



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 79 TO FACILITY OPERATING

LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 Introduction

During the summer 1983 refueling outage at the James A. FitzPatrick Nuclear Power Plant, the relative steam admission by the turbine control valves was modified to permit full arc operation. Previously, under partial arc operation, three of the four valves were fully open with the remaining valve open approximately 25-33 percent. The licensee, Power Authority of the State of New York (PASNY), now intends to operate with all four valves open to approximately the same position (50-52 percent) in order to reduce the cyclical stresses on the turbine blades, since each control valve admits steam to only one ninety degree quadrant of the turbine rotor.

The change in the control valve positions from fully open to partially open will reduce the time for the valves to achieve full closure. This, in turn, will result in the voids collapsing faster relative to the insertion of the negative reactivity by the scram signal, which is not altered by this change.

The load rejection without bypass event is the only limiting minimum critical power ratio (MCPR) event for which the turbine control valves are ordered to close. The licensee has stated that this event was reanalyzed, resulting in an increased change in the critical power ratio. Subsequently, PASNY requested modifications to the Technical Specifications for the operating limits for the MCPR. The requested changes in the MCPR (moved in the conservative direction) would restore the margin to the safety analysis limit.

2.0 Evaluation

The new values for the change in the critical power ratio for the load rejection without bypass event were calculated for the licensee by General Electric using a previously approved computer code (ODYN) and methodologies. The approval of these codes and methods is contained in "Safety Evaluation for the General Electric Topical Report -

Qualification of the one-Dimensional Core Transient Model for Boiling Water Reactors, NEDO-24154 and NEDE-24154-P, Volumes I, II, III."

The licensee has requested that the Technical Specifications table, entitled "MCPR Operating Limit For Incremental Cycle Core Average Exposure," be amended for the 39%, 40%, 41%, 42% and 43% rod block monitor hi-trip level setting for "EOC-1 GWD/t to EOC" from 1.29 to 1.30. The licensee transmitted the results of the ODYN analysis for the change in the critical power ratio for a pressurized 8x8 fuel bundle for the load rejection without bypass event. Our review of these results, along with use of the generic statistical adjustment factor for the FitzPatrick Plant, indicates that the changes to the table have been properly calculated and are, therefore, acceptable.

The licensee also proposed to modify Figure 3.1-2 (Operating Limit MCPR Versus - For All Fuel Types) in order to account for the turbine control valve modifications. Comparison of the revised figure to the values calculated by ODYN, show that they are consistent and, therefore, Figure 3.1-2 is acceptable.

In conclusion, the Technical Specifications modifications requested by PASNY for FitzPatrick in order to account for full arc operation are acceptable. The modifications were established by correctly applying previously approved codes and methodologies.

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 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 above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) 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.

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Dated: May 8, 1984