



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO.57 TO FACILITY OPERATING LICENSE NO. DRP-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

DOCKET NO. 50-311

1.0 INTRODUCTION

By letter dated May 10, 1988, Public Service Electric & Gas Company requested, on an emergency basis, an amendment to Facility Operating License No. DPR-75 for the Salem Nuclear Generating Station, Unit No. 2. The proposed amendment would avoid a shutdown of the unit as a result of a lack of backup overcurrent protection for 36 containment electrical penetrations. Specifically, the amendment would revise Technical Specification 3/4.8.3. The requested amendment is to be effective May 12, 1988.

2.0 EVALUATION AND SUMMARY

The licensee has identified 37 circuits for which the required backup overcurrent protective devices are not coordinated with the containment penetration thermal curve. Primary overcurrent protection exists for all these circuits. Each of the 37 circuits have been classified as non-essential and the coordination between primary and secondary protective devices for these circuits will be proved between now and startup following the next refueling outage. In the meantime these circuits will be deenergized by opening the primary overcurrent protective device for each circuit. The coordination between the primary and secondary protective devices for the remaining 5 circuits classified as essential to support operation of the unit will be proved within the ACTION statement of 3/4.8.3 of the Technical Specifications.

The existing Salem Unit 2 technical specification 3/4.8.3 for containment penetrations requires that the backup overcurrent protective device be tripped within 72 hours to deenergize the affected circuit should either the primary or backup overcurrent protective device become inoperable. Deenergizing the circuit removes the potential for loss of containment integrity under the postulated scenario. At Salem Unit 2, the backup

overcurrent protective device in many cases is a main incoming bus breaker. As a result, tripping of the backup device would result in multiple circuits being deenergized in order to protect a single penetration. The licensee has, therefore, proposed to change the wording of technical specification 3/4.8.3 to deenergize these circuits by tripping either the primary or backup protective device.

The staff has reviewed the information provided by the licensee and concludes that deenergizing the affected 32 circuits by tripping their protective devices is an acceptable method for removing the potential for loss of containment integrity under the postulated scenario until the next Salem Unit 2 refueling outage. Further, tripping of the primary protective device provides the same level of isolation as tripping the backup device. Therefore, the licensee's proposed change to technical specification 3/4.8.3 to allow isolating the circuits by tripping either the primary or the backup protective device is acceptable. The licensee is, however, required to provide proper coordination between the primary and secondary protective devices for the five essential circuits within the ACTION statement required time limit.

### 3.0 EMERGENCY BASIS

A review of those circuits listed in Table 3.8-1 of the Specification was performed under an existing PSE&G program to document the present Salem Electrical Distribution System (EDS) design basis. As a result, approximately 54 circuits were identified which required detailed engineering analysis to assess operability of the backup device. This number has been reduced to 37 circuits on the basis of the engineering review.

In parallel with the technical evaluation of the affected circuits, PSE&G initiated the required design change and procurement activities necessary to repair all the affected circuits. However, due to the large number of circuits and equipment availability problems, PSE&G will only be able to complete repair of 5 circuits within the present ACTION statement guidelines.

Therefore, as a consequence of its ongoing review of the Salem EDS design basis, PSE&G has: (i) identified a condition which could not reasonably have been foreseen, (ii) exhausted all available means of returning the affected circuits to operable status, and (iii) identified a condition which will force the shutdown of Salem Unit No. 2 unless the requested change is granted by 1500 hours on May 12, 1988. PSE&G believes that this request satisfies the requirements of 10 CFR 50.91(a)(5) pertaining to the granting of emergency changes to license requirements.

The staff agrees with the licensee and finds that there exists an acceptable emergency basis for the proposed change to the Technical Specifications.

#### 4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

PSE&G provided the following basis and conclusion for determining that the requested change does not involve a significant hazards consideration.

The probability and consequences of previously analyzed accidents are not increased as a result of the requested change. Tripping of the primary protective device deenergizes that portion of the circuit passing through the containment electrical penetration thereby eliminating the potential for failure of the affected penetration. Additionally, operability of equipment and systems which are powered from the circuits listed in Table 3.8-1 and which are required for accident mitigation is assured through satisfaction of other Technical Specification LIMITING CONDITIONS FOR OPERATION and ACTION Statements associated with the particular component or system.

The intent of Technical Specification 3/4.8.3 is to preserve containment integrity by reducing the potential for failure of a containment electrical penetration. This protection is achieved by isolating that portion of the circuit passing through the affected penetration. The configuration of the circuits listed in Table 3.8-1 of the specification is such that the required isolation can be achieved by tripping either the primary or backup protective device. We therefore find that the proposed change does not create the possibility for a new or different kind of accident from any that has been previously evaluated.

The proposed change does not involve a reduction in any margin of safety. As stated above, the isolation of a penetration can be accomplished by tripping either the primary or backup overcurrent protective device. As such, existing margins of safety are maintained. Additionally, the isolation of the penetration by tripping the primary device provides an increased margin of safety in that associated equipment (i.e. other than that of the affected circuit) that would have been lost by opening the backup breaker, would still be available to the operator for dealing with operational transients.

The staff concurs with the licensee's conclusion that the proposed change does not involve a significant hazards consideration.

The State of New Jersey was consulted on May 12, 1988, and had no comments on the determination.

#### 5.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has 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. The Commission has made a final no significant hazards consideration finding with respect to this amendment. Accordingly, this 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 this amendment.

#### 6.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) the amendment does not (a) significantly increase the probability or consequences of an accident previously evaluated, (b) create the possibility of a new or different kind of accident from any previously evaluated or (c) significantly reduce a safety margin and, therefore, the amendment does not involve 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 the amendment will not be inimical to the common defense and the security or to the health and safety of the public.

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Dated: May 20, 1988