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POOR ORIGINAL

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QUESTIONS ON THREE MILE ISLAND NUCLEAR POWER PLANT -  
DOCKET NO. 50-289

Attached are questions on the Three Mile Island Nuclear  
Power Plant Docket No. 50-289. Additional questions may  
arise as review progresses.

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Site, Environmental & Radiation  
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Enclosure:  
Three Mile Island  
Questions

cc w/enclosure:  
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THREE MILE ISLAND NUCLEAR POWER PLANT

DOCKET NO. 50-209

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Environmental Monitoring

The environmental monitoring program does not include sampling of river sediments as is being done in the program for Three Mile Island Unit 2 (FSAR, pages 2-18 and 2-18a, TMI-2, Docket No. 50-320). Please discuss this difference in the two programs.

Meteorology

To evaluate the meteorological characteristics of the site, as determined by the data collected onsite, please provide the following:

- a. The method used to categorize "calm" wind conditions.
- b. The cited reference No. 7 (Page 2-45) defines and includes discussion of "non-steady" winds in estimating site meteorological characteristics. How were the non-steady winds in estimating site meteorological characteristics. How were the non-steady considered in establishing the values in Tables 2-10 through 2-15 of the FSAR?
- c. The basis for the K/Q values in Table 2-16. What values were used for the parameters in the diffusion equations?
- d. Discuss the unusual frequencies for the Pasquill stability categories indicated by Tables 2-10 through 2-15.

Hydrology

The FSAR, Section 2, states that flood protection for the plant will be provided for the probable maximum flood as recently revised by the Corps

of Engineers. However, no data are included on water surface elevations resulting from the PMF.

Please provide the Susquehanna River probable maximum flood discharge hydrograph and associated elevations (stage-discharge) at the plant site. The stage discharge should be based on appropriate step backwater computations for preproject and project conditions. The proposed project conditions will probably result in a higher stage for the same discharges of extreme flood events than would have resulted prior to construction due to greater restrictions in the flood flow area. The water surface profiles for applicable floods of record including discharges and high water marks, should be verified and presented as a basis for selecting the roughness coefficients ("n" values) for both the channel and over bank flow.

#### Waste Disposal

1. Section 1.3.2.16 refers to a design change providing a separate condenser off-gas vent pipe. This will apparently be monitored by subsystem RM-A4 described in Section 11 (page 11-19). What are the criteria for selection of monitor sensitivity and alarm set point? If leakage occurs between primary and secondary systems, how will the monitor detect and control possible iodine releases via this route?
2. Based on estimated volumes, contained radioactivity, flow rates, and discharge times for short term releases, provide an analysis of the concentration of radioactivity as a function of distance downstream of the plant for various river flow conditions.

3. Please discuss your criteria for maintaining radioactive effluent releases to values as low as practicable. Include information on anticipated minimum holdup times for liquid and gaseous wastes, and your criteria for minimum processing requirements.
  
4. Table 11-4 indicates that a number of waste processing system components are vented to the atmosphere. Please discuss the possibility and relative magnitude of radioactive effluent releases via this route.
  
5. Estimates of the annual discharge of nonfission product radionuclides. Please include a tabulation similar to Tables 11-6 and 11-7 which relate to fission product radionuclides and your method of estimating quantities.

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