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bcc: Edward J. Bauser Executive Director

Joint Committee on Atomic Energy tion on the Syster Creek Sanleer Four Plant Unit So. 1.

The matters related in your letter are discussed in the endlosed shalf report. Specifically, it is pointed out that colery review of this plant une carried out over a period of easy wonths. The final supplementary inspections and demanntation of results which were required unce encombably confluid to sens of the results piping and safety values. These actions note accomplished in the final works protective in inspection, any heater piping and safety values. These actions note constains licenses a depost 1, 1969. This listed, any located work was accomplished is a the much live that the first point of no originally forecast by Jonacy Control because of the concentrated effort and close coordination of work and review by the ASC.

For your fauthor information, I also content two bookloss, "Licenshing of Power Constants' and "Atomic Power Tafety," which contain information concerning the Cosmission's resultancy procedures for the licensing of nuclear power restors.

Should you desire further information on this matter, please

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SUMMARY OF SAFETY REVIEW OF OYSTER CREEK PLANT PROPOSED OPERATION PREPARED BY THE AEC REGULATORY STAFF

Our safety review of the Oyster Creek plant has been proceeding continuously since January 25, 1967, when the Jersey Central application for a provisional operating license was first received. This review has been conducted with the advice of the Advisory Committee on Reactor Safeguards, as required by the Atomic Energy Act. The results of our detailed review and evaluation of the proposed operation of the facility, including the construction difficulties, are presented in our Safety Evaluation and Addenda (copies attached). Our actions regarding two specific matters raised in Senator Williams' letter of August 13, 1969 (i.e., cracks and defective welds in certain components and additional inspection of piping and relief valves) are summarized below.

During the course of a field hydrostatic test of the reactor vessel in September 1967, a leak was noted near one of the vessel attachments. As a result of this observation, a program was initiated by Jersey Central Power & Light Company and the General Electric Company to determine the cause of the leak. The ensuing investigations indicated that 123 out of 137. of the sensitized stainless steel control rod drive stub tubes attached to the reactor pressure vessel had experienced intergranular attack or what also has been characterized as stress corrosion cracking. In addition, it was found that the shroud support ring and the reactor vessel nozzle safe ends had experienced intergranular attack. The field welds that join the control rod drive stub tubes to the control rod drive housings and the field welds on instrument lines were also found to be defective in terms of lack of fusion and/or porosity. These findings led to a comprehensive investigation and subsequent repair program to restore the reactor pressure vessel and associated components to a condition not less satisfactory than approved for the original design.

The intergranular attack noted above was confined to those stainless steel components which were furnace-sensitized, i.e., a high temperature heat treatment process which resulted in carbon precipitation at the grain boundaries. Subsequent exposure to a corrodent(s) and in the presence of a stress field caused the component to crack. A program was implemented that resulted in the following repair activities:

- (a) replacement of the sensitized stainless steel components with nonsensitized material,
- (b) provision of a clad overlay of a material that was demonstrated to be resistant to intergranular attack,
- (c) provision of a redundant shroud support ring support structure, and
- (d) removal and rewelding f the defective welds that were found.

On the basis of our field inspection and review of techniques and results of corrective actions, we concluded

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that the various repair activities conducted by Jersey Central and General Electric did restore the reactor pressure vessel to an acceptable condition with regard to the health and safety of the public. Following this extensive review, in December of 1968, we published a notice of intent to issue an operating license for the Oyster Creek plant.

On April 17, 1969, our notice of actual issuance of a 5-megawatt (thermal) license for the Oyster Creek facility was published in the Federal Register (34 F.R. 6547). This license was issued to permit fuel leading and low power physics testing, on a timely basis, although certain outstanding matters not related to the pressure vessel problems remained to be resolved before a full power operating license could be issued. These matters related to documentation of the quality of certain piping. The applicant conducted investigations of the fabrication techniques and inspections of this piping during April and May of 1969 and presented the results of this work in Amendment No. 53, dated June 12, 1969 (copy attached). Following our review of this information, we concluded that certain additional inspections, which were described in the July 16, 1969 issue of the Wall Street Journal, were required to complete documentation of satisfactory results of nondestructive examination of the primary coolant system. These requirements were discussed with the applicant at a meeting on July 10, 1969, and confirmed in a letter to the applicant dated July 29, 1969 (copy attached).

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The applicant performed various additional inspections which were reviewed and evaluated by representatives of the Commission prior to issuance of the 1600-megawait (thermal) license on August 1, 1969. Original estimates of two or more months to complete this work were substantially reduced because of special efforts by the General Electric Company, the applicant and the Commission not to cause unnecessary delay in permitting operation of the plant. These efforts included three-shift operation of technical specialists of the companies and concurrent on-site review by the Commission staff. As evidenced by the foregoing chronology, many months were involved in resolving all matters related to safety for the Cyster Creek plant. During the three-week interval indicated in your letter, the final actions required were essentially limited to additional inspections and record verifications of certain reactor piping and safety valves.

The Commission will continue to follow the operation of the facility throughout its operating lifetime. The applicant is required by his license to conduct surveillance and inspection of the facility components. Assurance that the applicant is complying with these requirements is obtained by periodic inspection visits by representatives of the Commission.

Attachments:

- 1. Safety Evaluation and Addenda
- 2. Amendment No. 53
- 3. AEC ltr to Jersey Central dtd 7/29/69

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