDA	3.79E-04
Ag-110M	9.94E-04	1.39E-04	≤MDA	≤MDA	4.78E-02	5.38E-04	4.95E-02
Cs-137	4.54E-04	3.05E-03	2.08E-03	6.59E-03	5.08E-02	6.16E-03	6.91E-02

TABLE 1-2 (continued)

<u>Nuclides Released</u>	<u>Jul (Curies)</u>	<u>Aug (Curies)</u>	<u>Sept (Curies)</u>	<u>Oct (Curies)</u>	<u>Nov (Curies)</u>	<u>Dec (Curies)</u>	<u>Total (Curies)</u>
Zr-95	≤MDA	4.98E-05	9.18E-03	≤MDA	1.70E-01	4.10E-04	1.80E-01
Zr-97	1.06E-05	≤MDA	≤MDA	≤MDA	≤MDA	1.33E-05	2.39E-05
Nb-95	≤MDA	8.57E-05	≤MDA	1.29E-04	2.60E-01	8.97E-04	2.61E-01
Co-58	2.45E-05	1.72E-04	1.82E-06	4.19E-03	6.45E+00	1.63E-02	6.47E+00
Mn-54	1.56E-05	9.25E-05	≤MDA	1.67E-04	1.03E-01	2.84E-04	1.04E-01
Fe-59	≤MDA	≤MDA	≤MDA	≤MDA	5.70E-02	1.55E-04	5.72E-02
Zn-65	≤MDA	≤MDA	≤MDA	≤MDA	2.57E-02	≤MDA	2.57E-02
Co-60	4.36E-04	2.97E-03	7.11E-05	5.93E-03	1.47E+00	3.14E-03	1.48E+00
Na-24	≤MDA	≤MDA	6.64E-01	≤MDA	≤MDA	≤MDA	6.64E-01
Cs-138	≤MDA	≤MDA	≤MDA	≤MDA	5.86E-03	≤MDA	5.86E-03
K-40	≤MDA	≤MDA	2.76E-04	≤MDA	≤MDA	≤MDA	2.76E-04
La-140	≤MDA	≤MDA	≤MDA	7.30E-05	≤MDA	≤MDA	7.30E-05
Sb-124	≤MDA	≤MDA	≤MDA	7.85E-05	7.07E-02	1.55E-04	7.09E-02
Rb-88	≤MDA	≤MDA	≤MDA	≤MDA	3.54E-02	≤MDA	3.54E-02
Nb-97	≤MDA	1.44E-04	8.31E-05	4.93E-03	3.79E-04	5.41E-04	6.06E-03
Sr-89	≤MDA	≤MDA	5.42E-04	*	*	*	*
Sr-90	1.58E-05	≤MDA	3.72E-05	*	*	*	*
TOTAL	3.21E-03	1.06E-02	6.94E-01	3.88E-02	1.10E+01	5.14E-02	1.18E+01

NOTE: * Data Unavailable at Time of Report.

1.3 Additions to the Semi-Annual Report, January 1, 1984 through June 30, 1984.

The following data which was not available at the time of the report preparation should be added to Table 1-3 in Section 1.0 of the Semi-Annual Monitoring Report covering the period January 1, 1984, through June 30, 1984.

TABLE 1-3
SUBSOIL SYSTEM DRAINS
TRITIUM SUMMARY

January 1, 1984 THROUGH June 30, 1984

	<u>LOCATION</u>				<u>TOTALS</u>
	<u>S-1</u>	<u>S-3</u>	<u>S-9</u>	<u>S-10</u>	
<u>First Quarter</u>					
H ³ (μCi/cc)	1.61E-06	5.70E-07	≤MDA	2.08E-06	-
Aver. Flow, gpd	23895	5365	1470	6350	-
<u>Second Quarter</u>					
H ³ (μCi/cc)	6.04E-07	1.14E-06	≤MDA	5.04E-07	-
Aver. Flow, gpd	8822	4027	29433	16907	-
<u>Semiannual Totals</u>					
Total Released, Ci	1.75E-02	2.63E-03	≤MDA	7.15E-03	2.73E-02
Total flow, gal	2.98E+06	8.57E+06	2.81E+06	1.63E+06	1.60E+07

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 two gas decay tank releases during this report period.

2.1 Additions to the Semiannual Report, January 1, 1984, through June 30, 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 January 1, 1984, through June 30, 1984.

	<u>April</u>	<u>May</u>	<u>June</u>	<u>(6 Month Adjusted Total, Ci</u>
Sr-89	≤MDA	≤MDA	≤MDA	≤MDA
Sr-90	2.90E-08	2.99E-08	2.90E-08	8.79E-08

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)	2.37E+02	2.73E+02	2.82E+02	6.77E+02	7.48E+01	8.69E+01	1.63E+03
Average Release Rate (Curies/Second) (2)	8.85E-05	1.02E-04	1.09E-04	2.31E-04	2.89E-05	3.25E-05	
Percent of Annual Technical Specification Limits (3)	4.42E-02	5.10E-02	5.45E-02	1.15E-01	1.44E-02	1.62E-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 Concentration (μ Ci/cc) (2)	1.33E-10	1.53E-10	1.63E-10	3.46E-10	4.33E-11	4.87E-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 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 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>
Tritium	1.82E+00	1.26E+00	2.56E+00	8.94E+01	7.91E+00	4.18E+00	1.07E+02
Noble Gases							
Xe-133	3.12E+00	1.72E+00	1.83E+00	1.68E+00	2.21E+00	4.92E+00	1.55E+01
Kr-85M	7.68E-01	3.14E-01	3.80E-01	4.13E-01	1.71E-01	5.45E-01	2.59E+00
Kr-88	1.73E+00	6.54E-01	7.66E-01	8.44E-01	3.33E-01	9.46E-01	5.27E+00
Xe-133M	9.93E-02	5.30E-02	5.00E-02	5.43E-02	9.04E-02	1.04E-01	4.51E-01
Xe-135	3.60E+00	1.53E+00	1.74E+00	1.90E+00	1.01E+00	2.83E+00	1.26E+01
Xe-138	5.26E+00	1.59E+00	1.63E+00	1.31E+00	4.47E-01	9.15E-01	1.12E+01
Kr-87	1.36E+00	4.37E-01	4.91E-01	5.30E-01	2.63E-01	4.30E-01	3.51E+00
Xe-135M	1.72E+00	5.21E-01	4.83E-01	4.25E-01	1.87E-01	3.20E-01	3.66E+00
Ar-41	4.40E-01	1.17E-01	8.21E-02	4.85E-02	4.73E-02	1.29E-01	8.64E-01
Kr-85	7.37E-01	1.06E+00	1.22E+00	1.69E+00	6.45E-01	1.32E+00	6.67E+00
Xe-131M	<MDA	<MDA	<MDA	<MDA	<MDA	4.51E-02	4.51E-02
Particulates with half-lives less than eight days							
Te-132	2.29E-08	<MDA	<MDA	<MDA	<MDA	<MDA	2.29E-08
Mo-99	1.09E-10	<MDA	<MDA	<MDA	<MDA	<MDA	1.09E-10
Cs-138	2.38E-03	2.23E-05	<MDA	8.89E-04	4.41E-07	<MDA	3.29E-03
Rb-88	1.52E-03	7.79E-07	2.33E-06	1.13E-07	1.32E-06	1.46E-09	1.53E-03
Nb-97	5.88E-08	5.34E-09	<MDA	<MDA	<MDA	<MDA	6.41E-08

TABLE 2-2 (Continued)
 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>
Particulates with half-lives greater than eight days and iodines							
I-131	3.71E-05	5.92E-05	6.93E-05	1.97E-04	1.15E-05	1.05E-05	3.85E-04
I-132	<MDA	<MDA	<MDA	1.91E-03	<MDA	<MDA	1.91E-03
I-133	4.05E-05	1.25E-04	3.70E-05	7.79E-06	1.00E-05	8.38E-06	2.29E-04
Sr-89	2.09E-07	2.09E-07	2.03E-07	*	*	*	*
Sr-90	≤MDA	≤MDA	≤MDA	*	*	*	*
Cd-109	5.49E-06	2.55E-04	1.69E-06	8.03E-05	7.45E-06	2.73E-05	3.77E-04
Sb-125	<MDA	<MDA	<MDA	<MDA	<MDA	1.48E-07	1.48E-07
Cs-134	5.19E-08	<MDA	3.77E-07	1.72E-07	5.23E-07	1.61E-07	1.29E-06
Cs-137	1.19E-06	9.19E-06	2.29E-06	4.86E-06	3.32E-05	1.04E-05	6.11E-05
Nb-95	<MDA	<MDA	<MDA	4.47E-08	4.65E-08	<MDA	9.12E-08
Co-58	5.17E-07	<MDA	1.88E-07	4.32E-06	4.26E-06	7.33E-07	1.00E-05
Co-60	7.19E-08	8.91E-06	<MDA	1.88E-06	2.46E-06	3.82E-06	1.71E-05
Be-7	<MDA	3.11E-05	2.68E-06	<MDA	<MDA	<MDA	3.38E-05
Alpha	<MDA	<MDA	4.40E-06	4.31E-06	4.12E-07	<MDA	9.12E-06

NOTE: * Data Unavailable at Report Time.

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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>
07-03-84	183.0	1.870
09-07-84	1014.4	0.084
11-15-84	1245.0	0.281
12-01-84	126.0	201.600 (1)
12-10-84	178.0	2.870
12-15-84	126.0	330.000 (1)
12-17-84	178.0	2.870
12-18-84	1025.0	0.266
12-18-84	178.0	2.170

(1) Involved spent resin.

4.0 NEW & SPENT FUEL SHIPMENTS AND RECEIPTS

During this reporting period, a total of 32 new fuel assemblies were received from Westinghouse Electric Corporation for Unit 2. The new fuel assemblies received for Unit 2 were used for the Fall, 1984, refueling.

There were 52 spent fuel assemblies received from the West Valley, New York and Morris, Illinois storage facilities during this reporting period. All spent fuel shipments were concluded on October 14, 1984.

5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING

5.1 Additions to Semiannual Monitoring Report January 1, 1984 through June 30, 1984.

<u>No.</u>	<u>Sample Type</u>	<u>Low</u>	<u>Average</u>	<u>High</u>	<u>Units</u>
<u>Lake Water</u>					
9	Sr-89	--	all <5	--	pCi/l
1	Sr-89	--	<5.9	--	pCi/l
10	Sr-90	<1	<1.2±0.6	<1.9	pCi/l

5.2 Radiological environmental monitoring conducted by Point Beach Nuclear Plant from July 1, 1984, through December 31, 1984, consisted of air filters, gamma dose, vegetation, lake water, well water, milk, shoreline silt, soil, algae, and fish samples collected and analyzed in accordance with Technical Specification 15.4.10.

No measurements with significant departures from normal 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>					
42	Quarterly	0.92	1.45 ± 0.49	2.06	mR/wk
<u>Air Filters</u>					
148 ¹	Gross Beta	0.01	0.02 ± 0.02	0.04	pCi/m ³
156 ²	Radioiodine	---	all <0.03	---	pCi/m ³
11 ²	Gamma Scan	---	all <0.01	---	pCi/m ³
<u>Milk</u>					
18	Radioiodine	---	all <0.5	---	pCi/l
18	Sr-89	---	all <5.0	---	pCi/l
18	Sr-90	<0.4	<1.2 ± 1.1	2.3	pCi/l
18	Gamma Scan	---	all <5	---	pCi/l
<u>Lake Water</u>					
30	Gross Beta	1.8	3.6 ± 4.3	13.6	pCi/l
30	Gamma Scan	<10	11.4 ± 15.5	53.3	pCi/l
10	Tritium	<0.5	<0.95 ± 2.33	4.26	pCi/l
10	Sr-89	---	all <5	---	pCi/l
10	Sr-90	<1	<1.3 ± 0.5	1.6	pCi/l

<u>No.</u>	<u>Sample Type</u>	<u>Low</u>	<u>Average*</u>	<u>High</u>	<u>Units</u>
<u>Well Water</u>					
2	Gross Beta	<2.3	4.1 ± 5.0	5.9	pCi/l
2	Gamma Scan	---	both <10	---	pCi/l
2	Tritium	---	both <0.5	---	pCi/ml
2	Sr-89	---	Both <5	---	pCi/l
2	Sr-90	---	both <1	---	pCi/l
<u>Vegetation</u>					
16	Gross Beta	9.7	19.3 ± 12.0	31.9	pCi/g (dry)
16	Gamma Scan	---	all <1	---	pCi/g (dry)
<u>Soil</u>					
8	Gross Beta	10.0	24.1 ± 13.3	30.5	pCi/g (dry)
8	Gamma Scan:				
	Cs-137	---	all <1	---	pCi/g (dry)
	Others	---	all <1	---	pCi/g (dry)
<u>Algae</u>					
4	Gross Beta	2.4	9.6 ± 16.4	20.9	pCi/g (dry)
4	Gamma Scan	---	all <5	---	pCi/g (dry)
<u>Fish</u>					
12	Gross Beta	4.5	9.6 ± 4.2	11.9	pCi/g (dry)
12	Gamma Scan	---	all <1	---	pCi/g (dry)
<u>Shoreline Sediment</u>					
5	Gross Beta	4.5	8.6 ± 9.0	16.4	pCi/g (dry)
5	Gamma Scan	---	all <1	---	pCi/g (dry)

*95% confidence interval 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.

¹Eight contaminated samples not included.

²One contaminated sample not included.

6.0 NON-RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

In accordance with Amendment Nos. 29 and 33 to Facility Operating Licenses DPR-24 and DPR-27, respectively, dated November 4, 1977, the Environmental Technical Specifications for the Point Beach Nuclear Plant, Units 1 and 2, were modified to allow temporary suspension of the non-radiological environmental monitoring program pending NRC review of the summary report of the five years of monitoring. As a result, the semiannual report specified by Item 16.6.2.a of the Technical Specification is not applicable.

7.0 NON-RADIOACTIVE CHEMICAL RELEASES

7.1 Scheduled Chemical Waste Releases

Scheduled chemical waste releases to the circulating water system for the period of July 1, 1984, to December 31, 1984, included 4,844,170 gallons of neutralized clear water waste. The waste water contained 792 pounds of suspended solids and 612,778 pounds of dissolved solids.*

The concentration increases of chemical waste in the circulating water system during the period of chemical releases ranged from 1.482 to 119.144 ppm dissolved solids and from 0.000 to 0.055 ppm suspended solids.**

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

Sodium	197,323 pounds
Sulfate	312,875 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.

7.2 Miscellaneous Chemical Waste Releases

Miscellaneous chemical waste releases to the circulating water system from the retention pond for the period of July 1, 1984 to December 31, 1984, including 15,720,000 gallons of clear water waste. The waste water contained 1119 pounds of suspended solids and 52,250 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	393 pounds
Chloride	607 pounds
Phosphate	119 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 analyses during the period July 1, 1984 to December 31, 1984.

8.0 CIRCULATING WATER SYSTEM OPERATIONS

The circulating water system operation during this reporting period for periods of plant operation is described in Table 8-1.

9.0 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 8-1

CIRCULATING WATER SYSTEM OPERATION

		<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
Average Volume Cooling Water Discharge, Million Gal/Day	UNIT 1	482.4	488.3	491.5	510.3	438.6	308.9
	UNIT 2	489.4	505.4	494.1 (1)	(1)	281.5 (1)	263.2
*Average Cooling Water Intake Temperature Degrees F	UNIT 1	51.9	60.3	49.6	48.9	39.6	38.0
	UNIT 2	51.9	60.5	50.0 (1)	(1)	37.1 (1)	38.0
Average Cooling Water Discharge Temperature Degrees F	UNIT 1	71.0	80.2	68.9	67.8	61.7	70.8
	UNIT 2	72.0	80.0	68.4 (1)	(1)	59.6 (1)	82.3

(1) Unit 2 shutdown for refueling from 09-29-84 to 11-20-84.

* Also denotes "ambient lake temperatures" per Technical Specification requirements.

ERRATUM

Table 1-4 was inadvertently omitted from the July 1 - December 31, 1984 Semi-annual Monitoring Report. This table should be inserted between pages 5 and 6.

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. Past semi-annual reports should reflect the following additions:

Semi-annual report: 07-01-83 to 12-31-83:

<u>Date of Application</u>	<u>Gallons</u>	<u>Radionuclides (μCi)</u>
12-30-83	8400	Co-58: 17.71 Co-60: 59.45 Cr-51: 15.51 Cs-134: 5.06 Cs-137: <u>11.35</u>
		TOTAL 109.08 μ Ci

Semi-annual report: 01-01-84 to 06-30-84:

<u>Date of Application</u>	<u>Gallons</u>	<u>Radionuclides (μCi)</u>
04-11-84	14,200	Co-60: 42.70

Semi-annual report: 07-01-84 to 12-31-84:

<u>Date of Application</u>	<u>Gallons</u>	<u>Radionuclides (μCi)</u>
12-07-84	14,200	Co-58: 4.40 Co-60: <u>23.70</u>
		TOTAL 28.10



Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

March 1, 1985

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 July 1 through December 31, 1984. 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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