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

March 22, 2012

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - RELIEF FROM THE REQUIREMENTS OF THE ASME CODE, RELIEF REQUEST NO. VR-01 FOR FIFTH INSERVICE TESTING INTERVAL (TAC NO. ME7617)

Dear Mr. Pacilio:

By letter dated November 17, 2011 (Agencywide Documents and Access Management System Accession No. ML113250626), Exelon Nuclear submitted relief request VR-01 for Oyster Creek Nuclear Generating Station (OCNGS) during the fifth Inservice Testing (IST) interval, requesting the use of an alternative to certain requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code).

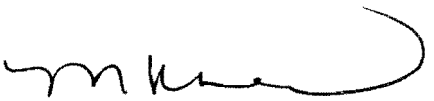
Specifically, pursuant to Title 10 of the *Code Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i), the licensee requested to use the proposed alternative on the basis that the alternative provides an acceptable level of quality and safety.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject request and has concluded, as set forth in the enclosed safety evaluation, that the proposed alternative described in Request VR-01 provides an acceptable level of quality and safety for the valves listed in the enclosed safety evaluation. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and is in compliance with the ASME OM Code requirements. All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request remain applicable.

Therefore, the NRC staff authorizes the alternative described in Relief Request VR-01 for the fifth IST interval at OCNGS, which will begin on October 14, 2012, and ends on October 13, 2022.

If you have any questions regarding this matter, please contact Senior Project Manager, John G. Lamb at (301) 415-3100 or by e-mail at John.Lamb@nrc.gov.

Sincerely,



Meena Khanna, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure: Safety Evaluation

cc w/enclosure: Distribution via Listserv

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF, VR-01

FIFTH INSERVICE TESTING INTERVAL

OYSTER CREEK NUCLEAR GENERATING STATION

EXELON NUCLEAR

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated November 17, 2011 (Agencywide Documents and Access Management System Accession No. ML113250626), Exelon Nuclear (Exelon or licensee) submitted relief request VR-01 for Oyster Creek Nuclear Generating Station (OCNGS) during the fifth Inservice Testing (IST) interval, requesting the use of an alternative to certain requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code).

The licensee proposed an alternative testing method and acceptance criteria for the following valves:

- V-1-160, Main Steam Safety Valve (Class 1)
- V-1-161, Main Steam Safety Valve (Class 1)
- V-1-162, Main Steam Safety Valve (Class 1)
- V-1-163, Main Steam Safety Valve (Class 1)
- V-1-164, Main Steam Safety Valve (Class 1)
- V-1-165, Main Steam Safety Valve (Class 1)
- V-1-166, Main Steam Safety Valve (Class 1)
- V-1-167, Main Steam Safety Valve (Class 1)
- V-1-168, Main Steam Safety Valve (Class 1)

Specifically, pursuant to Title 10 of the *Code Federal Regulations* (10 CFR) Section 50.55a(a)(3)(i), the licensee requested to use the proposed alternative on the basis that the alternative provides an acceptable level of quality and safety.

2.0 REGULATORY EVALUATION

Section 50.55a(f) of 10 CFR, "Inservice Testing Requirements," requires in part, that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with the

Enclosure

specified ASME Code and applicable addenda incorporated by reference in the regulations. In proposing alternatives or requesting relief under 10 CFR 50.55a(a)(3)(i), the licensee must demonstrate that the proposed alternatives provide an acceptable level of quality and safety. Section 50.55a allows the NRC to authorize alternatives and to grant relief from ASME OM Code requirements upon making necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides acceptable alternatives to ASME Code requirements. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, Revision 1, "Guidance for Inservice Testing at Nuclear Power Plants." ASME OM Code cases that are approved for use by the NRC are listed in Regulatory Guide (RG) 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," dated June 2003 (10 CFR 50.55a(b)(6)).

The Code of Record for OCNGS is the ASME OM Code, 2004 Edition with Addenda through OMb-2006, as required by 10 CFR 50.55a(f)(4)(ii). The OCNGS fifth IST interval will begin on October 14, 2012, and ends on October 13, 2022.

The NRC's findings with respect to authorizing the proposed alternative to the ASME OM Code are given below in the Technical Evaluation and Conclusion.

3.0 TECHNICAL EVALUATION

3.1 Alternative Request VR-01

3.1.1 Licensee's Relief Request and Proposed Alternative

Appendix I, Paragraph I-1320(a), "5-Year Test Interval," specifies that Class 1 pressure relief valves shall be tested at least once every 5 years, starting with initial electric power generation. No maximum limit is specified for the number of valves to be tested within each interval; however, a minimum of 20% of the valves from each valve group shall be tested within any 24-month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years.

The ASME Code committees developed Code Case OMN-17, "Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves." OMN-17 was recently published in the 2009 Edition of the ASME OM Code. OMN-17 allows owners to extend the test interval for Class 1 safety and relief valves from 60 months to 72 months plus a 6-month grace period.

The licensee has transitioned from an 18-month fuel cycle to a 24-month fuel cycle. Prior to transitioning to the 24-month fuel cycle, ASME Code requirements could be satisfied by the licensee by removing and testing one-third of the 9 main steam safety valves (MSSVs) each refueling outage (RFO) in order to comply with the 5-year test interval requirements for Class 1 pressure relief valves imposed by the Code of Record during that time. Since transitioning to the 24-month fuel cycle, the licensee normally removes approximately one-half of the subject relief valves each RFO for off-site testing.

According to the licensee, the removal of half of the 9 valves versus a third of the valves each RFO requires the removal of additional insulation, instrumentation, and other interferences; this additional work results in an undesirable increase in radiation exposure to maintenance personnel. Extending the test interval to 6 years would reduce the minimum number of MSSVs

tested over three RFOs by up to five valves, according to the licensee. The MSSVs are located in the upper elevations of the drywell. According to the licensee, reducing MSSV testing results in lower radiation exposure and a reduction in the cost for valve replacements.

As an alternative to the Code required 60-month test interval per Appendix I, Paragraph I-1320(a), the licensee proposes that the subject Class 1 pressure relief valves be tested at least once every 72 months plus a 6-month grace period, if required, in accordance with ASME OM Code Case OMN-17 with a minimum of 20% of the valves tested within any 24-month interval. According to the licensee, this 20% would consist of valves that have not been tested during the current 6 year interval, if they exist. The test interval for any individual valve would not exceed 72 months plus a 6-month grace period to accommodate extended operating cycles.

3.1.2 NRC Staff Evaluation

The ASME published Code Case OMN-17, "Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves," in the 2009 Edition of the OM Code. Code Case OMN-17 allows extension of the test frequency for safety relief valves (SRVs) from 5 years to 72 months with a 6-month grace period. The code case imposes a special maintenance requirement to disassemble and inspect each SRV to verify that parts are free from defects resulting from the time-related degradation or maintenance-induced wear prior to the start of the extended test interval. The U.S. Nuclear Regulatory Commission (NRC) staff recognizes that although Mandatory Appendix I, Paragraph I-1320(a) of the ASME OM Code does not require that SRVs be routinely refurbished when tested on a 5-year interval, routine refurbishment provides additional assurance that set-pressure drift during subsequent operation is minimized. Consistent with the special maintenance requirement in Code Case OMN-17, the licensee stated that each currently installed MSSV was as-found tested, disassembled, inspected and repaired, followed by post maintenance recertification in accordance with the qualified procedure, prior to installation to verify that parts were free from defects resulting from time related degradation or maintenance induced wear. Therefore, the currently installed MSSVs comply with OMN-17.

The NRC staff finds that extending the test interval to 72 months with a 6-month grace period is acceptable for the following MSSVs:

- V-1-160, Main Steam Safety Valve (Class 1)
- V-1-161, Main Steam Safety Valve (Class 1)
- V-1-162, Main Steam Safety Valve (Class 1)
- V-1-163, Main Steam Safety Valve (Class 1)
- V-1-164, Main Steam Safety Valve (Class 1)
- V-1-165, Main Steam Safety Valve (Class 1)
- V-1-166, Main Steam Safety Valve (Class 1)
- V-1-167, Main Steam Safety Valve (Class 1)
- V-1-168, Main Steam Safety Valve (Class 1)

Extending the test interval should not adversely affect the operational readiness of the MSSVs, because the MSSVs have been disassembled and inspected prior to the start of the extended test interval. This additional maintenance is beyond what is required by OM Code Mandatory

Appendix I when testing MSSVs on a 5-year interval, and justifies extension of the test interval for up to 72 months plus a 6-month grace period while providing an acceptable level of quality and safety.

4.0 CONCLUSION

As set forth above, the NRC staff finds that the proposed alternative described in Relief Request VR-01 provides an acceptable level of quality and safety for the MSSVs listed above. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and is in compliance with the ASME OM Code requirements. All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request remain applicable.

Therefore, the NRC staff authorizes the alternative described in Relief Request VR-01 for the OCNGS fifth IST program interval, which will begin on October 14, 2012, and ends on October 13, 2022.

Principle Contributor: Michael Farnan

Date: March 22, 2012

If you have any questions regarding this matter, please contact Senior Project Manager, John G. Lamb at (301) 415-3100 or by e-mail at John.Lamb@nrc.gov.

Sincerely,

/ra/

Meena Khanna, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure: Safety Evaluation

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