



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 191 TO FACILITY OPERATING LICENSE NO. DPR-29

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

DOCKET NO. 50-254

1.0 INTRODUCTION

By letter dated March 30, 1999, Commonwealth Edison Company (ComEd, the licensee), submitted a request for a one-time change to the Quad Cities Nuclear Power Station, Unit 1, technical specifications (TS) for the plant main steam safety valves (MSSVs) and the safety relief valve (SRV). Specifically, the licensee requested that TS surveillance requirement (SR) 4.6.E.2 be revised such that the surveillance interval for testing one-half of the MSSVs and the SRV be extended from 18 months to 24 months for Unit 1, Cycle 16, only, and that the provisions of TS 4.0.B be applicable. TS 4.0.B states that each surveillance interval will be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the surveillance interval.

2.0 BACKGROUND

Quad Cities, Unit 1, has eight MSSVs (spring-actuated) and one Target Rock (pilot-actuated) SRV. The licensee complies with both the TS and the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) OM-1987, Part 1, testing requirements by testing at least one-half (four of eight) of the MSSVs, or replacing them with valves which have been tested, every 18 months. To meet the TS and the OM-1987, Part 1 requirements, the Target Rock SRV is also tested every 18 months. On November 18, 1998, during refueling outage Q1R15, all eight MSSVs and the Target Rock SRV were replaced with previously-setpoint tested spares. The reason for this proposed one-time TS change is that the TS 18-month surveillance interval for testing one-half of the MSSVs and the SRV, including the 25 percent extension per TS 4.0.B, expires on October 4, 2000, and the next refueling outage (Q1R16), during which the valves are proposed to be tested, is not scheduled until January 13, 2001. Therefore, the licensee proposes a one-time extension of the TS SR 4.6.E.2 surveillance interval for testing one-half of the MSSVs and the SRV from 18 months to 24 months (with the 25 percent extension), to allow plant operation until refueling outage Q1R16. At that time, in order to maintain the 40-month TS surveillance interval for having tested all of the valves, the licensee proposes to replace all eight MSSVs and the SRV during Q1R16 with previously-setpoint tested spare valves.

### **3.0 BASIS FOR TECHNICAL SPECIFICATION CHANGE**

In order to meet the above TS SR for the MSSVs and the SRV, the plant must be shut down to perform the necessary MSSV and SRV surveillance. Without performing the required surveillance, and upon expiration of the surveillance interval, the plant would be required to enter TS 3.6.E, Action 1, which would require the plant be put in hot shutdown within 12 hours and cold shutdown within the next 24 hours. The licensee had originally planned to replace four MSSVs and the SRV during maintenance outage Q1P02 which was scheduled for April 2000. However, an emergent jet pump riser repair required the licensee to advance Q1P02 by one year to April 1999. It was possible for the licensee to have performed the necessary surveillance on four MSSVs and the SRV during the Q1P02 outage. However, the licensee stated that, at that time, the valves had been installed for only four and one-half months and replacing four MSSVs and the SRV would have resulted in additional risk and hardship, without a corresponding benefit to quality or safety. The licensee stated that the surveillance would have resulted in an additional radiation dose to personnel performing the valve replacement of 9.20 REM. The licensee also stated that since the jet pump riser repair required the reactor vessel to be flooded above the main steam lines, plugs would have been needed to be installed in the main steam lines to provide a barrier between the reactor vessel and the openings left by the removed MSSVs and SRV. The licensee stated that the installation of the plugs would have caused an extension in the length of the Q1P02 outage and an associated loss of plant power generation.

In support of the proposed longer surveillance interval for the MSSVs and SRV, the licensee submitted recent setpoint test data for the Unit 1 valves. The data indicates that the last as-found setpoints for six of the eight MSSVs were within the required TS +/-1 percent tolerance. For the other two MSSVs, the as-found setpoints were -1.6 percent and -1.5 percent from the nominal setpoints which is well within the OM-1987, Part 1, tolerance of +/-3 percent. Several of the MSSVs which were within the +/-1 percent tolerance had been in service for 42 months, which is longer than the testing interval being requested (24 months plus 25 percent). The Target Rock SRV was also within the required TS +/-1 percent tolerance. Three of the MSSVs were obtained from the Oyster Creek plant after being in operation at that plant; however, before placing them in service at Quad Cities, Unit 1, they were tested and maintained to the same procedures as the other five MSSVs. Therefore, the licensee is confident that the MSSVs and the SRV will have acceptable setpoint results after subsequent as-found testing, as proposed.

### **4.0 EVALUATION**

The staff has reviewed the licensee's proposed one-time TS change and agrees with the licensee that the current requirement to test four MSSVs by October 4, 2000, would result in additional hardship and risk without a corresponding increase in quality or safety. Further, the staff agrees that, based on the as-found setpoint test data for the plant MSSVs and the SRV, there is adequate assurance that the valves will perform adequately until the next refueling outage scheduled for January 13, 2001. Therefore, the staff finds the proposed one-time change to TS SR 4.6.E.2, which would allow the surveillance interval for testing one-half of the MSSVs and the SRV to be increased to 24 months with the provisions of TS 4.0.B applicable,

to be acceptable. A new TS page 3/4.6-7a, provided to reflect this change, applies only to Unit 1.

Based on the above evaluation, the staff concludes that the licensee has demonstrated the adequacy of the proposed one-time change to the Quad Cities, Unit 1, TS. The proposed change provides for increasing the MSSV surveillance interval for testing one-half of the MSSVs and the SRV from 18 months to 24 months with the provisions of TS 4.0.B applicable. Therefore, the proposed changes to TS SR 4.6.E.2 for Quad Cities, Unit 1, are acceptable.

#### **5.0 STATE CONSULTATION**

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

#### **6.0 ENVIRONMENTAL CONSIDERATION**

The amendment changes a surveillance requirement. The NRC 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 previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such proposed finding (64 FR 24194). Accordingly, the 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 the amendment.

#### **7.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: G. Hammer

Date: November 30, 1999