

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY

DOCKET NO. 50-320

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2

Introduction

By letter dated June 23, 1980, (Reference 1), the Metropolitan Edison Company (licensee) proposed a change to the Appendix B Technical Specification dealing with the reactor building purge exhaust flow radiation monitors HP-R-225 and HP-R-226 and the associated interlock function for the purge exhaust dampers D5129 A/D and D5129 B/C. The proposed change would permit bypassing the interlock function which would cause these dampers to automatically shift position from the OPEN position to the RECIRCULATE position on a high radiation signal during "rapid" purging of the TMI-2 reactor building atmosphere pursuant to the Commission Order for Temporary Modification of License dated June 12, 1980.

Evaluation

Radiation monitors HP-R-225 and HP-R-226 are provided to monitor the concentrations of radioactive materials in the exhaust flow of the two trains of the reactor building purge system. One monitor is provided for each train of the reactor building purge system; these monitors are entirely separate from and have no effect on the hydrogen purge system. These monitors are equipped with actuation circuitry to provide an interlock function for the purge exhaust dampers D5129 A/D and D5129 B/C. This interlock causes the dampers to automatically shift position from the OPEN position to the RECIRCULATE position on a high radiation signal. The set point for these monitors is based upon the instantaneous release rate limit provided in Appendix B

Technical Specification 2.1.2a which is in turn based upon the annual average X/Q for

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the site. Since the reactor building purge operation will be performed using real-time meteorological parameters and measured concentrations of Kr-85 in the purge effluent to limit the offsite doses to within the design objectives of 10 CFR Part 50, Appendix I, bypassing of this interlock will not cause a decrease in the margins provided by these set points. However, for the period of the purge of the TMI-2 reactor building atmosphere, the Commission's Order for Temporary Modification of License dated June 12, 1980, supersedes this Technical Specification with limitations based upon doses to the maximally exposed individual. Consequently, the basis for the monitors' set point and the operability requirements for the associated interlock function no longer exists; in fact, at the present set point, the system would not permit purging to continue if the concentration exceeded the set point even though such operation is permitted by the Commission's Memorandum and Order and the Order for Temporary Modification of License. Furthermore, during this purging operation, the indication range of these monitors may be exceeded. Therefore, the detailed operating procedures for purging have been modified to require periodic sampling of the gases in the reactor building purge system. These operating procedures require NRC staff approval pursuant to proposed Appendix A Technical Specification 6.8.2 prior to implementation. Based upon the foregoing considerations, we find the licensee's proposal to bypass this interlock function during the period of the purge of the TMI-2 reactor building atmosphere acceptable.

Environmental Considerations

The environmental considerations of releasing the krypton-85 from the TMI-2 reactor building atmosphere by controlled purging were evaluated in the "Final Environmental Assessment for Decontamination of the Three Mile Island Unit 2

~~Reactor Building Atmosphere", NUREG-0662, Volume 1, May 1980, (Reference 2) and~~

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In the Commission's Memorandum and Order dated June 12, 1980. In these documents it was concluded that there is reasonable assurance that the health and safety of the public will not be endangered by controlled purging of the TMI-2 reactor building atmosphere to the environment and that this action is insignificant from the standpoint of environmental impact. Thus, pursuant to 10 CFR Section 51.5 (d) (4), an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

Based upon our review, as discussed above, we find the licensee's proposal to bypass the radiation monitors' interlock function the purge exhaust dampers during purging of the reactor building atmosphere acceptable and grant the requested Appendix B Technical Specifications change. The measures authorized in connection with this evaluation will permit controlled purging of the reactor building atmosphere to the environment in accordance with the Commission's Order for Temporary Modification of License dated June 12, 1980. Based on these considerations, we have concluded that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered or a significant reduction of a margin of safety and thus, 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.

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References:

1. Letter to Bernard J. Snyder, NRC, from R. C. Arnold, Metropolitan Edison Company, "Technical Specification Change Request No. 25", June 23, 1980.
2. "Final Environmental Assessment for Decontamination of the Three Mile Island Unit 2 Reactor Building Atmosphere", NUREG-0662, Volume I, May 1980.

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