



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE NO. NPF-73

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

BEAVER VALLEY POWER STATION, UNIT NO. 2

DOCKET NO. 50-412

INTRODUCTION

By letter dated May 4, 1989, Duquesne Light Company (the licensee, acting as agent for the above utilities) submitted an application to modify Table 3.3-2 of the Technical Specifications. The proposed amendment would modify the reactor trip system overtemperature delta T (OT $\Delta$ T) and overpower delta T (OP $\Delta$ T) response times. Our review of that application follows.

DISCUSSION AND EVALUATION

The current design basis requirements for the OT $\Delta$ T and OP $\Delta$ T reactor trip total response time, respectively, as provided in FSAR Table 15.0-4, is 6.0 seconds. This total response time is defined as the delay from when the temperature in the reactor coolant loop exceeds the trip setpoint, until the rods are free to fall into the core. Included in this time response is the resistance temperature detector (RTD) bypass manifold fluid transport and heatup time delays, along with RTD sensor time delays, channel time delays, and the reactor trip breaker and rod gripper release times. By definition, the Technical Specification reactor trip response time includes the time from when the monitored parameter exceeds its setpoint at the sensor until loss of gripper coil voltage. Therefore, for the Technical Specifications, the RTD bypass manifold fluid transport and heatup times are not included in the response time requirement. Since a duration of 2 seconds is assigned for the RTD delay time, the non-inclusion of the RTD delay time results in a respective 4-second OT $\Delta$ T and OP $\Delta$ T requirement in the Technical Specifications.

The OT $\Delta$ T and OP $\Delta$ T reactor trip time response were initially verified during the startup test program and subsequently verified by the Technical Specifications surveillance program. The licensee's evaluation of the results of the initial

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startup test indicated that the 6.0 second time response assumed in the FSAR was exceeded. The licensee requested Westinghouse to provide a technical basis for continued operation pending determination of the cause and resolution of the design deviation. As a result, Westinghouse prepared a letter dated April 28, 1989, providing the technical justification for continued operation (JCO). The JCO, was attached to the licensee's May 4, 1989 letter. Westinghouse re-evaluated those transients or accidents that would depend on the protective function of the OTAT or OPAT trips, and obtained these results:

<u>FSAR Section</u>	<u>Accident</u>	<u>Assumed Protection Function</u>
15.1.5	Steam line break	OTAT or OPAT
15.2.3	Turbine Trip with Pressurizer Control, Minimum Feedback	OTAT
15.4.2	Uncontrolled RCCA Bank Withdrawal at Power	OTAT
15.4.6	CVCS Malfunction that results in a decrease in the boron concentration in the RCS (Boron Dilution), Mode 1 - Manual Rod Control	OTAT
15.6.3	Steam generator tube rupture	Low pressurizer pressure trip, which is faster than the OTAT or OPAT

The licensee concluded that only the above transients or accidents in the FSAR could be affected by the increase in OTAT or OPAT response time, and that the effects on these are either non-existent, or minimal. We reviewed the submitted information and concur with the licensee's assessment

Westinghouse also re-evaluated the impact of increased OPAT response time on equipment qualification outside containment, and concluded that a delay of rod motion of 1.5 seconds has no significant effect on the reported peak enthalpies or mass releases. Westinghouse stated that the data presented in WCAP-10961, Rev. 1, "Steamline Break Mass/Energy Releases for Equipment Qualification Outside Containment," continues to be applicable for Beaver Valley Unit 2. We concur with this re-evaluation.

The licensee requested to change the specified OTAT and OPAT trip response times by adding 1.5 seconds to each. The resulting response time is 5.5 seconds. We evaluated this request and agree that despite the increased response time, the conclusions of various FSAR safety analyses remain valid. The requested changes are thus acceptable.

### ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. We have previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### CONCLUSION

We have concluded, based on the considerations discussed 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 (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 6, 1989

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