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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 17 TO FACILITY OPERATING LICENSE DPR-70

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
PHILADELPHIA ELECTRIC COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1
DOCKET NO. 50-272

Introduction

By letter dated May 7, 1979, Public Service Electric and Gas Company (the licensee) requested an amendment to Facility Operating License No. DPR-70 for the Salem Station Unit No. 1. The proposed amendment would change the Technical Specifications to require actuation of safety injection based on two out of three channels of low pressurizer pressure.

As discussed with you, it is understood that the plant modifications necessary to achieve a two out of three logic will be made during the current outage before restart for Cycle 2 operation.

Discussion

As a result of our ongoing review of the events associated with the March 28 accident at Three Mile Island Unit 2, the NRC office of Inspection and Enforcement issued a number of IE Bulletins describing actions to be taken by licensees. IE Bulletin 79-06 (April 14, 1979) further called for these licensees to trip the low pressurizer level bistables such that, when the pressurizer pressure reaches the low setpoint, safety injection would be initiated regardless of the pressurizer level.

IE Bulletin 79-06A, Revision 1 (April 18, 1979) modified the action called for in 79-06A by allowing pressurizer level bistables to be returned to their normal (untripped) operating positions during the pressurizer pressure channel functional surveillance tests.

The effect of tripping the pressurizer low level bistables which are normally coincident with the pressurizer low pressure bistables, has the effect of reducing this safety injection actuation logic to a one out of three logic. A single instrument failure of one of the three low pressure bistable channels could therefore result in an unwanted safety injection. To prevent this, the licensee proposed in a May 7, 1979 letter, a design modification which would align the existing pressurizer low pressure bistables in a two out of three logic.

Evaluation

The proposed modification to the safety injection actuation system entails removing the pressurizer level signal from each of the pressurizer level - pressure channel trips and converting the system to a two-out-of-three pressurizer low pressure trip. The instrumentation logic takes pressurizer pressure signals from three pressure transmitters and initiates a safety injection actuation whenever two of the three signals reach the low pressure setpoint of 1765 psig. These modifications will satisfy the requirements of IEEE 279-1971, and other standards of installation required during the plant construction stage. We find these modifications acceptable.

We have reviewed the instrumentation and controls aspect of the proposed change in accordance with IEEE-279 and other applicable standards and Regulatory Guides. The modification eliminates pressurizer level as a required initiating signal to actuate safety injection. The licensee proposes to use a two-out-of-three logic on low pressurizer pressure alone. Separation of trains will be maintained, testability will be maintained, and verification of proper actuation of the first train can be performed prior to modification of the second train.

We have reviewed the instrumentation power sources and determined that the four 115V instrument distribution panels are supplied from independent trains. The vital power is provided by inverters that are energized from auctioneered power sources (Batteries/MCC's). We find this acceptable.

The proposed Technical Specifications revise Tables 3.3-3, 3.3-4, 3.3-5, and 4.3-2 to reflect automatic safety injection actuation on a two-out-of-three pressurizer low pressure of 1765 psig. We find the changes to the Technical Specifications to be acceptable.

Based on our review of the licensee's submittal, we conclude that the modifications to the safety injection actuation system logic satisfy the requirements of IEEE 279-1971 and that the associated Technical Specifications are correct; and therefore, are acceptable.

We also conclude that the proposed change will be in accordance with the above standards and guides, and that none of the transient and accident analyses are adversely affected by the change. The only effect may be a

sooner SI actuation. Therefore, we find the proposed change to be acceptable.

Environmental Consideration

We have determined that the amendment does not not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the consideration discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment 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 the 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 the health and safety of the public.

Date: June 7, 1979