UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 150 AND 130 TO FACILITY OPERATING

LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated December 8, 1993, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2, Technical Specifications (TS). The requested changes were in response to the staff's request in Generic Letter (GL) 90-06 that addressed the issues of power-operated relief valve (PORV) and block valve reliability (Generic Issue 70) and additional low temperature overpressure protection (LTOP) for light water reactors (Generic Issue 94).

2.0 EVALUATION

1. The licensee requested that Technical Specification 3/4.4.3 (for Unit 1) and 3/4.4.5 (for Unit 2), Relief Valves, be revised such that:

   - With one or both power operated relief valves (PORVs) inoperable and capable of being manually cycled, continued plant operation shall be permitted only if the associated block valve is closed with power maintained on the block valve.

   - With one PORV inoperable and not capable of being manually cycled, continued plant operation shall be permitted only if the associated block valve is closed and de-energized within 1 hour and the affected PORV is returned to operable status within 72 hours.

   - With both PORVs inoperable and not capable of being manually cycled, continued plant operation shall be permitted only if at least one PORV can be restored to operable status within 6 hours. The remaining PORV shall be restored to operable status within 72 hours from failure of that valve to meet the Limiting Condition for Operation (LCO).

- With one or both block valves(s) inoperable, either the valve(s) shall be restored to operable status or the associated PORVs shall be placed in manual control within 1 hour. If both block valves are inoperable, at least one shall be restored to operable status within the next 6 hours. The remaining block valve shall be restored to operable status within 72 hours from failure of that valve to meet the LCO.

- Each PORV shall be demonstrated operable on an 18-month test interval by: (1) operating the valve through one complete cycle of travel during Modes 3 or 4; (2) operating solenoid, control, and check valves associated with the PORV accumulators through one complete cycle of travel; and (3) performing a channel calibration of the actuation instrumentation.

- Each block valve shall be demonstrated operable on a 92-day test interval by operating the valve through one complete cycle of travel.

- A Bases change has been included to clarify that although a PORV may be inoperable, it may be able to be manually opened or closed, and therefore, able to perform its intended design function. PORV inoperability may be due to seat leakage, instrumentation problems, automatic control problems, or other causes that do not prevent manual use, and do not create a possibility for a small break loss-of-coolant accident (LOCA). It is also explained that the Action Statement requires that the block valve be closed, and power maintained to the valve if it is capable of being manually cycled.

The above changes are in response to the recommendations in GL 90-06, Enclosure A, and are discussed on pages A-8 through A-10. The technical specification changes, recommended in GL 90-06, have been fully incorporated except as follows:

a. The surveillance requirement to test the emergency power supply for the PORVs and block valves has not been incorporated. At Salem, the PORVs and block valves receive power from the vital busses which receive emergency power from the emergency diesel generators (EDGs). The operability of the EDGs is verified by surveillance requirements applicable to the electrical power systems (Technical Specification 3.8.1.1). The staff finds this exception acceptable.

b. The licensee has proposed to use the Action Statements from the Westinghouse Standard Technical Specifications (STS), NUREG-1431, for determining whether or not power should remain on the closed block valves.

   The recommendations in GL 90-06 use PORV excessive seat leakage to determine if power should remain on the closed block valves. If excessive seat leakage was the reason the PORV was inoperable, then the block valve was to be closed with power remaining on the valve. If the PORV was inoperable for reasons other than excessive seat leakage, then the block valve was to be closed and power removed from the block valve.

However, the STS uses the ability to manually cycle the PORV to determine if power should remain on the closed block valve. If the capability to manually cycle the PORV is available, then the block valve is to be closed with power remaining on the valve. If the PORV cannot be manually cycled, then the block valve must be closed and power removed from the block valve.

By adapting the STS Action Statement requirements, if a PORV is declared inoperable, it may be able to be manually opened and closed, and therefore, able to perform its function. PORV inoperablility may be due to seat leakage, instrumentation problems, automatic control problems, or other causes that do not prevent manual use and do not create a possibility for a small break LOCA. For these reasons, the block valve may be closed and power maintained to the valve. The staff finds the above exceptions to the guidance of GL 90-06 acceptable.

c. For the case where both PORVs are inoperable in Modes 1, 2, or 3 and not capable of being manually cycled or both block valves are inoperable, the licensee has proposed to increase to allowed outage time (AOT) to restore one PORV or one block valve to operable status from 1 hour to 6 hours. By increasing the AOT from 1 hour to 6 hours, there is sufficient time for a containment entry to assess and implement, if possible, minor corrective actions to return inoperable PORV(s) of block valves to operable status. The additional time would allow the correction of minor deficiencies, and would therefore allow the plant to continue to operate without bringing the plant through a shutdown transient. Plant shutdown under these action statements would result in the entry to a lower mode of operation which requires the PORVs to be operable to provide a Low Temperature Overpressure Protection (LTOP) function. The staff finds this exception to the guidance of GL 90-06 acceptable.

2. Technical Specification 3.4.9.3 (Unit 1) and 3.4.10.3 (Unit 2), "Overpressure Protection Systems" would be revised as follows:

   - With one PORV inoperable in Mode 4 and the temperature of one or more cold legs less than or equal to 312^{0}F, the inoperable PORV shall be restored to operable status within 7 days or the reactor coolant system shall be vented within the next 8 hours.

   - With one PORV inoperable in Modes 5 or 6 with the reactor vessel head installed, the inoperable PORV shall be restored to operable status within 24 hours or the reactor coolant system shall be vented within a total of 32 hours.

   - The reference to the specific ASME valve category is deleted for the surveillance requirements (applicable to Salem Unit 1 only).

The above changes are in response to the recommendation in GL 90-06, Enclosure B, with the following exceptions:

- Action a. has been clarified to indicate that before low temperature overpressure protection is necessary, one or more reactor coolant system cold leg temperatures must be equal to or less than 312^0F. This is in agreement with the Applicability statement and the staff finds it acceptable.

- Surveillance Requirement 4.4.3.3.1.d has been changed to delete the specific ASME valve category (Salem Unit 1 only). This type of information is contained in the inservice test program and is not normally included in the technical specifications. Also, this change will bring the Salem 1 technical specifications into agreement with the Salem 2 technical specifications. The staff finds this change acceptable.

3. Specification 3.5.3, "ECCS SUBSYSTEMS - T_{ave} <350^0F", will be changed to more clearly specify the applicability of Surveillance 4.5.3.1 and the note associated with Limiting Condition for Operation 3.5.3.a. The change clarifies that the surveillance and note apply when the plant is in Mode 4 and any RCS cold leg temperature is less than or equal to 312^0F; the plant is in Mode 5; or the plant is in Mode 6 with the reactor vessel head installed. The change also clarifies that the number of centrifugal charging pumps or safety injection pumps that can be operable in the specified Modes is one. These changes are clarifications and are consistent with the guidance provided in GL 90-06. The staff finds these changes acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and 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 (59 FR 2870). 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.

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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