

December 10, 1982

SECY-82-485

ADJUDICATORY ISSUE (Affirmation)

FOR: The Commissioners

FROM: John E. Zerbe, Director Office of Policy Evaluation

SUBJECT: OCTOBER 29, 1982 ASLB INITIAL DECISION RELATED TO ENRICO FERMI ATOMIC POWER PLANT UNIT 2

PURPOSE: To provide OPE's immediate effectiveness analysis of the Fermi 2 Licensing Board decision

DISCUSSION:

The Atomic Safety and Licensing Board (ASLB) for the Enrico Fermi Atomic Power Plant Unit 2 (Fermi 2) operating license proceeding issued its Initial Decision on October 29, 1982. After consideration of the two issues under contention -- potential construction deficiencies and the feasibility of a local road as an evacuation route -- the Board concluded that the Director of Nuclear Reactor Regulation should be authorized to issue an operating license for Fermi 2. The Board placed no conditions upon the issuance of the license.

OPE has reviewed the Board's decision and the underlying record. Enclosure 1 is a summary of the Board's decision. Based on our review, we see no significant technical or policy reason why the Commission should not allow the Board's October 29, 1982, decision to become effective. We do offer below some observations with respect to selected issues which you might wish to consider prior to making your decision on immediate effectiveness. OGC has no legal objections to the Commission considering the facts in this memorandum.

CONTESTED ISSUES

Inadequacies During Construction

GY: CONTACT: Neill Thomasson (OPE) 634-3295 PDR FOIA GILINSK92-436 PDR

The Commissioners

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CONCLUSION

Based on our review

Enclosures: As stated

cc: L. Bickwit S. Chilk This paper is tentatively scheduled for consideration at a Closed Meeting during the Week of December 13, 1982.

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Monday, December 27, 1982, if the Order is not approved at the scheduled Commission meeting on December 16, 1982.

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ENCLOSURE 1

SUMMARY OF ASLB OCTOBER 29, 1982 INITIAL DECISION ON FULL-POWER LICENSE FOR FERMI UNIT 2

BACKGROUND

The parties in the proceeding were the applicants -- Detroit Edison Company, Northern Michigan Electric Cooperative, Inc., and Wolverine Electric Cooperative, Inc., -- the NRC staff, and one intervenor, Citizens for Employment and Energy (CEE), a local Michigan citizens group. CEE's original 15 contentions were reduced to six by stipulation following the initial pre-hearing conference in December 1978. At the July 22, 1981, prehearing conference, CEE withdrew three more contentions leaving only three for consideration by the Board. A contention regarding the adequacy of radiation monitoring capability was dismissed by the Board by summary disposition, based on technical justification provided by the NRC staff and the applicants; namely, that remote monitoring systems were not required and that the applicants' proposed onsite or offsite monitoring systems met NRC requirements. The remaining two contentions -- concerning construction inadequacies and the feasibility of Pointe Aux Peaux Road as an evacuation route -- were the subject of an evidentiary hearing held March 31, 1982 to April 2, 1982, in Monroe, Michigan. Proposed findings of fact and conclusions of law were filed by the applicants and the NRC staff, but not CEE.

On August 27, 1982, Monroe County, Michigan filed a late petition to intervene in the Fermi 2 proceeding with respect to emergency preparedness planning. The Board denied the County's petition, ruling that the County had been aware of and even involved in the emergency planning as early as January 1980, and that after the initial emergency exercise in February 1982 the County was aware of deficiencies, yet failed to initiate their petition until five months after the evidentiary hearing closed. Further, the Board indicated that there were other means available for the County's interest to be addressed, i.e., through ongoing FEMA reviews. On October 29, 1982, the Board issued an Initial Decision authorizing license issuance without condition after finding no merit in the intervenor's contentions.

SUMMARY OF SPECIFIC CONTENTIONS ADDRESSED BY THE BOARD

Inadequacies During Construction

The intervenor presented only one witness, a former steel worker at the Fermi 2 project, who was also a local resident and (Monroe) County Commissioner. The contention was addressed in five subparts:

Physical Security on the Site. This concerned a vague assertion that there were potential construction defects due to sabotage or to inadvertent damage to plant components. The CEE witness alleged that security during construction had been inadequate, as indicated by several fires, a purported theft, a spill of several hundred gallons of oil, and "a general lack of interest in security." The applicants' witnesses testified that security measures at Fermi 2 had evolved with the level of construction activities. Initially, security was provided by guards at the now-decommissioned Fermi Unit 1: as major components arrived at the site, security was upgraded by installing perimeter fencing, improving lighting, establishing personnel identification and patrol check point systems, installing a new communications system, and posting of the site perimeter. NRC staff testified that there were no regulatory requirements for site security as long as no nuclear fuel is on site but that, nevertheless, a physical security system had been established by the applicants at the inception of construction. The staff witness further testified that, while he knew of no incident of sabotage at the site which might affect quality control, the applicants' comprehensive testing program could be expected to detect discrepancies due to sabotage or vandalism.

The Board found that no links had been established between the present condition of the reactor and public health and safety. Thus, they concluded the contention "failed," although they did note in passing the importance of the preoperational and startup testing program at the Fermi 2 project in view of the long construction period (more than 10 years), the change in contractors (see below), and the applicants' lack of experience in operating a boiling water reactor. (The Detroit Edison Company had previously operated the Fermi Unit 1 sodium-cooled LMFBR.)

. <u>The Quality Assurance Program</u>. This questioned the applicants' compliance with Criterion X of Appendix B to 10 CFR Part 50 (the QA inspection requirements) prior to 1974 when construction was shut down for about two years due to financial reasons. Specific intervenor allegations related to QA for large- and small-bore pipe hangers and safety component welds. In the initial (December 1978) pre-hearing conference, CEE alleged that reinspections of various materials and workmanship showed QC was inadequate during construction prior to 1974, in particular QC associated with pipe hangers and welds of safety-related components. During subsequent interviews of the intervenor witness by NRC inspectors and following a tour of the Fermi 2 plant in February 1979, 20 specific areas of alleged deficiencies were itemized by the CEE witness, including items not originally part of this contention but closely related to the adequacy of the QA program. NRC inspectors investigated all 20 areas and the results, as documented in NRC report No. 50-341/79-04, were:

some deficiencies regarding turbine building pipe hangers and welding had been previously documented by NRC inspectors, as acknowledged by the intervenor, and corrections were already in process in 1979.

the allegations concerning welds were not substantiated by NRC inspectors: welds associated with the main condenser nozzles and

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the chemical cleaning and flushing systems were not safety-related; and the main steam isolation valve and pipe whip restraint welds were inspected by NRC and determined to be adequate.

in one case, NRC verified the CEE allegation of a deficiency due to voids in the concrete of the sacrificial shield and issued a non-compliance notice; the applicants and NRC further testified that the defect was satisfactorily corrected by a grouting procedure.

The Board found that CEE's general contention that the QA program prior to 1974 was inadequate was controverted by NRC and applicants' witnesses who documented that the applicants' program had been in conformance with NRC regulations. The Board concluded that the identified deficiencies had been corrected and there was no factual basis for any additional allegations of deficiencies. Further, the Board indicated that the identification of construction deficiencies demonstrated that the QA program was working. Thus, the Board found that the allegations were without merit.

Loss or Destruction of Quality Assurance Records. This related to Criterion XVII of Appendix B to 10 CFR Part 50 (requirements for maintaining QA records). CEE alleged that the applicants had ordered the destruction of two trailer loads of records, believed then to be QA records, and that a fire in a building had destroyed additional QA records. The staff and applicants testified that the Fermi 2 QA program met NRC requirements. Further, the applicants testified that the records intentionally burned were not QA records, but personal file copies of documents such as letters and drawings, which were disposed of when construction was halted in 1974. Further, they testified that an accidental building fire was due to a faulty gas heater and that, while some QA records on a desk top were destroyed, all but two records were reconstructed from master files. For the weld tests documented in the two records not amenable to reconstruction, the welds were retested to ensure

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that they were acceptable. The NRC staff testimony, which supported the applicants' testimony, indicated that they had investigated the fires and found no factual basis for either allegation. Therefore, the Board concluded that there was no "basis in fact" for the allegation that permanent QA records had been accidentally or intentionally lost or destroyed by fire.

. <u>Replacement of the Ralph M. Parsons Company</u>. CEE alleged that Ralph M. Parsons, the original prime contractor, was replaced by the applicants in 1974 for overly strict adherence to QA and QC. The applicants testified that two Parsons project managers were replaced due to poor attendance and failure to maintain labor harmony, and that the company was replaced in order to have a construction management contractor without direct responsibility for construction work. The 1974 halt in construction was opportune for changing the construction organization. On the basis of the NRC investigators' testimony that they had uncovered no evidence that Parsons employees had been requested to sacrifice QA and QC to expedite construction, the Board concluded that the contention that the Parsons Company dismissal improperly related to OA and OC was not supported.

. <u>Specific Flaws in Construction</u>. CEE alleged that cracks in the reactor building's concrete base mat might impair the building's structural integrity and enable radioactivity to leak from the building. According to applicants and NRC staff testimony, the cracks had been identified and monitored and had been repaired satisfactorily by high-pressure grouting with non-shrinking concrete. Subsequent monitoring and inspection verified that no further cracking had occurred and that there had been no further infiltration of groundwater through the base mat into the reactor building. Further, the applicants presented evidence that in the event of an accident, contaminated water could not leak from the building through the base mat, unless the water depth in the building exceeded 30 feet, which is the normal hydrostatic head (pressure) of the ground water. According to the applicants, the water could be processed in the radioactive waste system before attaining this depth. The Board found no credible evidence of cracks in the base of the reactor building.

CEE also alleged that there were cracks in the structural steel surrounding the drywell, in particular steel clip angles welded to plates embedded in the reactor building walls to support the ends of girders. The problem was investigated by the applicants and the NRC, and both testified that the cracks has been satisfactorily repaired by substituting clip angles made of proper material, with welding limited to that specified; by replacing clip angles, if possible; or by installing beam seats under the inaccessible clip angles. The NRC staff testified that this was a normal construction problem and was not even required to be reported. The Board concluded that there was no credible evidence of deficiencies in the structural steel around the drywell.

Evacuation of Stony Point

Through stipulation at the prehearing conference, the parties agreed that the sole issue was whether Pointe Aux Peaux Road is a feasible evacuation route, rather than a broader contention regarding the adequacy of the emergency plan. The intervenor maintained that the only access road -- Pointe Aux Peaux Road bordering the southern boundary of the Fermi site -- was not a feasible evacuation route for the 1,400 residents of the Stony Point area, the nearest residential community. (See Attachment 1). The applicants and NRC witnesses presented evidence regarding the capacity of the Pointe Aux Peaux Road (1,200 vehicles/hour), the number of persons to be evacuated, the time required for evacuation under various weather conditions and for simultaneous or sequential evacuation of 500 Fermi 2 plant employees. The Board found that Pointe Aux Peaux Road was not unusually susceptible to accidents, that clearing accidents from that road would not be unusually

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difficult, and that the road was a feasible evacuation route from Stony Point. They further concluded that the entire population of Stony Point could be evacuated along the Pointe Aux Peaux Road within 1.5 to 2.5 hours, and that was acceptable.

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With respect to the CEE concern that Stony Point residents' radiation doses would be increased during an evacuation due to having to drive towards the reactor to reach Pointe Aux Peaux Road, the Board concluded that the probability, based upon "the direction of prevailing winds and their average speeds, the shortness of the time spent driving toward the reactor, the small likelihood that an evacuee's time of departure will coincide with the arrival of the edge of the mass (of radioactivity) at his point of departure, and the small likelihood of an accident severe enough to make significant the increase in dose," is remote that a situation would develop to increase doses significantly. Thus, they found that "the use of Pointe Aux Peaux Road as an evacuation route creates only a negligible increase in the total risk to the residents" and that "the increase does not justify building a road leading away from Stony Point towards the west."

Attachment 1 to Enclosure 1

FERMI-2 GEOGRAPHIC AND DEMOGRAPHIC FEATURES

The Fermi 2 site is approximately 27 miles south-southwest of Detroit, Michigan. It is situated on the western edge of Lake Erie in Monroe County, Michigan, which is largely rural and agricultural with a low population density. As shown in Figure 1, the site is bounded by Lake Michigan on the east; North Dixie highway, the main, local, north-south artery on the west; and the two-lane, paved Pointe Aux Peaux Road on the south. At the eastern end of Pointe Aux Peaux Road and south of it is a community of approximately 750 homes (about 1,400 people) -- the Stony Point community. The only access to North Dixie highway is Pointe Aux Peaux Road which begins near the lake shore about one mile south of Fermi 2 and runs west-northwest for about 2.5 miles until it intersects North Dixie Highway. The nearest approach to the reactor along the Pointe Aux Peaux Road is 0.9 miles, which is about midpoint. In addition to the residents in Stony Point, under some conditions the projected 500 employees at Fermi could have to evacuate southward via North Dixie Highway passing through its intersection with Pointe Aux Peaux Road. The normal traffic control at the intersection of Pointe Aux Peaux Road and North Dixie Highway is a stop sign on Pointe Aux Peaux Road.

FIGURE 1

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