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March 2, 1990
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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Perry Nuclear Power Plant
Docket No. 50-440
Semiannual Radioactive
Effluent Release Report

Gentlemen:

We are hereby submitting the Semiannual Radioactive Effluent Release Report for the Perry Nuclear Power Plant, Unit 1, for the period of July 1 to December 31, 1989. This report meets the requirements of Regulatory Guide 1.21, as supplemented by Perry Technical Specification Section 6.9.1.7. All effluent releases were within the concentration and release limits specified in the Radiological Effluent Technical Specifications.

Enclosure A of this letter provides additional information for the two comments from the NRC letter dated June 5, 1989, regarding acceptance of the PNPP ODCM, Rev. 3 (TAC No. 69181). This information is a follow-up to our response which was submitted to you with the previous Semiannual Radioactive Effluent Release Report (PY-CEI/NRR-1056L), dated August 29, 1989.

If you have any questions, please feel free to call.

Very truly yours,

A Kaplan

Al Kaplan
Vice President
Nuclear Group

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cc: M. Cass - ANI
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1. Dilution Factors for the Potable Water Pathway for Radioactive Liquid Effluent Releases from PNPP

In our previous response, dated August 29, 1989, we stated we would review the inputs used to determine the dilution factors for the potable water ingestion pathway. The review consisted of a survey to determine changes in potable water systems using Lake Erie as a source, within 50 miles of PNPP. This resulted in some changes to Table 5.1-10 of the PNPP Environmental Report - Operating License Stage. The changes included:

a. Lake County West System - new facility
b. Lake County East System - new facility using the intake tunnel formerly used by IRC Fibers Co.
c. Ohio Water Service (OWC) East System - system replaced by Lake County East System.
d. Kent County (Ontario) Water Supply - new facility.
e. Ashtabula System and Ohio American Water Service Co. are the same facility.
f. Elyria/Lorain Water Systems determined to be outside the 50 mile radius.
g. Painesville Water System was incorrectly listed as 3.9 miles and was revised to agree with Table 5.1-10 of the ER-OLS.
h. Population numbers (served by listed systems) were revised.

A revised table incorporating these changes is provided along with corresponding changes to the Maximum Exposed Individual and Total Population Dilution Factors.

The new Dilution Factor values were incorporated into the ODCM, Table 2.3-10, by TC-8, which is included with the Semiannual Radioactive Effluent Release Report, Attachment No. 9.

Maximum Exposed Individual Dilution Factor

The revised nearest potable water supply is the Lake County East Water intake, 3.5 miles to the west-south-west of PNPP (formerly the IRC Fibers Company intake). Data presented in the Perry Environmental Report - Operating License Stage, Table 5.1-10, "Annual Average Dilution Factors for the Lake Water Intakes within 50 Miles of PNPP", gives a maximum individual dose dilution factor of 32.2 (dilution factor unadjusted for current frequency). This new Dilution Factor for the Maximum Exposed Individual represents a 2% change from the previous value of 31.5.

Total Population Dilution Factor

The total population dilution factor of 314 is population weighted using dilution factors for each of the potable water intakes within 50 miles of PNPP. The change in total Population Dilution Factor is less than 1%.

Intake	Dist. (Mi)	Dir	Population	Fraction of Pop	Dilution Factor	Weighted Dil. Factor
Ohio American Water Serv. Co.	20	ENE	38,300	2.12E-2	187.7	3.98E+0
Conneaut	33	ENE	13,500	7.43E-3	238.2	1.77E+0
Avon Lake	50	WSW	99,500	5.48E-2	388.5	2.13E+1
Cleveland	35	SW	1,437,000	7.92E-1	326.7	2.59E+2
Fairport Harbor	7	WSW	3,200	1.76E-3	154.2	2.71E-1
Lake County East	3.5	WSW	10,258	5.65E-3	107.4	6.07E-1
Lake County West	15	WSW	85,000	4.68E-2	220.0	1.03E+1
Ohio Water Serv.	10	WSW	60,000	3.30E-2	181.9	6.00E+0
Painesville	7.5	WSW	27,000	1.49E-2	159.3	2.37E+0
Kent County Water Supply	50	NW	42,000	2.31E-2	388.5	8.97E+0
TOTALS			1,815,958	1.00E+0	**TOTAL D.F**	**3.14E+2**

Dist, Dir Population = Distance, direction, and population values obtained from the 1989 Engineering Report "Lake Erie Potable Water Facilities and Intakes Within 50 Miles of PNPP", memo SO-11552 "E".

Fraction of Population = The ratio of the population receiving drinking water from that intake to the total population number for all drinking water intakes located within 50 miles of PNPP.

Dilution Factor = Values obtained from the Perry Environmental Report - Operating License Stage, Table 5.1-10 "Annual Average Dilution Factors for Lake Water Intakes Within 50 Miles of PNPP" and Q&R Page 2.1-2. Lake County West dilution factor per interpolation. Kent County Water Supply dilution factor was estimated.

The Weighted Dilution Factor = (Fraction of Population) x (Dilution Factor), based on the population for each drinking water intake: the sum of which is to be used as the potable water total population dilution factor for radioactive liquid effluent releases from PNPP.

2. Milk Sample Control Station

TC-7 to the ODCM includes the revised distance for Milk Control Station 51 (Rettgers Farm). In addition, a new milk control location (No. 69, John Rhodes Farm), located in the SSW meteorological sector, has been added to the REMP sample program, and added to the ODCM by TC 8. The Rhodes farm was incorporated since the SSW meteorological sector represents the least prevalent wind direction. Both TC's are included in the Semiannual Radiological Effluent Release Report, Attachment 9.

NJC/CODED/3157