



Exelon Generation®

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RS-17-010

10 CFR 50.55a(z)

February 9, 2017

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

LaSalle County Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-11 and NPF-18  
NRC Docket Nos. 50-373 and 50-374

Subject: Response to Request for Additional Information Regarding LaSalle County Station  
Alternative Request RV-01 for the Inservice Testing Program Fourth 10-Year Interval

- References:
- 1) Letter from D. M. Gullott (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Relief Requests Associated with the Fourth Interval Inservice Testing Program," dated October 17, 2016 (ADAMS Accession No. ML16292A488)
  - 2) Letter from B. Vaidya (U.S. Nuclear Regulatory Commission) to B. C. Hanson (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2, Request for Additional Information Regarding Relief Request RV-01, Utilization of ASME Code Case OMN-1, 'Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants,' – Proposed Alternative In Accordance with 10 CFR 50.55a(z)(1) (CAC Nos. MF8500 and MF8501)," dated January 10, 2017 (ADAMS Accession No. ML17010A104)

In Reference 1, Exelon Generation Company, LLC (EGC) requested approval of alternative testing associated with the fourth 10-year interval inservice testing (IST) program for LaSalle County Station (LSCS), Units 1 and 2. Relief request (RR) RV-01 requested utilization of American Society of Mechanical Engineers (ASME) Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," a proposed alternative in accordance with 10 CFR 50.55a(z)(1).

In Reference 2, the U.S. Nuclear Regulatory Commission (NRC) requested additional information related to its review of RV-01. Attachment 1 of this letter provides the requested information.

There are no regulatory commitments contained within this letter.

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February 9, 2017  
U.S. Nuclear Regulatory Commission  
Page 2

Should you have any questions concerning this letter, please contact Ms. Lisa A. Simpson at (630) 657-2815.

Respectfully,

A handwritten signature in black ink, appearing to read 'D. M. Gullott', followed by a long horizontal line extending to the right.

David M. Gullott  
Manager – Licensing  
Exelon Generation Company, LLC

Attachment: Response to Request for Additional Information

cc: NRC Regional Administrator, Region III  
NRC Senior Resident Inspector, LaSalle County Station

**ATTACHMENT**  
**Response to Request for Additional Information**

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated October 17, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16292A488), Exelon Generation Company, LLC (EGC) requested approval of alternative testing associated with the fourth 10-year interval inservice testing (IST) program for LaSalle County Station (LSCS), Units 1 and 2. Relief request (RR) RV-01 requested utilization of American Society of Mechanical Engineers (ASME) Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants," a proposed alternative in accordance with 10 CFR 50.55a(z)(1).

In a letter dated January 10, 2017, the NRC requested additional information to complete its review of the proposed RR.

**NRC Request 1**

In the proposed alternative under the section "Compliance with RG 1.192 Conditions," Bullet 1, LSCS explains compliance with the condition of evaluating the adequacy of the diagnostic test interval not later than 5 years or three refueling outages (whichever is longer) from initial implementation of OMN-1 is satisfied because LSCS MOV testing frequencies identified in the IST program do not exceed three refueling cycles (i.e., a nominal 6 years). The NRC staff recognizes that LSCS has a mature MOV program and that this condition has already been addressed. However, review of LSCS current IST program plan for the third intervals at LSCS, Units 1 and 2, specify that motor-operated valves (MOV) IST test intervals are set according to Joint Owner Group and are not to exceed 10 years. Please explain what the true test intervals are for the LSCS MOV program valves.

**EGC Response**

During the initial implementation, testing intervals for LSCS MOVs identified in the IST program did not exceed three refueling cycles (i.e., a nominal 6 years). The proposed alternative under the section "Compliance with RG 1.192 Conditions," Bullet 1, was intended to address LSCS's initial implementation of OMN-1.

It is acceptable to evaluate diagnostic test intervals for extension for applicable MOVs up to the OMN-1 maximum allowable IST interval of 10 years in accordance with OMN-1, Section 3.3.1, paragraph c, which states, "The maximum inservice test interval shall not exceed 10 yr." Code Case OMN-1, paragraph 6.4.4, "Determination of MOV Test Interval," specifies that calculations for determining MOV functional margin shall be evaluated to account for performance-related degradation. LSCS uses the JOG recommendations for setting test frequencies based on margin and safety significance, which is used to meet this OMN-1 provision.

Since the initial implementation, LSCS has completed evaluations in accordance with EGC procedure ER-AA-321-1006, "Inservice Testing of Motor Operated Valves," to extend the IST interval to 10 years for MOVs 2E12-F017A, 2E12-F027A, 2E12-F008, and 2E12-F009. The frequency extensions for these MOVs have not been formally changed to date. These evaluations are documented in LSCS Engineering Change Evaluations 405245 Rev. 0 and 400070 Rev. 0. All other LSCS MOVs identified in the IST program currently have a testing interval of not later than 5 years or three refueling outages (whichever is longer). EGC plans to extend testing intervals for additional LSCS MOVs as allowed by OMN-1.

**ATTACHMENT**  
**Response to Request for Additional Information**

**NRC Request 2**

In the proposed alternative under the section "Compliance with RG 1.192 Conditions," Bullet 3, the statement does not address Condition 3 of the American Society of Mechanical Engineers OM Code Case OMN-1. Please explain when applying risk insights as part of the implementation of OMN-1, how MOVs are categorized according to their safety significance.

**EGC Response**

MOVs modeled in the PRA undergo a risk ranking evaluation in order to categorize and rank individual MOVs as to their relative importance to reactor safety and preventing a large off-site release of radioactivity. The importance measures used to rank the MOVs include Fussell-Vesely Importance and Risk Achievement Worth. Based on the risk ranking criteria, the MOV is categorized by High, Medium, and Low Safety Significance. This information is available in the PRA analysis.

**NRC Request 3**

LSCS proposes to not perform as-found testing in all situations. As an alternative, LSCS has proposed an alternative that uses a process which is less dependent on as-found testing. The process selects random valves under various lubrication conditions for as found testing and the results are used to validate degradation assumptions. Please explain how valves are selected, how many, how often, and what degradation assumptions are.

**EGC Response**

By general expectation, LSCS performs as-found testing to the extent practicable, with few exceptions such as corrective maintenance.

LSCS MOV periodic verification tests are conducted in an "as-found" condition in order to monitor for potential degradation following the last test and/or periodic maintenance. Certain pre-cursors may not allow for as-found data to be collected. These exceptions include interim corrective maintenance or valve design modifications that are scheduled during the in-service periodic verification surveillance interval. As-found testing shall only be waived provided that an engineering justification is documented in the MOV evaluation. In these circumstances, engineering justification will weigh the relative value for the as found data obtained on a case-by-case basis.

**ATTACHMENT**  
**Response to Request for Additional Information**

**NRC Request 4**

LSCS alternative seems to address stem lubrication as being the only factor that can degrade. Please explain how LSCS addresses overall actuator performance, spring pack relaxation, and possible changes in packing forces.

**EGC Response**

LSCS understands stem lubrication is not the only factor that can degrade. The intent of this alternative was to address that stem lubrication is performed at test intervals separate from normal periodic testing. Stem lubrication is addressed in a different preventative maintenance task with a different frequency than the standard MOV test.

LSCS evaluates overall actuator performance during periodic diagnostic MOV testing. LSCS monitors spring pack performance by changes in valve seating load. During periodic MOV diagnostic testing, LSCS also monitors packing, as in valve stem friction loads, which also changes over time.