



June 30th, 2015

Jerome Bettel – Mail Stop 10A1
Brian Lee – Mail Stop 13C5
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Dear Sirs,

The Appendix J Owners Group (APOG) has prepared a guidance document for its members to assist them in managing the impact of recent Operating Experience ICES-315564, "Containment Airlock Missed Surveillance Due to Inability to Establish Reverse Testing Equivalency". The attached document, titled, GUIDANCE FOR ISSUE RESOLUTION (GIR-2015-01), "Appendix J Owners Group Position on Local Leak Rate Testing of Containment Airlock Equalizing Valves" is intended to ensure compliance with regulatory guidance is achieved and consistently applied across the nuclear industry.

This document is being provided to you in the interest of maintaining open communication and to assure the Commission that APOG has a vested interest in ensuring issues such as this OE are thoroughly evaluated and addressed. APOG is committed to contemporaneous awareness and action on such issues. Compliance with regulatory guidance is part of our Mission and Charter, therefore, we are initiating this guidance to ensure timely action and consistent application.

If you should have any questions, concerns, or comments regarding the attached, or any other Appendix J related topics, please don't hesitate to contact me.

Respectfully,

John M. Scranton

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GUIDANCE FOR ISSUE RESOLUTION (GIR-2015-01)

APPENDIX J PROGRAM OWNERS GROUP POSITION ON LOCAL LEAK RATE TESTING OF CONTAINMENT AIRLOCK EQUALIZING VALVES

EVENT DESCRIPTION

Based on Operating Experience (OE) #315564, dated March 10, 2015, it was determined that the Containment Airlock Equalizing Valve (ball valve) on the inner door (Containment side) of all affected airlocks historically have been leak rate tested in the reverse direction opposite that which is credited during the Design Basis Loss of Coolant Accident. The reverse direction testing of the valve occurs during the airlock “barrel” test. Reverse direction testing is allowed per ANSI/ANS 56.8-1994 and 2002 editions in accordance with Section 6.2, *Direction of Testing*, provided that a reverse direction test demonstrates equivalent or more conservative test results to that of an accident direction test. When performing reverse direction testing an equivalency justification should be documented for each application. An equivalency justification did not exist for this ball valve application. The ball valve vendor/original equipment manufacturer (OEM) was contacted but was not able to provide an equivalency justification due to inherent properties the valve possesses and how it reacts as a leakage limiting barrier when pressurized in the reverse direction. Site valve subject matter experts (SME) likewise were unable to establish an equivalency justification.

Without an equivalency justification the only course of action was to establish the current operability of the inner door equalizing valve by means other than local leak rate test results. The results of the latest Type A test (Integrated Leak Rate Test-ILRT) which challenges the inner door equalizing valve in the accident direction were examined and revealed that no evidence of equalizing valve leakage existed as determined by a lack of pressure buildup in the associated airlock which provided reasonable assurance that the equalizing valve was capable of performing its intended leakage limiting barrier function. Based on the disparity between the ILRT frequency of once per 10 years as compared to the Type B airlock test once per 30 months, the site determined that the leak test surveillance for the airlock had been missed and Technical Specification SR 3.0.3, *Missed Surveillance*, was entered and a risk impact assessment performed.

Subsequently local leak rate testing of the inner door equalizing ball valve (s) was scheduled for all affected airlocks as per the Beaver Valley leak rate testing procedure guidance which states when the plant next is in “*MODE 5 or 6 with no core alterations that involve movement of recently irradiated fuel assemblies or movement of fuel assemblies over recently irradiated fuel assemblies*”. The site also revised the Containment Leak Rate Test Program (CLRTP) to require all future leak rate tests of airlock inner door equalizing ball valves to be conducted in the accident direction.



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ANNUAL APPENDIX J PROGRAM OWNERS GROUP (APOG) MEETING

During the annual APOG meeting held June 2-4, 2015, extensive review and discussions of OE #315564 were conducted via multiple papers, including a utility-audience teleconference call, to assess any potential generic issues affecting not only APOG members but all nuclear power plants throughout the United States and abroad. The following are key issues that APOG determined warrant immediate awareness and ongoing group support to ensure that future local leak rate testing of equalizing valves is regulatory compliant. The intent of delineating these issues is to provide guidance for sites to be able to effectively identify, correct and permanently resolve the issues so that all future LLRT of equalizing valves is performed in a fully regulatory compliant manner and that degradation monitoring of the subject valves is conducted in the optimum manner.

INDUSTRY RELATED ISSUES

- 1) CURRENT LLRT OF EQUALIZING VALVE
 - a) Is current LLRT of equalizing valve accident direction compliant (ANSI/ANS 56.8, Section 6.2)?
 - b) Is there an existing site reverse direction LLRT equivalency justification that provides basis for compliance

APOG ACTION: APOG will post on their website equalizing valve reverse direction LLRT equivalency justifications submitted by APOG members.

- 2) REVERSE DIRECTION LEAK RATE TESTING EQUIVALENCY JUSTIFICATION
 - a) Can be requested from valve specific OEM or current airlock service provider and verified acceptable by site valve SME
 - b) Can be provided by site valve SME

APOG ACTION: APOG has contacted Qualtech, Inc. (primary United States and abroad industry vendor for all make/model airlocks and related maintenance and modification services) to request assistance with providing reverse direction leak rate testing equivalency justifications for the various make/model ball valves currently employed in airlock equalizing valve applications throughout the nuclear industry. Independent verification of reverse direction equivalency justification adequacy by site valve subject matter expert is strongly recommended.

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3) CURRENT BALL VALVE CONFIGURATION/TESTABILITY

- a) If current test is not compliant, does configuration allow a compliant LLRT (i.e. available inside Containment test connections, inside piping flange adaptable, inside piping adaptable to pressure plug, etc.) such that LLRT could be modified to accomplish a compliant test?

APOG ACTION: APOG will post on their website those plants that have accomplished newly compliant equalizing valve LLRT's as submitted by APOG members.

4) TEMPORARY ALTERATIONS/PERMANENT MODIFICATIONS

- a) Does existing configuration require some form of alteration or modification such as a permanent welded connection with test connection, a temporary flange installation, a temporary pressure plug installation, etc. to perform a compliant LLRT?

APOG ACTION: APOG will post on their website a listing of plants that have performed a temporary alteration or permanent modification to enable performance of compliant equalizing valve LLRT's and the details of those modification as submitted by APOG members.

5) EQUALIZING VALVE INTERIM OPERABILITY

- a) Is the site capable of promptly establishing a reverse direction LLRT equivalency justification?
- b) Is the site capable of enlisting previous ILRT test results as a key component to assist with reasonably demonstrating accident direction leakage compliance?

APOG ACTION: APOG will post on their website the method and manner (Tech Spec 3.0.3 missed surveillance and risk assessment, previous ILRT results, etc.) by which sites established equalizing valve interim operability as submitted by APOG members.

6) FAILURE TO ESTABLISH EQUALIZING VALVE INTERIM OPERABILITY-COMPENSATORY ACTION

- a) Enter the Technical Specification for "One or More Containment Airlocks with One Containment Airlock Door Inoperable". Verify the OPERABLE door is closed in the affected airlock AND lock the OPERABLE door closed in the affected air lock. Verify the OPERABLE door is locked closed in the affected airlock once per 31 days. Entry and exit of containment is permissible under the control of administrative means such as use of a dedicated individual to perform operable door closure when deemed necessary.
- b) Site's to consider the guidance contained in NUREG-1022, "Event Report Guidelines 10CFR50.72 and 50.73" to determine if a Licensee Event Report is required.



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7) ACCIDENT DIRECTION TEST RESULTS

APOG ACTION: As site's complete initial accident direction testing of their airlock equalizing valves, APOG will post the results of those tests binned according to valve make & model so as to provide a measure of expectation to those who have yet to complete testing.

8) CORRECTIVE ACTION MEASURES

- a) Has the site established a going forward schedule for accomplishing the necessary equalizing valve modifications (permanent and temporary) to enable future conduct of accident direction LLRT's?
- b) Has the site revised the CLRTP document/procedure to reflect the requirement to perform accident direction testing of the airlock equalizing valves?

9) POST-MAINTENANCE OPERABILITY TESTING (PMOT)

- a) Has the site established a PMOT strategy for ensuring equalizing valve leakage barrier operational readiness by conduct of LLRT when required following preventative or corrective maintenance?



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APOG will continue to vigorously support these issues associated with the identified deficient testing of airlock equalizing valves until a permanent and regulatory compliant resolution of the matter has been achieved. The following are line items taken directly from the APOG Charter, each of which are applicable to the ongoing equalizing valve leak rate test issue the nuclear industry faces and the vital support role APOG provides in achieving regulatory compliance.

APPENDIX J PROGRAM OWNER'S GROUP (APOG) Charter

PURPOSE

- Provide a means to share industry knowledge and resources.
- Exchange technical information relating to the application, testing and maintenance of all components governed by Appendix J.
- Provide a collaborative effort to promote cost reduction, error reduction, improve performance and maintaining safety margins within the nuclear industry

OBJECTIVES

- Provide a forum for discussions and resolution of generic and specific Appendix J issues through communication between members of APOG and other organizations
- Provide an effective process for APOG members to make recommendations on generic and specific Appendix J issues to the Steering Committee
- Provide an effective and efficient communication process from the Steering Committee to APOG members.
- Provide an effective and efficient communication process to and from industry organizations such as NEI, ANSI, EPRI, NRC, INPO, etc.