

FROM:
 Commonwealth of Pennsylvania
 Harrisburg, Pennsylvania 171
 Wesley E. Gilbertson

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CLASSIF: U	POST OFFICE	REG. NO: 50-289 (ENVIRO FILE)
DESCRIPTION: (Must Be Unclassified) Ltr re our 10-28-70 ltr..furnishing comments on Enviro Rpt for Three Mile Island Unit # I....and trans:	REFERRED TO	DATE
	Long	1-19-71
	W/4 cya for ACTION	(W/Orig for MATS)(Orig to be returned to 016)
ENCLOSURE: Staff Report consisting of 8 sets of comments ...consisting of pages 1 thru 4.	DISTRIBUTION:	
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U.S. ATOMIC ENERGY COMMISSION

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COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF HEALTH

P. O. BOX 90

HARRISBURG 17120

ELLSWORTH R. BROWNELLER, M.D.
SECRETARY OF HEALTH

Peter A. Morris, Director
Division of Reactor Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Regulatory

File Cy.

Re: USAEC Docket No. 50-289; Three Mile Island Nuclear Station Unit I

Gentlemen:

This is in response to your October 28, 1970 request for comments on the environmental impact of the above facility, and on the Environmental Report from State agencies of the State affected by the construction and operation of the facility.

This facility is under construction on Three Mile Island on the Susquehanna River, Londonderry Township, Dauphin County, Commonwealth of Pennsylvania.

Our comments on this facility are contained in the attached Staff Report, submitted for your attention and consideration.

Thank you.

Very truly yours,

Wesley E. Gilbertson
Deputy Secretary for Environmental Protection

Enclosure

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STAFF REPORT ON THREE MILE ISLAND NUCLEAR STATION UNIT I

INTRODUCTION

This report is prepared for submission to the United States Atomic Energy Commission, pursuant to the Environmental Policy Act of 1969, and in response to the Division of Reactor Licensing request for comments, dated October 28, 1970.

The comments developed by affected State Agencies within the Commonwealth are directed toward the environmental impact of the facility and toward the Environmental Report developed by the applicant.

The comments included in this report are those received in the Office of Radiological Health and the State Planning Board on or before December 31, 1970.

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COMMENTS ON THE ENVIRONMENTAL REPORT

Most State Agencies providing input to this report indicate a general dissatisfaction with the contents of the Environmental Report as submitted. The dissatisfaction stems from an apparent avoidance of the use of specific quantized statements of impact.

- 1) The maximum probable off-site radiation dose resulting from routine plant operations should be included.
- 2) The specific fraction of 10 CFR_{20} radiceffluent concentrations, as well as the fractions of federal water quality standards criteria present in the effluent should be included in the report.
- 3) Specific meteorological data to support statements on the effects of cooling tower emissions as compared to inversion height should be included, as well as dispersion isoplethtes and wind roses.

The Environmental Report appeared to be directed to non-technical groups since it deals in generalities, anticipatory statements and non-specific terminology. If the report is intended for regulatory agencies, this purpose would best be served by the use of more specific language. It is recognized that this document would not satisfy its intent if it were expanded to resemble the documents submitted in application to the AEC for construction and operation of the facility, but less direction to the general public and more direction to those required to comment on it would better serve the purposes of the Environmental Report.

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COMMENTS ON ENVIRONMENTAL IMPACT

Listed below are specific comments and recommendations as pertains to this facility:

1) The Bureau of Air Pollution Control recommends that the Applicant obtain accurate records of the past history of fog formations at Harrisburg-York and Olmsted State Airports, and maintain a record of future fog formations for a reasonable period of time so that a comparison can be to evaluate effects of the cooling towers after they go into operation.

2) The Bureau of Sanitary Engineering (Sanitary Water Board) requires the securing of a Sanitary Water Board Permit by the Applicant in advance of plant operation. The application must include specific information concerning the concentration and total activity release and will be judged as to its adherence to State standards.

3) The State soil and Water Conservation Commission recommends that adequate consideration be given the control of soil erosion and resultant sediment occurring during construction and operation of the plant. The Commission would be pleased to discuss this with the Applicant.

4) The Office of Radiological Health requests that the Applicant keep the Agency informed of the development of Emergency Plans, and the results of environmental surveillance activities of radiological importance.

Conclusions:

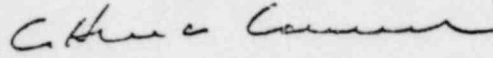
None of the Agencies responding presented specific objections to the construction and operation of this facility.

January 4, 1971

SUBJECT: Comments on Environmental Impact Statements for: (1) Three Mile Island, and (2) Limerick Nuclear Generating Stations.

TO: Honorable Irving Hand
Executive Director
State Planning Board

FROM: C.H. McConnell, Chief Engineer
Department of Forests and Waters




The following commentary on the subject Statements is in response to your request to Mr. Skovron, who forwarded it to this office for reply.

Three Mile Island Nuclear Power Station

Our review of this report indicates that certain inconsistencies exist. For instance, the last two sentences of the third paragraph on page 4 strongly imply that thermal discharge limits are nonexistent in Pennsylvania's water quality standards. Paragraph iv - Industrial Waste on page 28, however, indicates knowledge of Pennsylvania's thermal discharge requirements.

The Statement only acknowledges the existence of the Olmsted State Airport within the close proximity of the Station. Actually, the station is under the principal approach pattern for landing aircraft which is at about 1,000 ft. above the station. With the planned increase in air traffic, the probability of an accident also increases. We feel that such information should be included in the Statement.

The Statement omits mention of the Boroughs of Highspire and Steelton as population centers within the 10-mile radius of the Station. This omission leaves the impression that population density upstream from the station is less than it actually is. (The Statement mentions only Harrisburg at 10 miles away, and Middletown at 2 miles.) Also, the Statement neglects to mention the industries within the vicinity of the station. Of particular interest are the steel plants in Steelton, which require significant quantities of cooling water from the Susquehanna River. We suggest that the Statement include a discussion of these relationships to the station's operation. The Statement should include some idea of the impact of the station's operation on the other generating plants in the vicinity, i.e., the fossil-fuel plant at Middletown and the York Haven hydro plant. The Middletown plant has been cited recently as a major source of air pollution.

Not being knowledgeable in the subject, we cannot comment on the radiation from the plant. However, it does not appear that there is definite proof, at least not in the report, that there will not be adverse atmospheric results from the cooling tower emissions. This matter has only been touched

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January 4, 1971

upon lightly and concluded by bland statements that there will be no adverse effects because of the height of the towers. There have been reports of dense fogs in Connecticut Valley since the operation of the Connecticut Yankee plant which also has cooling towers.

As stated in the report the cooling tower "blowdown" water and the equipment cooling water will be cooled by mechanical draft cooling towers and discharged into the Susquehanna River. Since there is no mention made of any effort to separate the mineral concentrate of the cooling water before discharge into the river, it seems important that this mineral concentrate be identified in the report.

Limerick Generating Station

This is an environmental report for the construction permit stage. The report is quite thorough, however, as it includes the environmental impacts of operation. In comparing with the Statement for the Three Mile Island Nuclear Station, the Limerick report is much more detailed, and includes Pennsylvania's water quality standards for thermal pollution. Both reports are dated October 1, 1970.

It is essential that the Limerick station cooling discharge meet water quality standards established by the Sanitary Water Board. The most critical time would occur during the summer months of low flow. The influence of releases from the Blue Marsh Reservoir may have some significance on the Limerick discharges. We suggest that the report elaborate on this.

Our review of the report's outline of pollution controls during construction (pp. 57-60) shows that the applicant is well aware of this problem. In the matter of erosion control, however, we feel the plan outlined (early installation of storm drains) is incomplete. The scheduling of initial grading operations (stripping of topsoil) is also important. This should be done so as to keep the amount of stripped areas to a minimum during earthwork operations. Also, cut or fill earth slopes should be made erosion-resistant shortly after completion. Since sediment is defined as a pollutant in Pennsylvania streams, we recommend that such procedures be included in the report as abatement controls.

One important variance from the procedure of the Three Mile Island station is noted. At Limerick there will be no cooling of the tower "blowdown" water and the equipment cooling water before release to the Schuylkill. This does not seem consistent as the Schuylkill is a much smaller stream than the Susquehanna.

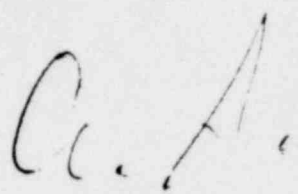
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December 22, 1970

SUBJECT: Comments on Three Mile Island Environmental Report

TO: George Burns
State Planning Board

FROM: Arthur A. Socolow
Bureau of Topographic & Geologic Survey



As per Mr. Irving Hand, I am submitting to you my comments on the environmental report of the Three Mile Nuclear Station. I would hope that any comments which you plan to forward to the Atomic Energy Commission will reach them prior to the 60-day time limit which began with the announcement of the environmental report in the November 6, 1970 issue of the Federal Register; the 60 days is thus up on January 6, 1971.

cc: Irving Hand ✓

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COMMENTS UPON ENVIRONMENTAL REPORT - OPERATING LICENSE STAGE -
THREE MILE ISLAND NUCLEAR STATION

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GENERAL COMMENTS:

The environmental report as it now stands appears to be written for the layman and is lacking important quantitative data. There are far too many generalized conclusions and such non-specific words as "it is anticipated ...", "will be negligible", "well within the standards", "are expected to have no impact", and other non-specific phrases that imply faith rather than scientifically analyzed conclusions.

SPECIFIC COMMENTS:

Page 1: It is stated here "This report serves to provide a summary description of the stations and environmental features and an assessment of the stations of environmental impact". As will be noted in the following, many of the environmental features either are not listed at all or are dealt with in non-specific, non-quantitative terms.

Page 3: The last paragraph states "It is anticipated there will be no increase of ground level fog or ice from the cooling tower operation". Yet, no data is presented as to the meteorological conditions and dew point data for the site to dispel the anticipation by many that at certain times the cooling towers will create condensation clouds. This is particularly important in view of the proximity of the Olmstead Airport runway only two miles away.

Page 4: No mention is made in the first paragraph as to the chemical composition of the "blowdown" which is to be bled off. Nor, is there any indication of the quantities anticipated. It is stated that the released water will be cooled "except in an emergency". What is the definition of an emergency? Does it mean equipment failure, weather emergency, manpower emergency, economic emergency, national emergency, or what?

Page 4: Paragraph four states that studies are now being conducted "in order to confirm that the aquatic environment will not be significantly affected". What is the meaning of "significantly affected"? If the studies are just now being made, how can paragraph five already state "It is the conclusion of the applicants that the intake and discharge of cooling water ... will not adversely affect the fish population ... or any other aspect of the aquatic ecology in the area". It is unscientific to reach conclusions prior to the completion of testing.

Page 5: It is stated "It is anticipated ... the radioactive gaseous and liquid releases will be a very small percentage of the limits as specified in 10 CFR Part 20". Anticipation is not enough! Has it been accurately and specifically computed?

Page 5: It is stated "The plant operating procedures will be such that radiological releases will be maintained at as low a level as practicable, consistent with safe plant operations". What will the level of radiological releases actually be when consistent with safe plant operation? It is further stated "It is expected, therefore, that at these low levels,

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there will be no adverse effects ...". What low level? They are never quantified. What is meant by "expected"? Was it ever calculated or is it just a hope?

Page 6: The first paragraph states "It is the conclusion of the applicants that there will be no adverse environmental effects ...". This statement is inconsistent with the last paragraph of page 5 which states that tests are being conducted now "To provide a basis for determining any possible radiological effects on the environment". The conclusion is also inconsistent with paragraph 4 of page 4 which states "that only now is the local biology being studied.

Page 6: Item 4 neglects to provide copies of pre-operational radiological surveys to appropriate state agencies. It speaks of providing copies "to the Secretary of the Interior for evaluation prior to project operation". How much prior? Would there still be time to modify the proposed operation if the survey so indicated?

Page 7: The first paragraph states that the liquid discharge will contain only trace quantities of inorganic salts "well within the federal water quality standards for drinking water". But what are the actual trace quantities?

Page 9: The last paragraph states that there will be "no significant adverse effect on the enjoyment and use of the surrounding area". What is meant by significant? Will there be insignificant adverse effects?

It is to be noted that nowhere in the report, and particularly in the section on background information, is there any comprehensive data on meteorological conditions in the reactor area. This is a major omission which should promptly be corrected. There have been suggestions made by many that the cooling towers will have a significant impact upon meteorological conditions. The effect of the towers in adding heat and water vapor to the area must be spelled out. The few paragraphs on page 22 are inadequate for a meaningful assessment of the reactor's impact on the local meteorology.

Page 26: The first paragraph states that the monitor surveying the effluent and radwaste will be sufficiently downstream to measure a "homogenous mixture". However, the zone in the river closer to the plant which will not have a "homogenous mixture" could have major environmental impact; it could serve as a real biological barrier in the river.

In summary, the report lacks concise presentation of data, specific indication of basis of conclusions, and too many equivocating, anticipatory, and unsubstantiated conclusions.

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December 29, 1970

SUBJECT: Industrial Wastes - Radioactive
Metropolitan Edison Co., et al.
Three Mile Island Nuclear Station
Londonderry Township, Dauphin County

TO: Thomas M. Gerusky, Director
Office of Radiological Health

FROM: Donald A. Lazarchik, Director
Division of Industrial Wastes



Relative to request for comments relating to the subject installation, and specifically the Environmental Report submitted to the Atomic Energy Commission, we have cursorily examined the portion of the report dealing with waste water discharges and find no technical reason for objection.

However, because of the wording of the Atomic Energy Commission's notice, perhaps an objection in principle should be made on the basis that the company has not yet obtained a Sanitary Water Board permit. Now that the Environmental Report is required by law, the applicant and/or the Atomic Energy Commission might hold that the Pennsylvania Sanitary Water is without jurisdiction. The Industrial Waste Permit is listed on page 29 of the report as one of those to be obtained, but, unlike some of the other permits listed, such permit is environmental in nature, and therefore could be said to duplicate the jurisdiction and function of the Atomic Energy Commission in considering the Environmental Report.

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December 23, 1970

Review of Environmental Impact Statements

SUBJECT: - Metropolitan Edison Company Environmental Report for the Three Mile Island Nuclear Power Station, Units 1 and 2
- Philadelphia Electrical Company Environmental Report for the Limerick Generating Station, Units 1 and 2

TO: Mr. Irving Hand
Executive Director
State Planning Board

FROM: Charles F. Hes. *CFH*
Soil Conservation Director

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Both of the above-named statements have been reviewed in the offices of the State Soil and Water Conservation Commission.

There appears to be a void in the consideration of "Pollution Control Measures Which Were Instituted Or Which Are Expected To Be Instituted During Construction and Subsequent Operation Of The Facility" in reference to the lack of any control measures to prevent erosion and resultant sediment that may occur during construction process. It is quite obvious that considerable earth moving and earth disturbance will occur during construction--in fact, such possibilities are definitely indicated in the second paragraph of Section 7, page 15 of the Three Mile Island report and in the last paragraph of Section 4, page 58 of the report on the Limerick Generating Station. Post-construction control of sediment should also be recognized as an important part of any project that is constructed immediately adjacent to streams as are the above-mentioned projects.

The State Soil and Water Conservation Commission recommends that adequate consideration be given to the above-mentioned potential problems and that these problems be given recognition in the report. The State Soil and Water Conservation Commission would be pleased to discuss this with representatives of the Planning Board or the electric companies involved.

cc: Mr. Early

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December 11, 1970

SUBJECT: Review of Environmental Report
Metropolitan Edison Company - Three Mile Island

TO: Thomas M. Gerusky, Director
Office of Radiological Health

FROM: James K. Hambright, Director
Division of Abatement and Compliance
Bureau of Air Pollution Control

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I have reviewed this report and discussed it with Denis Lohman. The following are our comments:

This report is deficient in information concerning the effects of the cooling towers' plumes on Olmstead and Harrisburg airports. On page three, it is indicated that the effective stack height of the cooling towers is greater than the inversions which normally occur at this site. Information on the calculated effective stack height and the height of inversions that may occur is not presented to substantiate this claim. Should an inversion occur above the cooling towers and the plumes be unable to penetrate the inversion, a temporary cloud formation may occur which may affect the Olmstead Airport operations, depending on the wind direction.

Although the report, on page eight, indicates that "under no condition, however, could a region wide semi-prominent cloud cover ever occur from operation of these cooling towers" it does not mention the local and/or short duration formation of clouds which may occur at either of these airports. The weather data collected by the Department for a six month period from the National Weather Service Station located at the Harrisburg-York Airport indicates that 12.5 percent of the time, the wind blows from the southeast, and fogging occurs 26 percent of the time during this period (3.3 percent of the total time). Therefore, it is possible that the operation of these cooling towers will increase the frequency of cloud formations under adverse meteorological conditions.

It is my recommendation that the company obtain accurate records of the past history of fog formations at both of these airports and maintain a record of all future fog formations for a reasonable period of time so that a comparison can be made to evaluate effects of the cooling towers after they go into operation.

No evaluation of emission of radioactive material from the plant was made. It is assumed that the Office of Radiological Health will make those evaluations.

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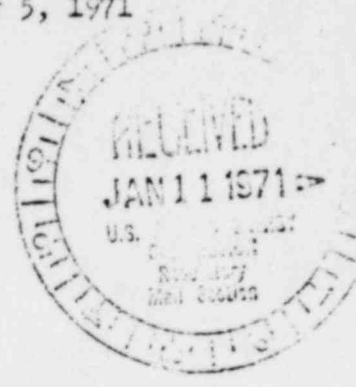
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January 5, 1971

Review of Environmental Impact Statements
 -Metropolitan Edison Company Environmental Report
 for the Three Mile Island Nuclear Power Station,
 Units 1 and 2
 -Philadelphia Electrical Company Environmental
 Report for the Limerick Generating Station,
 Units 1 and 2

TO:
 Honorable Irving Hand
 Executive Director
 State Planning Board

FROM:
 William J. Newer
 Deputy Executive Director
 Pennsylvania Historical and Museum Commission



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The Environmental Impact Statement, as submitted by Metropolitan Edison Company for the operating license stage of the Three Mile Island Nuclear Station, provides an excellent reference to positive action taken by Metropolitan Edison Company to avoid an adverse effect on the historical integrity of the immediate project area.

The rich pre-history of the site was recognized during early planning stages and the company cooperated fully with the Pennsylvania Historical and Museum Commission in salvage archaeology prior to site excavation.

It is significant to note that requirements of the National Historic Preservation Act are acknowledged and that the National Register of Historic Places was consulted to determine historic sites in the immediate and surrounding project area. This procedure should be routine with a reference to the procedure required in the environmental impact statement.

Concern for the historical environment of a project area should go beyond historic sites included in the National Register of Historic Places. This could be accomplished through consultation with the Pennsylvania Historical and Museum Commission and by inviting the Commission's comments during early planning stages.

Construction of a generating plant may in itself affect our natural and man-made environment but the greatest impact may result from the location of transmission corridors. It would be most helpful and more meaningful if impact statements would present a total picture by mapping the generating site and proposed transmission corridors for review and comment during early planning stages.

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Honorable Irving Hand

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January 5, 1971

The Environmental Report, as submitted by the Philadelphia Electric Company for the construction permit stage of the Limerick Generating Station, makes no reference to consideration given the historical environment of the project area. As stated above, comments on consideration given to the historical integrity of the area should be routine in environmental impact statements with particular reference to the National Register of Historic Places and consultation with the Pennsylvania Historical and Museum Commission.

The Limerick Generating Station site has been reviewed by our staff and we know of no adverse effects construction of the station will have on the historical integrity of the project area. We cannot, however, comment on the effect of necessary transmission lines.

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