

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-452/78-01; 50-453/78-01

Docket No. 50-452; 50-453

Applicant: Detroit Edison Company
2000 Second Avenue
Detroit, MI 48226

Facility Name: Greenwood Energy Center, Units 2 and 3

Meeting Conducted: September 26, 1978

Inspectors: *W. A. Hansen*
W. A. Hansen

10/25/78

D. W. Hayes
D. W. Hayes

10/25/78

Approved By: *R. F. Heishman*
R. F. Heishman, Chief
Reactor Construction and
Engineering Support Branch

10/25/78

Meeting Summary

Meeting on September 26, 1978 (Report No. 50-452/78-01; 50-453/78-01)
Items Discussed: Status and schedule of the Greenwood Energy Center project; IE pre-construction permit inspection program; IE/NRR interface and general problems identified in the pre-construction phase. The meeting involved 4 hours by two NRC inspectors.

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Report of Greenwood Units 2 and 3 Meeting

A meeting was held September 26, 1978 at Detroit Edison Company, Detroit, Michigan. The meeting was held to:

- a. Discuss the status and schedule of the Greenwood Energy Center Nuclear Units 2 and 3.
- b. Discuss the Office of Inspection and Enforcement (IE) inspections that will be performed in conjunction with the issuance of a construction permit.
- c. Discuss IE functional relationship with the Office of Nuclear Reactor Regulation (NRR).
- d. Discuss general problems that have occurred during the pre-construction and early construction stages of Nuclear Power plants.

The following Detroit Edison Company personnel were in attendance during the meeting:

E. D. Hines, Assistant Vice President, Quality Assurance
A. Harris, Project Manager
T. A. Alessi, Quality Assurance Division
A. D. Smart, Project Engineer
L. Johnson, Director, Civil Engineering
S. E. Kremer, Project Purchasing
G. Mookerjee, Control Engineer
J. Voyles, Director, Electrical Engineering
E. L. Alexanderson, Director, Nuclear Engineering
K. Moon, General Purchasing Inspection Supervisor
D. Ryan, Site Project Quality Assurance Engineer

1. The inspector explained that normally this meeting was a joint IE/NRR meeting held with an applicant about nine months prior to his submittal of a construction permit application. However, in view of the fact that a similar meeting was held prior to the initial submittal of the application in 1973, it was mutually agreed that a repeat of this full meeting was not needed but that a brief review would be beneficial.
2. Mr. A. Harris of Detroit Edison discussed the status and schedule of the Greenwood Energy Center, Units 2 and 3:
 - a. The initial PSAR submittal occurred in 1973. The units were to be constructed starting in 1974/1975.

- b. It was decided by Detroit Edison, based on revised Power need projections and financial conditions, that construction should be delayed until this time.
 - c. Detroit Edison has based their revised construction and completion schedule on obtaining a construction permit in 1981 with commercial power operation in 1989/1991.
 - d. Detroit Edison is presently planning to purchase a Babcock and Wilcox (B&W) standard plant Design with Bechtel corporation performing Architect Engineering and construction management responsibilities.
 - e. Changes to the basic plant design are not expected to be significant. However, the two facilities are now planned to be independent with no shared structures or systems. Design work to accomplish this and other required modifications is in progress.
 - f. Several large forgings were bought earlier for the Greenwood Energy Center and are in storage at B&W. Mr. Harris stated that a protective coating has been applied as a preservative and that B&W was monitoring the forgings for proper storage with Bechtel performing an audit function.
3. The Nuclear Regulatory Commission representatives discussed the sequence of events and IE pre-construction permit inspections that would take place upon receipt of the amended construction permit application.
 4. In regard to the Quality Assurance Program Manual review by IE, the inspector stated that one controlled copy of the QA Manual must be submitted to the Region III office at least 30 days prior to the expected date the amended application is submitted.

The inspector explained that the QA manual would be reviewed for completeness and consistency with NRC requirements with emphasis on those sections involved with design and procurement activities. The inspector added that any IE concerns identified during the manual review would be forwarded to the Licensing QA Branch through IE Headquarters.

The inspector stated that the Region III office will also review Chapter 17 of the amended PSAR. The review will include examination for consistency between the program description and the QA manual.

5. In regard to inspections to be held at the applicants office, the inspector stated that the utility would be notified in advance of the inspection and that a brief meeting would be held at the beginning of the inspection to discuss the general scope of the inspection and confirm the status of activities in progress. The inspector added that at least three inspections would be conducted prior to issuance of the Safety Evaluation Report (SER) and the ACRS meeting. The first would be about two to three weeks after submittal of the amended application, the second, four to six months later and the third, about three months prior to the ACRS meeting. If a LWA-2 is requested the inspection schedule may be advanced.

The inspections would consist of interviews with personnel, examination of work in progress, and review of selected records to determine:

- a. The structure of the engineering, procurement and QA organizations and their interface with other organizations.
- b. The availability of the QA manual instructions to the organizations and individuals performing the assignments discussed in the program.
- c. An adequate understanding by management and other personnel of the QA manual instructions which affect their activities.
- d. The availability and adequacy of review and approval of QA records for activities in progress.
- e. The degree of implementation, by management and individuals of the QA manual provisions.
- f. Concerning the last of the three inspections, the inspector stated that, in addition to the areas previously discussed, a thorough evaluation would be made including a review of administrative and other procedures for adequacy to determine Detroit Edison Company readiness to start construction work.

The inspector commented further, that an exit meeting would be held with appropriate members of the utilities staff at the conclusion of each inspection and that a summary of the inspection findings would be provided. Also, that a report of the inspection results would be issued.

The inspector added that the results of these inspections would be evaluated as to the effectiveness of Detroit Edison implementation

of the QA program requirements and their readiness for construction activities for the Greenwood project. Based on this evaluation and on the IE Region IV office examination of the QA program, of the AE/Construction manager (Bechtel) and the NSS supplier (B&W) an IE position statement will be submitted to Nuclear Reactor Regulation (NRR) for inclusion in the SER.

6. The meeting was concluded with a question and answer session and a discussion by the NRC representatives of problems that have been encountered at other power plant construction sites during early phases of the construction program. Problem areas discussed included:
 - a. Review and approval of vendor drawings
 - b. The control and logistics of incorporating design changes into Design Documents such as specifications and Drawings.
 - c. Control of nonconformance resolutions
 - d. Ensuring, by audit or other means, that all vendors are qualified to fulfill contractual obligations.
 - e. Proper designation and control of safety related equipment
 - f. Adequate surveillance and control of sub tier contractors
 - g. Verification that specification requirements are included in purchase orders issued to sub tier vendors.
 - h. Clearly defined and established organization interfaces, responsibilities and authorities.
 - i. Importance of the timely corrective action of audit findings and discrepancies.

7. The inspectors noted that Detroit Edison would have two nuclear plants, one in startup and the other being constructed simultaneously and inquired regarding Detroit Edison's staffing plans. It was stated that the Detroit Edison personnel assigned to Fermi 2 involved in early construction would be reassigned to Greenwood. Construction of the Fermi 2 plant should be essentially complete prior to start of construction at the Greenwood Energy Center. Detroit Edison felt adequate numbers of personnel to staff the Greenwood Energy Center Units 2 and 3, and Fermi 2 would be available especially in view of the recent slippage of planned commercial operation of the Greenwood units to 1989/1991.