

MAY 20 1985

Docket Nos.: 50-440  
and 50-441

Mr. Murray R. Edelman, Vice President  
Nuclear Operations Group  
The Cleveland Electric Illuminating Company  
P. O. Box 5000  
Cleveland, Ohio 44101

Dear Mr. Edelman:

Subject: NRC Staff Comments on the Offsite Dose Calculation Manual  
for the Perry Nuclear Power Plant, Unit 1

The staff has completed its initial review of the Offsite Dose Calculation Manual (ODCM) submitted by your letter dated February 28, 1985 and its specific comments on the ODCM are enclosed. It is requested that your staff submit a revised ODCM that resolves the staff's comments. Should your staff wish to discuss the enclosed comments, please advise the Perry Project Manager, John Stefano, accordingly so that appropriate arrangements can be scheduled.

Sincerely,

B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing

Enclosure: As stated

cc: See next page

DISTRIBUTION:

<u>Docket File</u>	JStefano	JSwiff
NRCPDR	OELD	WMeinke
LPDR	ACRS (16)	WGammill
NSIC	EJordan	JHayes
PRC System	JPartlow	JFairobent
LB#1 R/F	BGrimes	
MRushbrook	FCongel	

LB#1:DL  
JStefano:kab  
05/20/85

LB#1:DL  
BJYoungblood  
05/20/85

8505300338 850520  
PDR ADOCK 05000440  
A PDR



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MAY 20 1985

Docket Nos.: 50-440  
and 50-441

Mr. Murray R. Edelman, Vice President  
Nuclear Operations Group  
The Cleveland Electric Illuminating Company  
P. O. Box 5000  
Cleveland, Ohio 44101

Dear Mr. Edelman:

Subject: NRC Staff Comments on the Offsite Dose Calculation Manual  
for the Perry Nuclear Power Plant, Unit 1

The staff has completed its initial review of the Offsite Dose Calculation Manual (ODCM) submitted by your letter dated February 28, 1985 and its specific comments on the ODCM are enclosed. It is requested that your staff submit a revised ODCM that resolves the staff's comments. Should your staff wish to discuss the enclosed comments, please advise the Perry Project Manager, John Stefano, accordingly so that appropriate arrangements can be scheduled.

Sincerely,

A handwritten signature in cursive script, appearing to read "B. J. Youngblood", is written over a printed name.

B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing

Enclosure: As stated

cc: See next page

PERRY

MAY 20 1985

Mr. Murray R. Edelman, Vice President  
Nuclear Operations Group  
The Cleveland Electric  
Illuminating Company  
P. O. Box 5000  
Cleveland, Ohio 44101

cc: Jay Silberg, Esq.  
Shaw, Pittman, & Trowbridge  
1800 M Street, N. W.  
Washington, D. C. 20006

Mr. Larry O. Beck  
The Cleveland Electric  
Illuminating Company  
P. O. Box 97 E-210  
Perry, Ohio 44081

Donald H. Hauser, Esq.  
The Cleveland Electric  
Illuminating Company  
P. O. Box 5000  
Cleveland, Ohio 44101

Resident Inspector's Office  
U. S. Nuclear Regulatory Commission  
Parmly at Center Road  
Perry, Ohio 44081

Regional Administrator  
U. S. NRC, Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Donald T. Ezzone, Esq.  
Assistant Prosecuting Attorney  
105 Main Street  
Lake County Administration Center  
Painesville, Ohio 44077

Ms. Sue Hiatt  
OCRE Interim Representative  
8275 Munson  
Mentor, Ohio 44060

Terry J. Lodge, Esq.  
618 N. Michigan Street  
Suite 105  
Toledo, Ohio 43624

John G. Cardinal, Esq.  
Prosecuting Attorney  
Ashtabula County Courthouse  
Jefferson, Ohio 44047

ENCLOSURE

COMMENTS ON THE PERRY UNIT 1  
OFFSITE/DOSE CALCULATION MANUAL (REV. 0)

Section

Comment

2.0

Provide in section 2 a flow diagram of the liquid radioactive waste treatment systems, including the discharge point and the Radwaste Discharge Radiation Monitor. This should be a simple diagram with as little extraneous detail as possible.

2.0/2.2

All potential release points from the PNPP are not batch releases. Some can be continuous. They include:

- (1) Emergency Service Water Loops;
- (2) Liquid radwaste discharge,  
sanitary discharge; and
- (3) Underdrain system

ODCM should contain a discussion of these release points.

## 2.1.2

From pg 11.2-20 of the FSAR it would appear that mdf=10,000 rather than 30,000 gpm.

## 2.1.3

Use of the factor of 1.25 in Equation 2.1-5 is inappropriate. This section does not address how the Applicant will establish the alarm trip setpoint. Suggest reference to other ODCM's that have been approved. Alarm/trip setpoint should account for effluents such as tritium which are not gamma or X-ray emitting and would not be seen by gamma scintillation detector.

Setpoints are usually established based upon the maximum possible flow. The method presented in Section 2.1.3 would always be based upon the concentration in the release tank and would not be sensitive to changes in release rates.



2.2.1

Equation 2.2-1 should have  $f$  as the maximum possible discharge rate from the given tank.

2.2

In equations (2.2-2) and (2.2-4), use of the limiting MPC<sub>i</sub> of 10 CFR 20, Appendix B, Table II, Column 2 should be specified.

2.3.1

The ODCM should contain sufficient information to enable calculation of doses for the necessary pathways. For use in section 2.3.1, additional site specific information should be provided. Provide a listing of the points of exposure, the points of withdrawal of drinking water and the points of harvest of aquatic food, identifying the location and the dilution factor  $M_p$  for each. Provide

in the ODCM a map showing the locations of the closer drinking water intakes.

#### 2.3.1

In section 2.3.1, the period of time of exposure  $t_b$ , is set at 15 years. This should be the period to the midpoint of plant life; if plant life is to be 40 years, then  $t_b$  should be 20 years.

#### 2.3.2

Section 2.3.2 indicates that the Applicant will perform an analysis of possible impacts through the drinking water pathway with regard to the requirements of 40 CFR 141. Include an explanation of how that analysis will be performed. Provide the necessary site specific data.

3.0

With section 3.0 Gaseous Effluents, provide flow diagrams of gaseous radioactive waste treatment systems leading to each of the four environmental release points. Show the location of each radioactivity release monitor for gaseous effluents. Provide the location and a brief description of each release vent point, including whether the vent is equipped with deflector.

3.0/3.1

The steam packing exhauster should be added to this section as a potential release point.

3.1

The determination of the set point seems to imply that each monitor may be allowed to go above the 500



mrem and 3000 mrem skin limits.

Releases should be apportioned to each release point such that the total from all release points is less than 500 mrem whole body and less than 3000 mrem skin.

### 3.1

Initial estimates of the gaseous source terms for section 3.1.1. should be provided, especially the "mix" i.e., the selection of radionuclides and their relative proportions.

### 3.2

In section 3.2, provide a map of the site showing clearly the Site Boundary and the boundary to the Unrestricted Area. Show the compass directions and a scale of distance, such as provided in Figure 5.1-2.

### 3.2.3

In Section 3.2.3, at the bottom of page 37 reference is made to Table

3.2-15 which is for the average individual. Table 3.2-14, for the maximum individual, should be referenced here instead.

### 3.2.3

The abbreviation "ft" for feet should be used throughout, rather than "f". Use of "f" is confusing because it is also used for the flowrate; in section 3.2.3 it is used both ways in one definition.

### 3.2

Pages 51 through 58 appear to be duplicates of pages 14 through 21. Duplication within the ODCM is not necessary.

### 4.1

In the third paragraph of Section 4.1, the applicant proposes to seek a variance if it is discovered that PNPP operations have violated the 40 CFR 190 standard. The intent of the

variance provision is to permit continued operation while a problem which might lead to a violation is corrected. The variance provision is not a device to expunge a violation which has already occurred.

5.1

In Table 5.1-1, under the Locations column, in addition to the sampling point number, a brief description should be provided, giving the principal characteristics appropriate for locations for each specific type of sample medium listed. Such information complements the information provided in Table 5.1-4.

5.1

Drinking water sampling (Table 5.1-1) should also include the Lake County supply for which the intake is located about 1.5 miles west of PNPP.

5-1

In Table 5.1-4, the sample location descriptions should not rely on markers such as, in No. 8, the rusted manure spreader which may not be sufficiently permanent.

5.1

Figures 5.1-1 and 5.1-2 are not clear enough. Provide either large, clear foldouts or supplement clear versions of these figures with clear figures giving more detail of the vicinity of sampling locations or groups of locations.

5.2

Provide a copy of the latest Land Use Census, used to determine the locations for collecting milk and produce samples and to determine receptor locations for dose calculations for various pathways. Include the date the data was gathered.

## APPENDIX A

PAGES 80/81 Identify  $T_f$  (a figure or algorithm would suffice) and provide a reference.

PAGE 80 Identify the level of measurement for  $u$  (presumably the wind speed at the 10m level).

PAGE 80 Provide the value of  $H_c$ .

PAGE 80 Provide either a figure indicating the relationship of  $\sigma_z$  to stability and downwind distance or an appropriate reference (e.g., Regulatory Guide 1.111).

PAGE 80 The description of the information contained in Tables A-2 through A-5 should specify the data base by identifying "the three FSAR years of meteorological data."

APPENDIX B In the last paragraph of Appendix B, correct the references to tables.