



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 164 TO FACILITY OPERATING LICENSE NO. DPR-66
AND AMENDMENT NO. 44 TO FACILITY OPERATING LICENSE NO. NPF-73

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

THE TOLEDO EDISON COMPANY

BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

By letter dated December 21, 1989, Duquesne Light Company (DLC/the licensee) proposed certain revisions to the Beaver Valley Power Station, Units 1 and 2 Appendix A Technical Specifications relating to the accumulators in the emergency core cooling systems (ECCS). Specifically, DLC has proposed to delete Surveillance Requirement 4.5.1.d for both Units 1 and 2, and to correct a typographical error in Surveillance Requirement 4.5.1.c for Unit 1 only.

Surveillance Requirement 4.5.1.d requires verification that the accumulator isolation valves open automatically upon receipt of a safety injection signal and when the reactor coolant system (RCS) pressure exceeds the P-11 interlock setpoint. This surveillance test is required at least every 18 months.

2.0 DISCUSSION

Emergency core cooling in the event of a loss-of-coolant accident (LOCA) is provided by the emergency core cooling system (ECCS). Included among the principal components of the ECCS providing emergency core cooling immediately following a LOCA are the three accumulators. The accumulators are pressure vessels partially filled with borated water and pressurized with nitrogen. In the event the reactor coolant system pressure (RCS) falls below the gas pressure in the accumulators, the water is forced into the reactor coolant system.

Two check valves in series in each accumulator discharge line prevent backflow from the RCS during operation, and a motor-operated isolation valve in each discharge line can be closed to prevent unwanted accumulator discharge when the RCS pressure is intentionally reduced during startup or shutdown. To assure that the accumulator isolation valves are not closed at a time when ECCS may be required, the accumulator isolation valves receive an "open" signal upon receipt of a safety injection signal or when the pressurizer pressure exceeds 2000 psig.

The isolation valves have redundant position indicating lights in the control room. For Unit 1, position indication is taken from independent limit switches in the isolation valve motor-operator. At Unit 2, limit switches in the isolation valve motor-operator and on the valve stem provide position indication. For both units, an annunciator will alarm when the safety injection block is removed should a valve not be fully open. The alarm is repeated at approximately 1-hour intervals until the valve is properly positioned.

DLC has stated that Surveillance Requirement 4.5.1.d.1 is performed for each isolation valve individually in succession during the startup sequence. The RCS pressure is increased above the 2000 psig setpoint to demonstrate that the safety injection signal block is removed automatically and the isolation valve under test opens. The RCS pressure is then lowered, the safety injection signal block re-instituted, and the next isolation valve to be tested is closed in order to repeat the test. Thus, the RCS pressure is cycled between about 1000 psig and 2000 psig three times to perform the surveillance requirement. The operator is required to take manual action on each pressure decrease to re-institute the safety injection block and to close the isolation valve to prevent inadvertent safety injection.

3.0 EVALUATION

Limiting Condition for Operation 3.5.1 requires each accumulator to be operable in Modes 1 and 2 and in Mode 3 when the pressurizer pressure exceeds 1000 psig. To be operable requires, among other conditions, the accumulator isolation valves to be open.

Surveillance Requirement 4.5.1.a requires verification at least once every 12 hours that the isolation valves are open and that no position alarms are present. Surveillance Requirement 4.5.1.c requires that each accumulator be demonstrated operable by verifying at least every 31 days that power to the isolation valve motor-operator control circuits is removed. DLC has stated that the isolation valve motor-operators are energized only momentarily during startup at approximately 1000 psig RCS pressure to open the valves and are then deenergized.

During shutdown, the motor-operators are again momentarily energized to close the valves at approximately 1000 psig in the RCS. Surveillance Requirement 4.5.1.3 requires verification that the valves are closed and deenergized when the RCS pressure is reduced to 1000 ± 100 psig.

Since the isolation valves are open with power removed during plant operation, and required periodic surveillances verify that power to the valve motor-operators is removed, the valves are open, and no position alarms are present, the possibility of inadvertent closure of the isolation valves is eliminated. Because the valves are energized for only brief intervals to change valve position during startup or shutdown, the automatic actuation features to assure the valves will open when required serve no useful function. Thus, we conclude that periodic testing per Surveillance Requirement 4.5.1.d is not required, and deletion of the surveillance requirement is acceptable.

DLC also proposes to change *be* to *by* to correct a typographical error in Surveillance Requirement 4.5.1.c. This is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC staff has determined that the amendments involve 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. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (56 FR 4269). Accordingly, the amendments meet 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 amendments.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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