

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

Cir AEC-R 16414

In the Matter of the Application by)
METROPOLITAN EDISON COMPANY)
For a Provisional Construction Permit)
for the Three Mile Island Nuclear)
Power Station Unit 1)

DOCKET NO. 50-289

Appearances

Gerald Charnoff, Esq.
Samuel B. Russell, Esq.
On behalf of the Applicant

Thomas F. Engelhardt, Esq.
On behalf of the
U. S. Atomic Energy Commission Regulatory Staff

William M. Gross, Esq.
Assistant Attorney General
of the Commonwealth of Pennsylvania
participated pursuant to Section 2.715(c) of the
Atomic Energy Commission's Rules of Practice

INITIAL DECISION

Preliminary Statement

1. This proceeding involves the application of Metropolitan Edison Company (Applicant) for a provisional construction permit to construct a pressurized water reactor, designed to operate initially at core power levels up to 2452 megawatts (thermal), to be located at the Applicant's Three Mile Island Nuclear Station in Londonderry Township, Dauphin County, Pennsylvania. The application was reviewed by

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the Regulatory Staff (Staff) of the Atomic Energy Commission (Commission) and the Advisory Committee on Reactor Safeguards (ACRS); each concluded that the proposed facility can be constructed at the proposed site without undue risk to the health and safety of the public.

2. Pursuant to duly published notices and orders, a hearing was held before this Atomic Safety and Licensing Board (Board) in Middletown, Dauphin County, Pennsylvania, on April 10-11, 1968. Supplemental verified evidence in writing was thereafter presented and was admitted by Board order dated May 10, 1968, and the hearing record was then closed.^{1/} The Applicant has filed proposed findings of fact and conclusions of law, and the Staff has expressed its concurrence in the Applicant's pleading. The Commonwealth of Pennsylvania, a hearing participant under Section 2.715(c) of the Commission's Rules of Practice, has expressed--by letter dated May 8, 1968--no disagreement with the positions taken by the parties. Based upon a review of the entire record, including the pleadings, the Board has derived and here expresses its findings and conclusions; they include and endorse in substance the material and significant proposals advanced by the parties.

Findings of Fact

3. The parties to the proceeding are the Applicant and the Staff. The Commonwealth of Pennsylvania participated specially as noted above. Limited appearance statements were made by the Chairman of the Dauphin

^{1/} The cited order summarized the procedural steps heretofore followed to complete the evidentiary hearing; the background and details thereof are shown in the record transcripts of the hearing, and of the prehearing conference which was held on March 29, 1968.

County Board of Commissioners and on behalf of the Middletown Area Association of the Harrisburg Area Chamber of Commerce. The record shows that no party or person opposed a grant of the application under consideration. This is not a contested proceeding, as that is defined in Section 3.4(n) of the Commission's Rules of Practice. Therefore, pursuant to the Notice of Hearing (33 F.R. 1082, 3084) and Section 2.104(b)(2) of the Rules, the Board's function is to "determine whether the application and the record of the proceeding contain sufficient information, and the review of the application by the Commission's regulatory staff has been adequate, to support" favorable findings upon stated technical, financial, and policy issues, and the issuance of the provisional construction permit as proposed by the Director of Regulation in the Notice of Hearing.

4. The proposed atomic energy powered electricity generating facility is to be situated on Three Mile Island in the Susquehanna River, about 10 miles southeast of Harrisburg, Pennsylvania. The land exclusion area, owned entirely by Applicant, has a minimum radius of 2,000 feet. The low population distance is specified as 2 miles and excludes the community of Middletown which has a population of about 12,000. The nearest population center, with more than 25,000 inhabitants, begins about seven miles away and consists of the towns of Steelton and Harrisburg. The plant design reliability and safety criteria will take into account the possibility of credible earthquakes, floods, and severe meteorological conditions as well as local hydrological and ground water conditions.

5. The facility will be located about 2.5 miles southeast of the Olmsted State Airport. The probability of an aircraft incident at the Three Mile Island Nuclear Station is projected to be extremely remote.^{2/} The principal structures of the station will be designed to withstand a significant range of aircraft strike loadings, including such secondary effects as missiles, fire, pressure and temperature. The Board finds no reason to challenge or doubt the uncontroverted conclusion of the witnesses for the parties, and of the ACRS report, that the airport proximity factor does not contradict reasonable assurance that the proposed facility can be operated without undue risk to the health and safety of the public.

6. The findings as proposed by the Applicant and supported by the Staff describe in some detail the planned facility and its safety-related features and design criteria. The record supports those proposed findings, but their iteration here is deemed unnecessary to meet

^{2/} This modified finding evades assessing probative credibility to the statistical analyses in the record. The Applicant comparably evaded allocating its safety reliance as between improbability of occurrence and impregnability of structures. The Staff conclusion is not more meaningfully precise on this point than is the ACRS report which states: "Although the probability of an airplane hitting the station is very small, the applicant has undertaken to provide principal structures and components of the station with the capability of withstanding aircraft strike loadings over a range of conditions, including effects such as secondary missiles, fire, and pressure and temperature effects. The reactor building, control building, fuel handling building, auxiliary building, and intermediate building will have the necessary modifications to assure the capability of bringing the plant to a safe shutdown condition."

the purposes of this decisional review. It is pointed out-- as the record abundantly shows--that this nuclear power plant project is substantially similar, in all safety-related parameters except for siting, to the closed cycle pressurized water reactor units which were reviewed and authorized for construction by an Atomic Safety and Licensing Board and by the Commission in the contested proceeding (Docket Numbers 50-269, 50-270 and 50-287) upon the application of Duke Power Company to build and operate the Oconee Nuclear Station Units 1, 2 and 3.^{3/}

7. The application and the record contain a description of the site and the basis for its suitability, a detailed description of the proposed facility including those reactor systems and features which are essential to safety, an analysis of the safety features provided for in the facility design, and an evaluation of various postulated accidents and hazards involved in the operation of such a facility and the engineered safety features provided to limit their effects. Extensive testimony and documentary evidence concerning these matters are set out in the hearing record. The evidence shows the technical qualifications of the Applicant, including those of its contractors, and the financial qualifications of the Applicant, to design and construct

^{3/} It should be emphasized that the findings and conclusions and order made by this Board in this proceeding do not at all rest upon the actions taken in the Duke Power Company matter. Rather, this Initial Decision is derived from an evaluation of this hearing record which is defined in the Administrative Procedure Act and is therein prescribed to constitute the exclusive record for decision.

the facility. The Staff's review of the application, including consideration of the proposed facility's safety features important to the prevention and mitigation of accidents, is found to be adequate.

8. The Applicant and the Staff recognize that in order to develop the final design of the project, further information and data are needed. Such additional data will be acquired from research and development projects and by evaluation of accumulating operating reactor experience concerning the following items:

- (a) Once-through steam generator;
- (b) Control rod drive unit;
- (c) In-core neutron detectors;
- (d) Core thermal and hydraulic design;
- (e) Emergency core cooling and core barrel check valves;
- (f) Xenon oscillation control; and
- (g) Use of sodium thiosulphate for iodine removal.

9. Beyond the findings and conclusions advocated by the parties are some matters of procedure and substance deemed significant. Affirmative judgment as to the sufficiency of the application and the record was effectively aided by the Applicant's written responses at the hearing to numerous exploratory questions which were raised during the prehearing conference. Similarly, areas of initial concern about the Staff's review were suggested by the Board at prehearing and they were adequately illuminated by the Staff's supplemental testimony at the hearing. Not all questions about safety that were asked were definitively or finally

answered; but this aura of uncertainty inherently characterizes Commission hearings involving provisional construction permits. The applicable rules and the stated issues recognize that solutions to many design problems are to be derived during construction. The resources and commitments of the Applicant to develop needed answers and the assigned and proclaimed responsibilities of the Staff to follow and review the safety aspects of the growing design and construction efforts afford the degree of reasonable assurance essential to the Board's conclusions upon the ultimate issues before it. The application and the record of the proceeding contain sufficient information, and the review by the Commission's Regulatory Staff has been adequate, to support the findings proposed to be made and the provisional construction permit proposed to be issued by the Director of Regulation.

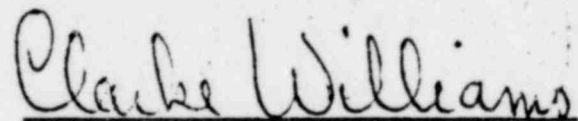
10. Pursuant to the Act and the Commission's regulations, IT IS ORDERED this 16th day of May, 1968 that the Director of Regulation issue to Metropolitan Edison Company a provisional construction permit substantially in the form of Appendix "A" to the Notice of Hearing on this application which was published on January 27, 1968 at 33 F.R. 1082.

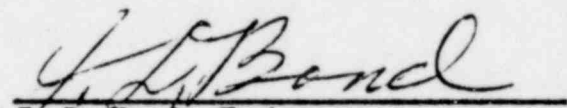
IT IS FURTHER ORDERED, in accordance with 10 CFR §§ 2.760, 2.762, and 2.764 that this Initial Decision shall be effective immediately and shall constitute the final action of the Commission forty-five (45) days after the date of issuance, subject to the review thereof and

further decision by the Commission upon its own motion or upon exceptions filed pursuant to the cited rules.

ATOMIC SAFETY AND LICENSING BOARD


Reuel C. Stratton


Clarke Williams


J. D. Bond, Chairman

Issued:
May 16, 1968
Germantown, Maryland

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

In the Matter of

METROPOLITAN EDISON COMPANY
(Three Mile Island Nuclear Power
Station Unit 1)

POOR ORIGINAL

Docket No. 50-289

CERTIFICATE OF SERVICE

I hereby certify that copies of the INITIAL DECISION dated May 16, 1968 in the captioned matter have been served on the following by deposit in the United States mail, first class or air mail, this 16th day of May 1968:

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