Vogtle PEmails

From: Hoellman, Jordan
Sent: Tuesday, November 13, 2018 12:32 PM
To: Vogtle PEmails
Subject: draft Alternative to ASME OM Code for Preservice Testing of Squib Valves for 11/15/18 Public Meeting
Attachments: Squib Valve Alternative Presub 11-15-18.pdf

Attached is the draft Alternative to ASME OM Code for Preservice Testing of Squib Valves for the 11/15/18 public meeting. The attachment does not contain any SUNSI.

Hearing Identifier: Vogtle_COL_Docs_Public
Email Number: 388

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Subject: draft Alternative to ASME OM Code for Preservice Testing of Squib Valves for 11/15/18 Public Meeting
Sent Date: 11/13/2018 12:32:19 PM
Received Date: 11/13/2018 12:32:27 PM
From: Hoellman, Jordan

Created By: Jordan.Hoellman2@nrc.gov

Recipients:
"Vogtle PEmails" <Vogtle.PEmails@nrc.gov>
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Files	**Size**	**Date & Time**
MESSAGE	179	11/13/2018 12:32:27 PM
Squib Valve Alternative Presub 11-15-18.pdf	856016	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
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Plant Site-Unit:	Vogtle Electric Generating Plant (VEGP) – Units 3 and 4
Interval-Interval Dates:	Applies to the preservice testing period.
Requested Date for Approval:	Approval is requested by May 30, 2019.
ASME Code Components Affected:	ASME Explosively Actuated Valves.
Applicable Code Edition and Addenda:	ASME OM Code, 2012 Edition (code of record).
Applicable Code Requirements:	ASME OM Code, ISTC-3100(d)(2) requires that for post-2000 plants, explosively actuated valves shall be preservice tested by: Select a sample of at least 20% of the pyrotechnic charges in all valves to be tested. Test each selected charge either in the valve or a qualified test fixture to confirm the capability of each sampled charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. The sampling must include at least one explosively actuated valve from each redundant safety train.
Reason for Request:	Based on the definition of Preservice test, which states “test performed after completion of construction activities related to the component…”, and the statement in ISTC-3100(d)(2) that “Pyrotechnic charges in all valves” indicates that the charges must be installed in the valves, and the valves installed in the system, prior to selection of the charges for testing. Handling of explosive charges exposes personnel to significant risks. Since the charges are fabricated and shipped separately, and the testing will be done by the vendor or another offsite test facility, the current requirements would involve shipping of the charges to the site, installation of the

	charges in the valves (which would be installed in the piping, in containment), removal of the charges, and shipment of the charges back to the vendor or other test facility. To minimize handling and transportation of explosive charges, it is proposed to select the charges after fabrication, and retain for testing at the vendor, or in the worst case, being shipped from the vendor to a separate test facility.
Proposed Alternative and Basis for Use:	**Proposed Alternative:** In lieu of the requirements of ISTC-3100(d)(2), perform the following: Select a sample of pyrotechnic charges, following fabrication for testing, this may include charges used for qualification of the batch. The sample shall include a quantity of charges equal to at least 20% of the number of charges of each size installed in the plant and shall include at least one from each manufacturer batch. Each selected charge shall be tested in a qualified test fixture to confirm the capability of each sampled charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. **Basis for Use:** The proposed alternative provides an equivalent level of safety as it ensures the charges are tested to the same criteria, and that the charges tested are from each manufacturer, lot and size (batch). The allowance of crediting the qualification samples is equivalent or better than ISTC-5260(d), which only requires test firing of one charge per batch prior to installation as a replacement charge. The requirement regarding one from each train is not applicable, since the charges were selected for testing prior to installation in the valve. However, since the selection of charges for installation in valves of each train is random, the level of testing is equivalent. The proposed alternative provides improved personnel safety by minimizing the transportation and handling of explosive charges.

	Since the proposed alternative tests an equivalent number of pyrotechnic charges to the same criteria, this proposed alternative provides an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z)(1).
Duration of Proposed Alternative:	Preservice testing conducted prior to commercial operation.
References:	None.
Status:	Awaiting NRC authorization