December 13, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 - RELIEF REQUEST RV-11 (TAC NOS. MB2251 AND MB2252)

Dear Mr. Kingsley:

By letter dated June 15, 2001, Exelon Generation Company (Exelon), LLC, submitted a request for relief from the American Society of Mechanical Engineers (ASME) / American National Standards Institute (ANSI), Operation and Maintenance of Nuclear Power Plants, OM-1987, Part 1, standard (OM-1). The relief request RV-11 proposes changes to eliminate the OM-1, Section 3.4.1.1(d), requirement that after reinstallation, the Main Steam Line Safety/Relief Valves (S/RVs) and Automatic Depressurization System (ADS) valves open and close during manual actuation.

The U.S. Nuclear Regulatory Commission (NRC) staff has evaluated RV-11, and finds that the proposed change may be authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety for the LaSalle County Station, Units 1 and 2. The proposed change is only being authorized for the remainder of the second 10-year Inservice Testing (IST) interval for LaSalle County Station, Units 1 and 2. A relief request for the third 10-year IST interval, if necessary, should be submitted separately at a later date. Our safety evaluation is enclosed.

Sincerely,

/RA/

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure: Safety Evaluation

cc w/encl: See next page

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Docket Nos. 50-373 and 50-374

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING REQUIREMENTS

RELIEF REQUEST RV-11

LASALLE COUNTY STATION, UNITS 1 AND 2

EXELON GENERATION COMPANY, LLC

DOCKET NOS. 50-373 AND 50-374

1.0 INTRODUCTION

The *Code of Federal Regulations*, 10 CFR 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a (f)(6)(i), (a)(3)(i), or (a)(3)(ii). In proposing alternatives or requesting relief, the applicant must demonstrate that: (1) conformance is impractical for its facility; (2) the proposed alternative provides an acceptable level of quality and safety; or (3) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.0 BACKGROUND

By letter dated June 15, 2001, Exelon Generation Company, LLC, the licensee for LaSalle County Station, Units 1 and 2, (LaSalle) submitted Relief Request RV-11, Revision 0. The relief request proposes to eliminate the ASME/American National Standards Institute (ANSI), Operation and Maintenance of Nuclear Power Plants, OM-1987, Part 1 (OM-1), Section 3.4.1.1(d) requirement that after reinstallation, the Main Steam Line S/RVs and ADS valves open and close during manual actuation. The Unit 1 and Unit 2 S/RVs are identified below.

Unit 1 and Unit 2 S/RVs with Automatic Depressurization System (ADS) function:

1(2)B21-F013C, D, E, R, S, U, and V

Unit 1 and Unit 2 S/RVs without ADS function:

1(2)B21-F013F, H, K, L, M, and P

Unit 1 S/RVs without ADS function (to be removed during 2001 refueling outage):

1B21-F013A, B, G, J, and N

These valves have both a safety mode and a relief mode of operation. The safety mode is the self-actuating function which is necessary to relieve system overpressure. The relief mode is accomplished by an automatic or manual control circuit which applies electric power to solenoids which provide control air to the pneumatic actuator piston.

3.0 CODE REQUIREMENTS

OM-1, Section 3.4.1.1(d) requires that each valve that has been maintained or refurbished in place, removed for maintenance and testing, or both, and reinstalled shall be remotely actuated at reduced system pressure to verify open and close capability of the valve prior to resumption of electric power generation for main steam pressure relief valves with auxiliary actuating devices.

The licensee seeks relief from the OM-1, Section 3.4.1.1(d) requirement that after installation, the remote actuation of main steam pressure relief valves with auxiliary actuating devices shall include the opening and closing of the valve. The licensee has requested that the relief be applicable for both units for the remainder of their second 10-year IST intervals and for their third 10-year IST intervals. The second IST interval for Unit 1 ends on November 23, 2004, and the second IST interval for Unit 2 ends on October 17, 2004.

4.0 LICENSEE'S BASES FOR RELIEF

The licensee states that currently, approximately 50 percent of the S/RVs and ADS designated S/RVs are removed from the plant and setpoint tested during each refueling outage. The setpoint testing program includes the manual actuation of the ADS valves by the bench-test valve control system. The valves, after re-installation in the plant, are actuated a second time by the plant installed remote manual actuation equipment.

The licensee states that experience at LaSalle Units 1 and 2, and at other nuclear plants, has indicated that repeated manual actuation of the S/RVs and ADS valves can lead to valve through seat leakage during plant operation. In the current operating cycles for Unit 1 and 2, approximately 18 percent (i.e., 5 of 28) of the valves that experienced one open cycling developed leakage, whereas, approximately 57 percent (i.e., 12 of 21) of the valves that experienced more than one open cycling developed through seat leakage. The S/RV and ADS valve leakage is directed to the pool of water in the primary containment suppression chamber, resulting in the need to increase cooling to the suppression pool water or a plant shutdown to fix the leaking valve.

The licensee states that the proposed relief request would allow the testing of the S/RV and ADS valves to be performed in two separate steps. The manual actuation of the valves by the bench-test valve control system of the setpoint testing program will verify the opening and closing of the valve with the actuator coupled to the valve stem. The plant installed manual actuation equipment will be tested after valve installation in the plant and with the valve stem uncoupled from the actuator. This would allow the testing of the plant installed manual actuation electrical circuitry, manual actuation solenoid and air control valve, and the actuator without causing the valve to open. Therefore, all the components of the S/RV and ADS valves would continue to be tested. This uncoupled actuator test would also be performed following any maintenance activity that could affect the relief mode of the associated S/RV or ADS valves.

5.0 PROPOSED ALTERNATIVE TESTING

The remote actuation of the S/RV and ADS valves are proposed to be performed in two separate steps. The manual actuation of the valves by the bench-test valve control system of the setpoint testing program, will verify the opening and closing of the valve with the actuator coupled to the valve stem. The plant-installed manual actuation equipment would be tested after valve installation in the plant and with the valve stem uncoupled from the actuator.

6.0 EVALUATION

The alternative testing provides for actual stroking of the S/RV disks after performing the Code required setpoint testing, combined with stroking of the S/RV actuators after S/RV valves have been reinstalled. The staff finds that this is an acceptable alternative test method, because it provides for stroke testing of the S/RVs at the same frequency as required by OM-1 and provides for stroke testing of the S/RV actuators in the installed position. The staff also finds that the current testing requirements can result in additional seat leakage of the S/RVs during power operation. Such leakage would be directed to the primary containment suppression chamber, resulting in the need to increase cooling to the suppression pool water or shutdown the plant to fix the leaking valve. Therefore, the staff finds that the licensee's proposed alternative testing to be acceptable.

The licensee has proposed that the requested relief from OM-1 testing be authorized for both units for the remainder of their second 10-year IST intervals, which end November 23, 2004, for Unit 1 and October 17, 2004, for Unit 2, and for their following third 10-year IST intervals. However, the staff finds that it is premature to authorize use of the alternative for the third 10-year IST intervals, because the OM-1 requirements which would be in effect at that time may be different than those currently required. Therefore, the requested relief is being authorized only for the remainder of the second 10-year IST intervals for Units 1 and 2.

7.0 CONCLUSION

Based on the above evaluation, the staff has determined that, pursuant to 10 CFR 50.55a (a)(3)(i), the proposed alternative may be authorized for the remainder of the second 10-year IST interval for LaSalle County Station, Units 1 and 2, on the basis that the alternative testing provides an acceptable level of quality and safety.

Principal Contributors: C. Gary Hammer and Y.S. Huang

Date: December 13, 2001