

N.C. Moseley, Co. I
RWC

UNITED STATES GOVERNMENT

Memorandum

TO : Roger S. Royd, Assistant Director for
Reactor Projects
Division of Reactor Licensing

DATE: December 14, 1967

FROM : R. H. Engelken, Assistant Director for *Original signed by*
Inspection and Enforcement R. H. Engelken
Division of Compliance

SUBJECT: JERSEY CENTRAL POWER AND LIGHT COMPANY
OYSTER CREEK PLANT, DOCKET NO. 50-219

A meeting with cognizant members of your staff, Saul Levine's staff, Don Skovholt's staff, and the Division of Compliance was held in my office on December 12, 1967. The purpose of the meeting was to coordinate the evaluation and inspection functions relating to the Oyster Creek project. As a result of this meeting, we agreed to provide you with our comments or suggestions regarding items to include in the letter to Jersey Central that is currently being prepared by DRL. It is our understanding that this letter will identify the remaining unresolved problems associated with this project. Some of the more significant information which we feel should be included in this letter is the following:

1. Inspection of Pressure Vessel and Associated Primary System Piping

In view of the stress corrosion cracking of the control rod stub tubes, it is suggested that the applicant conduct a comprehensive nondestructive testing program to ascertain that similar effects did or did not occur in other locations in the pressure vessel and in the primary system. Special attention should be given to the recirculation system and to the vessel internals. The applicant should specifically be asked whether his proposed inspection program includes ultrasonic testing and radiographic reinspection of the transition joints between the pressure vessel nozzles and connected piping. The need for these inspections will become even more urgent if General Electric confirms their suspicion that the solutions used in cleaning and flushing the primary system played an important role in the development of the stub tube problem.

2. Safety Analyses of Stub Tube Cracking and Failure of Control Rod Guide Tube Field Welds

It is imperative that timely analyses be made of the hazards associated with propagation of the cracking of the control rod stub tubes and of the failure of the field welds which join the control rod guide tubes to the stub tubes. It is difficult to put these problems in their proper perspective and it will be imprudent to



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make some of the decisions which have to be made in the near future without having a realistic and well-understood appreciation for the probability and magnitude of the hazards associated with these problems. We are aware of some of the discussions and inquiries which have been made concerning this point, but we would encourage a full exploration of these questions at the earliest possible time.

3. Adequacy of Proposed Repair of Cracked Stub Tubes

Since it is increasingly clear that the cracking of the stub tubes is some form of stress-induced corrosion cracking, it is becoming more apparent that a better understanding and knowledge of the magnitude and distribution of residual stresses in the vicinity of the stub tubes are necessary to properly evaluate the adequacy of the proposed repair of the stub tubes. In discussing the proposed repair there was general agreement among those present at the meeting that while the proposed repair would eliminate the effects of the problem (cracks) by grinding and removal of damaged material, it would not eliminate at least two of the important ingredients of the cause of the cracking, i.e., stress and sensitization of the 304 stainless steel stub tube material.

4. Organization

We feel that the importance of adequate on-site and off-site technical support for the operating organization should be emphasized to the applicant. In our view, the applicant has not directed sufficient attention to this important requirement.

5. Adequacy of Emergency Plans

It appears that the applicant is relying heavily on the State of New Jersey for assistance in emergencies. Additional information on this subject should be provided.

6. Preoperational Tests

The preoperational testing program for Oyster Creek is under continuing review by the Division of Compliance. Many of the deficiencies and gaps in the applicant's earlier plans have either been resolved or eliminated by additional information provided during our recent visits to the site. It is expected that some of the lingering gaps or inadequacies will be eliminated during future inspections at the site by Compliance. We hesitate to request formal submission of

detailed information concerning preoperational testing procedures until we have had additional opportunity to review the preoperational testing procedures we have most recently obtained from the applicant.

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