



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 65 TO FACILITY OPERATING LICENSE NO. NPF-14

PENNSYLVANIA POWER & LIGHT COMPANY
ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-387

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

1.0 INTRODUCTION

By letter dated May 14, 1987, Pennsylvania Power & Light Company (the licensee) requested on an emergency basis an amendment to Facility Operating License No. NPF-14 for the Susquehanna Steam Electric Station (SSES), Unit 1. The proposed amendment would revise the Technical Specifications (TSs) on an interim basis to permit continued operation of SSES, Unit 1 with an incorrect torque switch setting for the inboard isolation valve for the steamline of the high pressure coolant injection (HPCI) system.

Specifically, the licensee requested an interim relief from the requirements of Section 3.6.3 of the SSES, Unit 1 Technical Specifications relative to the operability of HPCI valve, HV-155F002. The relief is needed because the valve, HV-155F002, was declared inoperable when the licensee discovered that the torque switch setting of the valve was incorrect. Following the Technical Specification requirement, the licensee isolated the HPCI outboard valve, HV-155F003, to assure isolation of the HPCI steamline containment penetration as required by the Technical Specifications. The isolation of the HPCI steamline has put the licensee into a 14-day Action Statement of the Technical Specifications. The 14-day period expired on May 23, 1987.

In a letter dated May 18, 1987, the staff, with supporting bases, authorized the reopening of valve HV-155F003 until May 23, 1987, or until completion of its action on the associated proposed change to the Technical Specifications. The staff concluded that continued availability of the HPCI system during the 14-day period of the Action Statement contributed more to overall plant safety than closure of the containment penetration for the HPCI steamline.

2.0 EVALUATION

In order to resolve this matter, the licensee by a letter dated May 19, 1987, provided an evaluation of a number of options for enhancing the reliability of containment isolation, including additional surveillance of the HPCI steam piping and the outboard isolation valve as well as design modifications to ensure full closure of the inboard HPCI isolation valve even at system operating pressure. As a result of their investigation and discussions with the staff on this issue, the licensee has opted to implement a design change prior to the end of the 14-day Technical Specification Action Statement associated with the HPCI system.

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By letter dated May 21, 1987, the licensee has committed to revise the design of the isolation provisions for the HPCI system. The design modification provides the capability to bypass the torque switch, which for some very specific accident sequences currently limits valve HV-155F002 closure to 97%, and fully close the inboard HPCI containment isolation valve. The design change involves the installation of a switch and requisite cabling which when actuated closes the circuit and energizes the valve motor operator. The bypass switch is a push button type which energizes the valve operator while depressed. The bypass switch is installed in the upper relay room which is located two floors above the main control room. This location is readily accessible following an accident and allows for operator action in a timely fashion. To ensure that improper or inadvertent closure of the F002 valve does not occur, which would disable the safety function of the HPCI system, the licensee's design requires that a valid HPCI isolation signal be present concurrent with demand for bypass of the torque switch. Isolation of the HPCI system normally occurs automatically upon sensing any one of a number of parameters, e.g., high flow in the HPCI steam line or high temperature measurements in locations outside containment, indicative of a pipe break or leak in the HPCI system outside containment.

As noted above, bypass of the improperly set torque switch on the inboard HPCI isolation valve is accomplished by manually depressing a remote switch in the upper relay room. The licensee has performed calculations and determined that depressing the switch for three seconds assures full closure of the inboard valve, and will not threaten the functionability of the motor operator. Furthermore, closure of the valve can be verified by the leak detection system provided for the HPCI system.

The licensee has developed a test procedure and will conduct tests designed to verify the logic of the electrical design modification. The licensee will also modify the emergency operating procedures and the alarm response procedures to instruct the operators to take the actions necessary to bypass the torque switch; plant personnel will be trained in these procedures. All equipment and procedure modifications will be completed by the end of the current 14-day TS Action Statement associated with the HPCI system.

Based on the compensatory measures taken by the licensee to enhance isolation capability of the HPCI system inboard valve the staff finds the isolation design to be adequate and that an interim relief from the requirements of Technical Specification Section 3.6.3 is warranted. The licensee has committed to correct the torque switch setting on the inboard isolation valve at the next outage of sufficient duration to permit entry into the containment, but no later than the next refueling and inspection outage currently scheduled to begin on or about September 12, 1987. The staff concludes that such action is a necessary requirement for continued long term plant operation.



3.0 EMERGENCY BASIS

On May 7, 1987, while performing a records search pursuant to the NRC bulletin 85-03, the licensee discovered that the inboard valve, HV-155F002, for the HPCI steamline had an incorrect torque switch setting rendering that valve to be in noncompliance with the Technical Specifications at Section 3.6.3. After evaluating the impact of the incorrect torque switch setting, the licensee, on May 9, 1987, declared the valve, HV-155F002, to be inoperable, and in accordance with the requirements of the Technical Specifications, isolated the HPCI steamline outboard isolation valve to assure leak tightness of the affected containment penetration. By a letter dated May 14, 1987, the licensee requested an interim change to the Technical Specifications (Section 3.6.3) to permit the licensee to continue operation until the next refueling outage in September 1987. The staff finds that the problem confronting the licensee could not have been foreseen and the licensee acted in a timely manner.

The licensee is presently in a 14-day Technical Specification Action Statement. Failure to act on the licensee's request will force the unit to be placed in shutdown within 12 hours following the 14-day period. The only way to correct the torque switch setting would be by shutting the unit down and entering into the containment. Therefore, absent an emergency action on the licensee's request, the licensee will be forced to shutdown the unit.

Based on the above considerations, the staff concludes that there exists acceptable emergency basis for the proposed change to the Technical Specifications.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The licensee plans to modify the design of the HPCI valve, HV-155F002, to provide a capability to bypass the torque switch. The modification and the associated changes to the operating procedures were in place on or before May 23, 1987. The staff review indicates that the proposed modification will assure full closure of valve HV-155F002 without any damage to the valve motor operator. This means that the modified system will operate in essentially the same manner as required by the Technical Specifications. The proposed modification will make the valve operable in the context of the Technical Specifications (Section 3.6.3). The staff, therefore, concludes that the proposed amendment does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident; and (3) involve a significant reduction in a margin of safety. Accordingly, the staff has concluded that the amendment involves no significant hazards consideration.

The State of Pennsylvania was consulted on May 22, 1987, 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 nor 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) increase 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.

Principal Contributors: Mohan C. Thadani and Charles G. Tinkler

Dated: May 28, 1987



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