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CLASS: <b>U</b> PROP INFO	INPUT	NO CYS REC'D 2	DOCKET NO: <b>50-289</b> 50-320			
DESCRIPTION: Ltr re our 6-23-72 ltr...furnishing comments on draft detailed statement for Three Mile Island Plant Units 1 & 2.....		ENCLOSURES:				
PLANT NAMES: Three Mile Island Units 1 & 2		<b>ACKNOWLEDGED DO NOT REMOVE</b>				

FOR ACTION/INFORMATION DL 9-19-72

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# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

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ER 72/790

SEP 18 1972

Dear Mr. Muller:

This is in response to your letter of June 23, 1972, requesting our comments on the Atomic Energy Commission's draft statement, dated June 1972, on environmental considerations for Three-Mile Island Nuclear Station Units 1 and 2, Dauphin County, Pennsylvania.

## Historical Significance

The draft statement adequately assesses the effects of the nuclear plant on historic and archaeological resources.

The operation of the station will not affect any existing or proposed unit of the National Park System nor any site eligible for registration as a National Historic, Natural, or Environmental Education Landmark.

## River Characteristics

Protection from floods is a particular problem at this site on an island in the Susquehanna River. The design of the dikes on the northern end of the island was based on a preliminary estimate by the Corps of Engineers of the probable maximum flood of 1,100,000 cfs. Later calculations by the Corps showed that the PMF should be much higher, 1,750,000 cfs unregulated, or 1,625,000 cfs when regulation from existing reservoirs is taken into consideration. Since the draft statement was issued, tropical storm Agnes caused a flood on the Susquehanna River which reached about 1,000,000 cfs at Three-Mile Island on June 24, 1972. A review of the PMF calculations may be made by the Corps and further upward revisions are likely.

The Geological Survey reviewed hydrologic and geologic aspects of the construction permit application on request from AEC and transmitted their comments by memoranda of January 10, 1968, and June 30, 1969. In the earlier of

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these reviews the applicant's calculations of stage for the estimate of 1,100,000 cfs were reviewed. However, stage calculations for the applicable PMF discharge have not yet been reviewed.

The draft statement indicates, on page II-8, that it is not practical to increase the dike height for the PMF and that the applicant has chosen to provide flood gates to be set in place should a discharge of 1,100,000 cfs be exceeded. However, the statement contains no evaluation of the adequacy of such measures. Such an evaluation should be added to the statement; it should consider the velocity and depth of water around the reactor and ancillary structures during a PMF; the safety of structures, waste tanks, etc.; and the possibility of debris production which could endanger downstream structures.

It should also be noted that the flood studies section of the applicant's environmental report contains a number of misleading statements. Among these, that large floods on the lower Susquehanna River would not result from storms of tropical origin. This contradicts "Hydrometeorological Report No. 40, Probable Maximum precipitation, Susquehanna River Drainage above Harrisburg, Pa." (U.S. Department of Commerce, Weather Bureau, 1965) which states, "although no really severe hurricane rains have been observed in the basin in the last 75 years the risk is evident from storms near the basin." It concludes after considering such storms that, "it must be assumed, therefore, that storms of tropical origin constitute a real threat to the basin . . . ." Further, the applicant's characterization of the design flood of 1,100,000 cfs as having a "frequency of occurrence in excess of 10,000 years" is misleading. On the basis of flood records available the extrapolation of flood frequencies beyond, at the most, a few hundred years is meaningless.

#### Terrestrial Fauna

This paragraph on page II-11 should be expanded to include song birds, raptors, waterfowl, shore birds, reptiles, amphibians, furbearers, and other non-game species. It should be noted that at least three of the species that are found in or breed in the area are on the Federal list

of Rare or Endangered Species. These are the bog turtle (Chemmys muhlenbergi), the bald eagle (Haliaeetus lencoecephalus), and the osprey (Pandion haliaetus). The peregrine falcon (Falco peregrinus anatum) is on the Pennsylvania list of endangered species.

#### Aquatic

Delete the last sentence of the first paragraph in this section since fly fishing is not popular in winters.

Delete the last sentence of the first paragraph on page II-12 and substitute the following. "There is no commercial fishing in the area at the present time; however, the Susquehanna River has historically supported large runs of the anadromous American shad (Alosa sapidissima), an important commercial and sports fish. It should be noted that the Susquehanna has been studied and is considered suitable for the restoration of shad. The planning for this restoration has reached the stage of design of fish passage facilities at the dams which now block the fish runs. We think that the restoration of the runs is imminent."

#### External Appearance

The third paragraph of page III-1 describes the dike and materials to be used in its construction. We suggest that this paragraph be expanded to give the dimensions of the dike and the height above normal water surface levels.

#### Heat

The third paragraph on page III-8a gives the cooling water velocity at the intake as 0.2 fps under normal conditions. This paragraph should be expanded to include the velocity during minimum river discharge and the probable frequency of occurrence for this velocity. A river discharge-duration curve and a corresponding intake velocity-duration curve would be of value in this regard.

It is important that the extreme temperature, discharge, and intake velocity conditions be considered since fish kills are not normally caused by "normal" conditions but extremes. It also appears that a discussion should be included on the impacts expected during certain emergency

situations when the cooling water discharge may be 28°F above the river temperatures.

#### Radioactive Wastes

The anticipated annual releases of radioactive isotopes in the liquid and gaseous effluent as given in tables 4, 5, and 6, appear to be in disagreement with the equivalent data on pages 5.5-15 and 5.5-16 of the applicant's report dated December 1971.

#### Solid Wastes

The disposal of fish and other debris caught on the intake trash racks and screens is not discussed. It is recommended that such accumulations be handled as non-contaminated wastes and the method of disposal described in the final environmental statement under the section on Solid Wastes.

#### Impact on TMI

This section should be expanded to include a more complete and quantitative discussion of the effects of construction on the pre-project environment. Loss of wildlife habitat and its attendant wildlife resource, disruption of wildlife life patterns due to impacts such as noise, and intensified human intrusion should be discussed in a more quantitative manner in this section.

#### Water

Loss of fish and other wildlife habitat due to sedimentation from construction activities and erosion of denuded areas, dredging in shallow areas of the river, and disruption of fish behavior patterns, including spawning activities, due to construction activities should also be discussed in a more quantitative manner.

#### Land Use

We commend the applicants for including recreation development as part of the total project. These recreation development plans were previously reviewed by personnel from our Philadelphia Regional Office of the Bureau of Outdoor Recreation. The proposal as given on page V-1 and V-2 of the environmental statement is also in accord with the Pennsylvania Statewide Comprehensive Outdoor Recreation Plan.

We recommend that the development of the proposed recreation facilities be stipulated in the operating licenses for Units 1 and 2.

We also recommend that the final environmental statement include an outline of plans and responsibilities for future or ultimate recreation development on the site. This outline should include details regarding such matters as cost of future development, development schedules, and operation and maintenance responsibilities by public agencies and the applicants.

#### Terrestrial Ecosystem

The second paragraph of this section on page V-15 is confusing. It should assess the project caused impacts on the terrestrial ecosystem even if much of the impacts are the result of recreation development. It may be appropriate to estimate the percentage of these impacts that are caused by the operation of the plant.

#### Transportation of Nuclear Fuel and Solid Radioactive Wastes

This section in the final environmental statement should identify the disposal sites of the irradiated fuel or solid wastes in order to permit an accurate assessment of the effects of disposal.

#### Environmental Effects of Accidents

This section contains an adequate evaluation of impacts resulting from plant accidents through Class 8 for airborne emissions. However, the environmental effects of releases to water is lacking. Many of these postulated accidents listed in Tables 17 and 18 could result in releases to the Susquehanna River and should be evaluated in detail.

We also think that Class 9 accidents resulting in both air and water releases should be described and the impacts on human life and the remaining environment discussed as long as there is any possibility of occurrence. The consequences of an accident of this severity could have far-reaching effects on land and in the Susquehanna River which could persist for centuries affecting millions of people.

### Land Use

This section on page VII-1 should be expanded to include loss of wildlife, wildlife habitat, disruption of wildlife patterns and increased sewage and waste disposal problems.

### Short-Term Uses and Long-Term Productivity

It is stated on page VIII-1 that if the reactors are decommissioned complete restoration of the site is possible but may be deterred or delayed by cost. It is not clear if contaminated structures or reactor parts would be removed from the site, left above ground or buried at the site. The plans for such an event should be indicated in the final environmental statement.

### Irreversible and Irretrievable Commitments of Resources

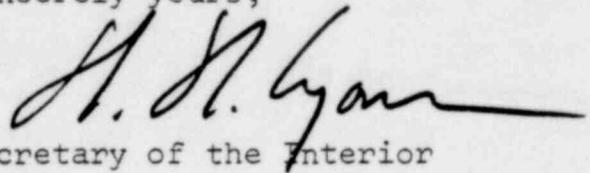
This section should include the annual loss of fish and wildlife resources which would be lost due to project implementation.

### Summary of Cost-Benefit Analysis

The combustion products are given on page XI-13 for the alternative coal-burning and oil-burning plants. The sulfur content of the coal and oil is not given. However, the applicants' report does contain this information on page 11.2-1. This report assumes that 80 percent of the 860 tons per day of SO<sub>2</sub> and 115 tons per day of NO<sub>x</sub> will be removed by air pollution control equipment. The report indicates that the remaining 20 percent of these air pollutants will not exceed the limitations of the "national ambient air quality standards." It is suggested that the final environmental statement include the calculations involved in the prediction of the ground level SO<sub>2</sub> and NO<sub>x</sub> concentrations so that these values can be compared with those stipulated by the Environmental Protection Agency in its ambient air quality standards reported in the Federal Register of April 30, 1971.

We hope these comments will be helpful to you in the preparation of the final environmental statement.

Sincerely yours,



Deputy Assistant Secretary of the Interior

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