



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 11, 1981

The Honorable Nunzio J. Palladino
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: REPORT ON ENRICO FERMI ATOMIC POWER PLANT UNIT NO. 2

Dear Dr. Palladino:

During its 256th meeting, August 6-8, 1981, the ACRS completed its review of the application of the Detroit Edison Company (Applicant) for a license to operate the Enrico Fermi Atomic Power Plant Unit No. 2 (Fermi-2). A Subcommittee meeting was held in Washington, DC, on July 24, 1981 to consider this project. A tour of the facility was made on July 15, 1981. During its review, the Committee had the benefit of discussions with representatives of the Applicant and the NRC Staff. The Committee also had the benefit of the documents listed. The Committee reported on the construction permit application for this unit in its report dated March 9, 1971.

The Enrico Fermi plant is located in Frenchtown Township, Monroe County, Michigan. The nearest population center is the city of Monroe, Michigan about 5.5 miles west-southwest of the site.

Fermi-2 is equipped with a General Electric BWR-4 nuclear steam supply system with a rated power level of 3292 Mwt and has a Mark I pressure suppression containment with a design pressure of 62 psig. The Applicant has performed a detailed evaluation of the containment's ability to withstand LOCA and relief valve hydrodynamic loads as required by the NRC for the Mark I Containment Program. As a result of this evaluation, extensive modifications were required and are underway. However, since the evaluation was performed prior to the issuance of the NRC report delineating the Staff's acceptance criteria (NUREG-0661 - Safety Evaluation Report, Mark I Containment Long-Term Program - Resolution of Generic Technical Activity A-7), the design has not yet been shown to be completely in conformance with this report. The Applicant has made a commitment to perform a plant unique analysis on the basis of the NUREG-0661 criteria and other requirements established by the Long-Term Program, including in-plant confirmatory tests to assess loads resulting from safety relief valve operation. The Applicant will submit this analysis to the Staff for audit review upon its completion. Subject to the results of this analysis, the NRC finds the Applicant's evaluation generally acceptable. This matter should be resolved in a manner satisfactory to the NRC Staff prior to full power operation. We wish to be kept informed.

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We note that Detroit Edison has acted as its own architect-engineer for this project. The Applicant stated that this arrangement will result in a valuable carry-over of knowledge as people transfer from construction to plant operation activities. The NRC Staff has reviewed the Applicant's organization and management structure and has expressed some concern about the personnel transition. The Staff recommends that care be taken to assure that quality of construction and safety of operations are not compromised during the transition. We concur in this recommendation. To address a concern over a lack of commercial nuclear power plant operating experience, the NRC Staff is requiring that the control room staff be augmented with vendor personnel during startup. We recommend that the NRC assure that these personnel remain on site for a period of time which permits the necessary operating experience to be obtained by the Applicant's Staff.

The Applicant described the program and the philosophy for training of personnel. Training has a high priority and a training simulator has been ordered to aid in this effort. The simulator will be used for operator training and will also be used to train other plant personnel including managers and supervisors. It will also be used to test ATWS operating procedures. The NRC has reviewed the Applicant's ATWS procedures and finds them generally acceptable. The NRC should assure that the ATWS procedures and the associated simulator training are well coordinated.

The Applicant discussed provisions to address station blackout. In the event of a loss of all offsite AC power and loss of all onsite emergency diesel generators, the Applicant can call on a self-starting turbine-generator located onsite. While we recognize that this additional power source further lowers the probability of a station blackout, we recommend that the NRC Staff assure that procedures exist to address a station blackout event and that operating personnel are adequately trained in the use of these procedures. We wish to be kept informed.

Construction of this unit has taken a longer than usual time owing to financial difficulties and the impact of the TMI-2 accident. As a result, the Applicant has been required to perform a seismic reassessment of the structures, systems, and components required for safe shutdown based on currently accepted NRC design response spectra. This reassessment is still under way. Preliminary results indicate that there is sufficient margin in the original design to meet the NRC requirements and that only minor equipment changes will be required. This matter should be resolved to the satisfaction of the NRC Staff.

The NRC has begun review of the Applicant's emergency planning. Because of the plant's location, interaction with Canadian authorities is necessary. Responsibility for this interaction rests with the offices of the Federal Emergency Management Agency.

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The NRC Staff proposes to require the installation of core thermocouples in Fermi-2 as specified by Regulatory Guide 1.97, Revision 2, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident." The Applicant has not yet agreed to this requirement. The ACRS supported use of core thermocouples in BWRs in its letter of November 10, 1980 to the NRC Executive Director for Operations, but called attention to the need for further study to determine the appropriate vertical location of such thermocouples. Since most of the information of interest from thermocouples may be obtainable from a small number of thermocouples placed in a more accessible location, we recommend that this requirement be reevaluated.

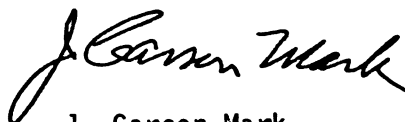
The Applicant's security plan was discussed. We note with approval that security guards will be Detroit Edison employees.

As part of the NRC Staff review of plant fire protection provisions, the Applicant simulated a control room fire to demonstrate that a fire external to the control panels will not result in a loss of redundant shutdown functions. The NRC Staff has identified what it believes to be deficiencies in the test and the Applicant has responded in a recent submittal. We believe this item should be resolved in a manner satisfactory to the NRC Staff.

Other issues have been identified as Outstanding Issues in the NRC Staff's Safety Evaluation Report dated July 1981. These include some TMI Action Plan requirements. We believe these issues can be resolved in a manner satisfactory to the NRC Staff and recommend that this be done.

The Committee believes that if due consideration is given to the recommendations above, and subject to satisfactory completion of construction, staffing, and preoperational testing, there is reasonable assurance that the Enrico Fermi Atomic Power Plant Unit No. 2 can be operated at power levels up to 3292 MWt without undue risk to the health and safety of the public.

Sincerely,



J. Carson Mark
Chairman

References:

1. Detroit Edison Company, "Enrico Fermi Atomic Power Plant Unit 2 Final Safety Analysis Report," Volumes 1 - 11 and Amendments 1-37.
2. U.S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Enrico Fermi Atomic Power Plant Unit No. 2," USNRC Report, NUREG-0798, dated July 1981.
3. U.S. Nuclear Regulatory Commission, "Safety Evaluation Report, Mark I Containment Long-Term Program - Resolution of Generic Technical Activity A-7," USNRC Report, NUREG-0661, dated July 1980.