

ATTACHMENT 1

Consumers Power Company
Big Rock Point Plant
Docket 50-155

1984 ANNUAL ENVIRONMENTAL
REPORT ADDENDUM

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PDR ADOCK 05000155
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4 Pages

Big Rock Point 1984 Annual Environmental
Report Addendum

A. Radiological Environmental Monitoring

1. Sampling Summary

This supplement to the Big Rock Point 1984 Environmental Monitoring Annual Report incorporates a total of 27 pieces of analytical data that were unavailable during initial report preparation. The following media types affected by use of the additional data are: 1) aquatic biota, 2) sediments and 3) vegetation (food crops). There were no significant changes in data interpretation with the incorporation of the completed results. A listing of the highest, lowest and average annual concentration of isotopes per specified media is presented in Table RSD-E-06B with any changes indicated in the right-hand margin.

2. Environmental Dose Estimates

Levels of radioactive material in environmental media as reported in the 1984 Big Rock Point Environmental Monitoring Annual Report remain the same.

B. Discussion and Interpretation of Results

1. Aquatic Biota: A total of 13 previously unavailable aquatic biota sample results (1-gross beta, 4-Sr89, 4-Sr90 and 4-other gammas) were incorporated into the 1984 Environmental Monitoring Annual Report. There were no data reporting changes for any locations. Due to an oversight, Sr89 was not originally noted in Table RSD-E-06B for 1984. No gross beta statistical levels were exceeded.
2. Bottom Sediments: A total of 5 previously unavailable sediment sample results (1-gross beta, 4-Sr89 and 4-Sr90) were incorporated into the 1984 Big Rock Point Environmental Monitoring Annual Report. While there were no changes in locations detailing the highest, lowest and average isotope concentrations; a change was noted in the amount of Sr89 and Sr90 at 9 Mile Point. The levels of these isotopes increased slightly (including average concentration). No reporting levels were exceeded.
3. Vegetation (food crops): A total of 9 previously unavailable food crop sample results (1-gross beta, 4-Sr89 and 4-Sr90) were incorporated into the 1984 Big Rock Point Environmental Monitoring Annual Report. Again, there were no changes in locations detailing the highest, lowest and average isotope concentrations; however, a decrease was noted in the amount of Sr89 at the garden location, 3 mi E of BRP (35 pCi/g to .27 pCi/g). No reportable levels for Sr89 or Sr90 were exceeded.

TABLE RSD-E-06A

BIG ROCK POINT PLANT
RADIOLOGICAL ENVIRONMENTAL MONITORING
SAMPLING AND ANALYSIS SUMMARY
JANUARY 1 TO DECEMBER 31, 1984

<u>Medium</u>	<u>Description</u>	<u>Type of Analysis</u>	<u>Frequency</u>	<u># of Sampling Location</u>	<u># of Samples Collected</u>	<u>Number of Locations Significantly Above Concurrent Background</u>
Air	Continuous @ approx 2 cfm	Gross Beta, I-131	Weekly	7	364	none
Lake Water	Composite	Gross Beta, H-3	Monthly	2	24	none
Well Water	Grab	Gross Beta	Monthly	2	24	none
Milk	Grab	I-131, Sr-89/90,	Monthly	4	46	none
Gamma Dose	Continuous	TLD	Monthly Quarterly Annual	18 18 18	213 70 17	none none none
Aquatic Biota	Grab	Gross Beta, Sr-89/90, Gamma Isotopic	Semiannually	5	44	none
Sediment	Grab	Gross Beta, Sr-89/90, Gamma Isotopic	Semiannually	2	4	none
Vegeta- tion (food crops)	Grab	Gross Beta, Sr-89/90, Gamma Isotopic	In season when available	5	11	none

TABLE RSD-E-06B

BIG ROCK POINT PLANT
HIGH, LOW AND AVERAGE CONCENTRATION
FOR THE HIGHEST AVERAGE SAMPLING LOCATION
JANUARY 1 to DECEMBER 31, 1984

Media	Type of Analysis	Lower Limit ^(a) of Detection	Location	High	Low	Average
Air (pCi/m ³)	Gross Beta I-131	0.01 <0.02	Charlevoix (4.5 miles SW)	4.6 <LLD	0.9 <LLD	2.33 <LLD
Lake Water (pCi/l)	Gross Beta H-3	1.0 100.0	Discharge Discharge	5.1 230	2.1 <100.0	3.0 188.3
Well Water (pCi/l)	Gross Beta	1.0	Site	2.3	<1.0	1.6
Milk (pCi/l)	I-131 Cs-137 Sr-89 Sr-90	0.5 1.0 5.0 1.0	all RM (6.5 mi SSE) all RM (6.5 mi SSE)	<LLD 9.1 <LLD 6.5	<LLD <5.0 <LLD 2.3	<LLD 5.3 <LLD 4.27
Gamma Dose (mR/month)	TLD (Monthly)		Traverse City (50 mi SSW)	7.5	4.7	6.1
(mR/quarter)	TLD (Quarterly)		Susan Lake (3.5 mi SE)	16.9	12.1	15.0
	TLD (Annual)		9 mi pt (3 mi E) Petoskey (10.5 mi E)	-- --	-- --	54.2
Biota (pCi/g Wet) ^(b)	Gross Beta (algae)	1.0	9 mi pt (3 mi E)	4.4	3.0	3.7
	Sr-90 (crayfish)	.005	½ mile south	.28	.17	.22
	Cs-137 (periphyton)	.08	½ mile north	0.80	0.29	0.55
	Co-60 (algae)	.05	Discharge	0.25	0.25	0.25
	Cs-134 (all locations)	.08	all	<LLD	<LLD	<LLD
	Mn-54 (periphyton)	.08	Discharge	1.03	1.03	1.03
	Sr-89 (algae)	.025	Discharge	2.1	0.08	1.09
Sediment (pCi/g dry)	Gross Beta	1.0	9 mi pt (3 mi E)	7.6	7.1	7.4
	Cs-134	.08	all	<LLD	<LLD	<LLD
	Cs-137	.08	9 mi pt (3 mi E)	0.80	0.10	0.45
	Co-60	.05	9 mi pt (3 mi E)	0.07	<.05	0.06
	Sr-89	.025	9 mi pt (3 mi E)	0.27	0.03	0.15
	Sr-90	.005	9 mi pt (3 mi E)	0.033	0.017	0.025

TABLE RSD-E-06B (cont'd)

BIG ROCK POINT PLANT
HIGH, LOW AND AVERAGE CONCENTRATION
FOR THE HIGHEST AVERAGE SAMPLING LOCATION
JANUARY 1 to DECEMBER 31, 1984

<u>Media</u>	<u>Type of Analysis</u>	<u>Lower Limit^(a) of Detection</u>	<u>Location</u>	<u>High</u>	<u>Low</u>	<u>Average</u>
Vegetation (food crops pCi/g wet)	Gross Beta	1.0	3 mi E	6.9	4.8	5.9
	Cs-134	.08	all	<LLD	<LLD	<LLD
	Cs-137	.08	all	<LLD	<LLD	<LLD
	Sr-90	.005	3 mi E	0.24	0.22	0.23
	Sr-89	.025	3 mi E	0.52	0.12	0.27

a. Nominal lower limit of detection (LLD) defined in HASL-300, pgs. D-08-01, 02 and 03.

b. Sr-89, Cs-134 and Mn-54 were below minimum detectable levels.