



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. DPR-39
AND AMENDMENT NO. 54 TO FACILITY OPERATING LICENSE NO. DPR-48

COMMONWEALTH EDISON COMPANY

ZION STATION, UNITS 1 AND 2

DOCKET NOS. 50-295 AND 50-304

Introduction

Commonwealth Edison Company (CECo) has determined that each of the six circulating water pumps at the Zion Station, Unit Nos. 1 and 2 should be overhauled during the next sixteen months. It is expected that each pump will be out of service for about 90 days. The overhaul of each pump will require draining the associated forebay which is shared with a service water pump. Thus, the overhaul will disable a service water pump. The current Zion Station Technical Specifications (Reference 4) require all six service water pumps (three for Unit 1 and three for Unit 2) to be operable. If one pump is declared inoperable in one unit, the licensee has seven days to restore the pump to its operable condition. If these conditions cannot be met, the reactor shall be brought to hot shutdown within four hours and cold shutdown within 24 hours after that. Thus, a temporary change to the Zion Technical Specifications is needed to allow continued plant operation while this extended maintenance is being performed on the circulating water pumps or on the service water pumps, if required.

In a letter dated August 15, 1980 (Reference 1), CECo requested an expeditious review and approval of an immediate temporary change to the Zion Technical Specifications. The proposed change will allow one of the six service water pumps to be out of service indefinitely and two of the six service water pumps to be out of service for a maximum of seven days. A minimum of two pumps shall be available to each unit. The proposed change is temporary and will expire on about December 31, 1981.

Discussion

The six service water pumps feed two separate main supply headers, one header for each unit with three pumps on each header. The headers are cross-tied so that any combination of pumps can serve both units under

normal operating conditions. Normal operation requires two pumps on each unit with the third pump serving as a standby. The system pressure is maintained between 55 and 75 psig in the main supply header as the third pump will automatically start when the header pressure drops to 50 psig.

The Zion FSAR (Reference 2) and the NRC's SER (Reference 3) state that only two service water pumps are required for each unit for normal operation and that only one service water pump is required for each unit for emergency shutdown or accident conditions. Emergency requirements are less because various non-safety related systems are isolated during accident conditions.

Evaluation

Based on our review of CECO's proposal, as well as a review of the above noted references, we agree that only five operating service water pumps will provide sufficient cooling for any postulated loss of coolant accident coincident with a loss of offsite power and with any other single failure of an active components. In addition, during this period, the main 48-inch service water headers for each unit will be in the cross-tied mode thus allowing the service water requirements for one unit to be satisfied by pumps from either unit.

CECO is currently reviewing and possibly will propose adopting the NRC's current Standard Technical Specifications (STS) for Zion Station. The current Zion Station Technical Specifications are more conservative than our current STSs and require the operability of all six service water pumps. The NRC's STS if approved for Zion Station, in all likelihood, would only require that two out of three service water pumps for each unit be operable. We would not expect that the third, standby service water pump be operable during normal operating conditions in each plant unless for other mitigating reasons.

Therefore, based upon our review, we conclude that sufficient justification exists to grant the licensee's Technical Specification change. However, this Technical Specification change is only temporary and will expire upon completion of the circulating water pump maintenance program scheduled for completion about December 31, 1981.

Environmental Consideration

We have determined that the amendments do 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 amendments involve 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 these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: September 9, 1980

References

1. Letter from Commonwealth Edison Company (W. F. Naughton) to U.S.N.R.C. (H. R. Denton) dated August 15, 1980.
2. Zion Final Safety Analysis Report, Section 9.6.
3. NRC's Safety Evaluation Report for Zion Station, Unit Nos. 1 and 2, dated October 6, 1972, pages 9-5 and 9-6.
4. Zion Station Technical Specifications, Section 3.8.7.