



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 TO PROVISIONAL OPERATING LICENSE NO. DPR-16

JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 Introduction

By letter dated March 4, 1980 (Reference 1), Jersey Central Power & Light Company (the licensee), requested an amendment to Appendix A of Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. The request proposed two sets of Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limits. One limit is for five recirculation loop operation and the other is for four recirculation loop operation. The limits for five loop operation are identical to those previously approved by License Amendment No. 33 for Oyster Creek, except that the limit for fuel types V and VB have been extended to 40 Giga-Watt-Day per Metric Tonne Metal (GWD/MTM). The limits for four loop operation result from a new Emergency Core Cooling System (ECCS) performance analysis with the exception of the limits for fuel type III. Fuel type III limits are the same as the current specification limits. This proposed change would also re-establish the MAPLHGR multiplier in the plant Technical Specifications for five and four loop operation, and delete unnecessary specifications for fuel which is no longer in the core. The modifications for four loop operation are supported by an Exxon ECCS performance analysis enclosed in Reference 1.

2.0 Evaluation

The proposed change was submitted to demonstrate continued compliance with the requirements of 10 CFR 50.46. Approval of the proposal would return the MAPLHGR limits of all fuel types (IIIF, V and VB) to those specified in Amendment No. 33 (Reference 2) and extend the limits for type V and VB fuel to 40 GWD/MTM. The ECCS Evaluation Models used for the proposed changes are the same models used to calculate MAPLHGR limits of Amendment No. 33 (Reference 3). The model application to Oyster Creek, including the MAPLHGR limits calculation, is presented in Reference 4. This request also includes a set of MAPLHGR limits of all fuel types (IIIF, V and VB) for four recirculation pump operation. The ECCS evaluation models used for fuel types V and VB are the same models used to calculate MAPLHGR limits for five pump operation (Reference 3) and the MAPLHGR limits for fuel type IIIF are those of the current Technical Specification. LOCA analyses for the four pump operation are presented in Reference 5.

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Due to the unavailability of critical replacement parts, one recirculation pump was removed from service and the plant operation continued under more restrictive limits adapted (Reference 6 and 7) and specified in the Amendment No. 35 (Reference 8), and modified by Amendment No. 39 (Reference 9). In letters of April 30, 1979 (Reference 6) and May 24, 1979 (Reference 7), the licensee stated that the Oyster Creek Station would continue to operate within the more restrictive limits until such time that the analyses were completed to justify operation at higher limits, or a fifth recirculation pump was restored to service. The proposed Technical Specifications would enable Oyster Creek to operate with five or four recirculation pumps in service.

A license amendment approving the request would also return the MAPLHGR multiplier to the Technical Specifications as approved by Amendment No. 33 (Reference 2). The MAPLHGR would then be applicable to all fuel types for five and four loop operation.

Assembly Averaged Power Void Relationship (AAPVR) would be applicable to fuel type IIIF for four loop operation only. MAPLHGR limits of fuel types IIIF, V and VB for five loop operation and fuel types V and VB for four loop operation are based on ENC NJP-BWR ECCS-EM (Reference 3). This model does not require input from a blowdown analysis of the plant by GE ECCS-EM (Reference 10). Therefore, AAPVR would no longer be applicable to fuel types IIIF, V and VB for five loop operation and fuel types V and VB for four loop operation.

The proposed Technical Specifications would also delete references to fuel types I, II, IIIE for peaking factors in Section 2.1.A.1, local LHGR in Section 3.10.B, and pellet-clad thermal conductance and power spike penalty in the Section 3.10.B basis. These fuel assemblies are no longer in the core and are not expected to be reinserted. Therefore, these references are no longer applicable.

The delay time of isolation condenser initiation from reactor low low water level was changed from 10 to 3 seconds by Amendment No. 39 (9). The event times are reported in References 3 and 5 for five and four loop, respectively. LOCA analyses indicate a 10 second delay. Calculations have not been performed that specifically vary isolation condenser delay time; however, several calculations have been performed in which isolation condenser capability was varied. They include calculations with: (1) no isolation condenser, (2) one isolation condenser operating, (3) both isolation condensers operating. Results of the above calculations are reported in Reference 3. In all cases where isolation condenser capability was modeled, the PCT was decreased, because of a slight increase in the rate of system depressurization. Therefore, the effect of only an additional 7 seconds of isolation condenser injection is expected to be small.

Based on our review of the licensee's submittal, we conclude that the Oyster Creek Nuclear Generating Station would be in conformance with 10 CFR 50.46 and Appendix K to 10 CFR 50 when operated in accordance with the proposed Technical Specifications. We, therefore, find the licensee's request acceptable.

3.0 Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: June 2, 1980

References

1. Letter from I. R. Finfrock Jr., (JCP&L) to Director, Nuclear Reactor Regulation (USNRC), March 4, 1980.
2. NRC (D.L. Ziemann) Letter to JCP&L (I. R. Finfrock). Amendment No. 33 to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, dated November 11, 1978.
3. XN-75-55-(A), XN-75-55, Supplement 1-(A), XN-75-55 Supplement 2-(A), Revision 2, April 1977. Exxon Nuclear Company WREM Based NJP-BWR ECCS Evaluation Model and Application to the Oyster Creek Plant.
4. XN-NF-77-55, Revision I, March 1978. Oyster Creek LOCA Analyses Using the ENC NJP-BWR ECCS Evaluation Model.
5. XN-NF-79-78, January 1980.
LOCA-ECCS Analyses Supporting Four-Pump Operation of Oyster Creek Reactor.
6. JCP&L (I. R. Finfrock) Letter to NRC (Director, Nuclear Reactor Regulation). Four Loop Operation, dated April 30, 1979.
7. JCP&L (I. R. Finfrock) Letter to NRC (Director, Nuclear Reactor Regulation). Request for Amendment to Provisional Operating License No. DPP Technical Specification Change Request No. 73, dated May 24, 1979.
8. NRC (D. L. Ziemann) Letter to JCP&L (I. R. Finfrock). Amendment No. 35 to Provisional Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station dated May 30, 1979.
9. NRC (D. L. Ziemann) Letter to JCP&L (I. R. Finfrock). Amendment No. 39 to Provisional Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station, dated July 23, 1979.
10. JCP&L Letter to NRC. Oyster Creek Nuclear Generating Station Loss-of-Coolant Accident Analysis Reevaluation and Technical Specification Change Request No. 42, Attachment 1, dated December 23, 1975.