

# PUBLIC SUBMISSION

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2020 Edition of the American Society of Mechanical Engineers Operations and Maintenance Code

**Comment On:** NRC-2018-0290-0001

American Society of Mechanical Engineers 2019-2020 Code Editions

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**Government Agency Type:** Federal

**Government Agency:** TVA

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## General Comment

See Attachment 1 - TVA Comments

NRC-2018-0290

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## Attachments

Attachment 1 - TVA Comments NRC-2018-0290

Tennessee Valley Authority Comments on Proposed 10 CFR 50 Rule Incorporating American Society of Mechanical Engineers  
2019–2020 Code Editions (Docket ID NRC 2018 0290)

Comment #/Section	Comment	Recommendation
1. 50.55a(b)(2)(xxv)	On page 16111 of Reference 1, 10 CFR 50.55a(b)(2)(xxv) heading, “Section XV Condition” is incorrect, and, as noted in 86 FR, in the proposed section (xxv)(A), “First person” should be changed to “First provision.”	On page 16111 of Reference 1, 10 CFR 50.55a(b)(2)(xxv) heading, change “Section XV Condition” to “Section XI Condition,” and, as noted in Reference 2, in the proposed section (xxv)(A), change “First person” to “First provision.”
2. 50.55a(b)(2)(xxvi)	<p>TVA concurs with the NRC’s proposal to eliminate the ASME Code pressure test and VT-2 examination of mechanical connections in § 50.55a(b)(2)(xxvi) because the same leak test procedures that are used for non-ASME Code repair and replacement will provide adequate assurance of leak tightness. However, TVA recommends to accomplish this objective that 10 CFR 50.55a(b)(2)(xxvi) be deleted entirely, or, alternatively, replaced with the following:</p> <p style="padding-left: 40px;">Mechanical joints in Class 1, 2, and 3 piping and components greater than NPS-1 which are disassembled and reassembled during the performance of a Section XI repair/replacement activity shall be verified to be leak tight in accordance with the licensee’s Appendix B program.</p> <p>This would eliminate requirements that may be more specific than those utilized in licensees’ existing non-Code leak test procedures, and for which the technical basis for such differentiation is unclear.</p> <p>First, the proposed rule requires the owner document the type of leak test, test medium, test pressure, and acceptance criteria that would demonstrate</p>	<p>TVA recommends that 10 CFR 50.55a(b)(2)(xxvi) be deleted entirely, as it increases licensee burden, but provides no quality or safety benefit.</p> <p>Alternatively, 50.55a(b)(2)(xxvi) should be replaced with “Mechanical joints in Class 1, 2, and 3 piping and components greater than NPS-1 which are disassembled and reassembled during the performance of a Section XI repair/replacement activity shall be verified to be leak-</p>

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2. 50.55a(b)(2)(xxvi) (continued)	<p>the joint's leak tightness when performing a leakage test following a repair/ replacement activity requiring a NIS-2 form. Specifics with these details may not exist in the licensee's non-Code leak test procedures, which are developed and maintained in accordance with the licensee's Appendix B QA program, and which, as noted in the proposed rule discussion, support the qualitative risk analysis that concluded elimination of the Section XI pressure test and VT-2 examination resulted in a very low risk of failure.</p> <p>Therefore, TVA recommends that the proposed rule language be revised to either 1) eliminate the requirement entirely, or 2) revise the language to simply require verification of leak tightness in accordance with the site's QA program requirements.</p> <p>Second, the proposed rule requires licensee to specify the qualification requirements for the person performing the leak test. Typically, maintenance organization personnel qualified in accordance with the site's Appendix B program will perform the field walkdown, in accordance with site Appendix B procedures, to ensure no leakage exists following reassembly of a mechanical connection. This method of leak detection has been successfully utilized for many years in the industry. Creation of an additional personnel qualification requirement in the sites' non-Code leak inspection program, even if owner-defined, creates an unnecessary burden for the utilities with no corresponding increase in quality or safety. It is recommended that this requirement be removed from the proposed rule.</p> <p>Lastly, the technical basis for these proposed additional requirements is unclear, particularly when applied only to mechanical connections assembled as part of a repair or replacement activity requiring an NIS-2 form. Hypothetically, if a 2-inch ASME Code Class 2 socket weld fails due to thermal fatigue, and the adjacent mechanical connection is disassembled</p>	tight in accordance with the licensee's Appendix B program."

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2. 50.55a(b)(2)(xxvi) (continued)	<p>and later reassembled to support the performance of that socket weld repair/replacement activity, that mechanical connection should not necessitate any more rigorous leakage test than it would if the same connection were disassembled and reassembled for any other reason. It is appropriate for mechanical connections to be subject to a leakage test when reassembled, regardless of the reason for the disassembly and reassembly, and the standards applied to those tests should be the same. The purpose of this post-maintenance leakage test is to verify adequate maintenance practices and ensure good housekeeping. By design, leakage at mechanical connections is not a condition that affects the structural integrity of a piping system. For that reason, TVA recommends that 10 CFR 50.55a(b)(2)(xxvi) should be deleted altogether or rewritten to state simply that verification of leak tightness according to the licensee's Appendix B program is required for Class 1, 2, and 3 mechanical joints.</p>	
3. 50.55a(b)(3)(iv)	<p>This condition was first imposed as part of final rulemaking dated July 17, 2017 and became effective on August 17, 2017 (Federal Register / Vol. 82, No. 136). This condition effectively implemented new requirements which were added to the 2017 Edition of OM, Appendix II, II-4000(b)(1)(e) that require distribution of Check Valve Condition Monitoring (CVCN) activities for each valve in a multi-valve group at approximately equal intervals across the interval for the group. The language in the 2017 Edition of OM and this condition are essentially the same.</p> <p>While the goal for this condition and clarification in 2017 Edition of OM is appropriate, the actual language of these two documents has had unintended consequences. The statement, "...At least one of the identified activities for a valve group shall be performed on each valve of the group at</p>	<p>TVA recommends that 10 CFR 50.55a(b)(3)(iv) OM Condition: Check Valves (Appendix II) be revised to be applicable to all addenda and editions of OM endorsed for use. In addition, the overly restrictive language "...At least one of the identified activities for a valve group shall be performed on each valve of the group at approximately equal intervals</p>

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3. 50.55a(b)(3)(iv) (continued)	<p>approximately equal intervals not to exceed the maximum interval shown in Table II-4000-1...” has resulted in significant burden for licensees to the revise their CVCM program plans for compliance. The requirement to distribute the CVCM activities across each valve at equal intervals is more prescriptive than necessary to ensure a licensee doesn’t defer activities for all valves in a group to the end of the group interval.</p> <p>Before this condition and OM change, licensees regularly performed CVCM activities on pairs of valves in a group or staggered the activities across the valve group interval in a manner that met the goal of distributing activities of multi-valve groups. However, the method of staggering activities did not meet the prescriptive language of this condition. As a result, the only way to comply with this condition and optimize testing is to split the group into smaller groups of valves or groups of one as permitted by II-2000(a). This requires new test procedures and additional scheduling for all the new groups, and substantially increases the burden on licensees without necessarily ensuring a better distribution of activities.</p> <p><u>Example:</u></p> <p>Assume all activities for the group have not been completed such that interval extension is not allowed at the time the condition becomes effective.</p> <p><u>Before Condition:</u></p> <p>One group of four valves where activities on two valves in the group are performed every other outage</p> <table><tr><th>Group</th><th>Outage 1</th><th>Outage 2</th><th>Outage 3</th><th>Outage 4</th></tr><tr><td>4 valves (A, B, C, D)</td><td></td><td>A, C</td><td></td><td>B, D</td></tr></table>	Group	Outage 1	Outage 2	Outage 3	Outage 4	4 valves (A, B, C, D)		A, C		B, D	<p>not to exceed the maximum interval shown in Table II-4000-1...” should be revised to simply require compliance with the maximum intervals (both columns) shown in Table II-4000-1. This will provide flexibility for those CVCM plans that are not at the maximum intervals while also ensuring activities on individual valves are not deferred to the end of the group interval.</p>
Group	Outage 1	Outage 2	Outage 3	Outage 4								
4 valves (A, B, C, D)		A, C		B, D								

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Comment #/Section	Comment	Recommendation																									
3. 50.55a(b)(3)(iv) (continued)	<p><u>After Condition:</u></p> <p>One group of four valves where activities on one valve in the group are performed every outage</p> <table><tr><th>Group</th><th>Outage 1</th><th>Outage 2</th><th>Outage 3</th><th>Outage 4</th></tr><tr><td>4 valves (A, B, C, D)</td><td>A</td><td>C</td><td>B</td><td>D</td></tr></table> <p>OR</p> <p>Two groups of two valves where activities on one valve in the group are performed every other outage</p> <table><tr><th>Group</th><th>Outage 1</th><th>Outage 2</th><th>Outage 3</th><th>Outage 4</th></tr><tr><td>2 valves (A, B)</td><td></td><td>A</td><td></td><td>B</td></tr><tr><td>2 valves (C, D)</td><td></td><td>C</td><td></td><td>D</td></tr></table> <p>The example above demonstrates a case where a CVCM plan that met the original intent of OM to stagger activities still must be revised to comply with the condition. In addition, the example shows two different ways the CVCM program may be revised to order to comply with this condition. The last method shows how the revised CVCMP can comply with the condition without changing the schedule of activities. The end result is that compliance with this condition imposed a significant burden to revise CVCM plans with no increase in the level of safety.</p>	Group	Outage 1	Outage 2	Outage 3	Outage 4	4 valves (A, B, C, D)	A	C	B	D	Group	Outage 1	Outage 2	Outage 3	Outage 4	2 valves (A, B)		A		B	2 valves (C, D)		C		D	
Group	Outage 1	Outage 2	Outage 3	Outage 4																							
4 valves (A, B, C, D)	A	C	B	D																							
Group	Outage 1	Outage 2	Outage 3	Outage 4																							
2 valves (A, B)		A		B																							
2 valves (C, D)		C		D																							
4. 50.55a(b)(3)(xi)	TVA acknowledges that the proposed change to condition (b)(3)(xi) provides some relief from a burdensome requirement imposed by the rule. However, in collaboration across the industry, a detailed alternative to compliance with	TVA recommends that the proposed change to the CFR be replaced as follows: “For																									

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4. 50.55a(b)(3)(xi) (continued)	the condition was created and approved in ASME OM Code Case OMN-28. Therefore, it is recommended that the proposed change to the CFR be replaced as follows: "For valves not susceptible to stem-disk separation, ASME OM Code Case OMN-28 may be used to satisfy the valve position verification requirements in ASME OM Code, Subsection ISTC, paragraph ISTC-3700."	valves not susceptible to stem-disk separation, ASME OM Code Case OMN-28 may be used to satisfy the valve position verification requirements in ASME OM Code, Subsection ISTC, paragraph ISTC-3700."
5. 50.55a(b)(3)(xi)	<p>OM Condition (b)(3)(xi) provides a requirement for plants in the process of an interval update from any edition older than the 2012 ASME OM Code. There has been confusion regarding the initial test requirement and initial performance date. Given the potentially significant burden imposed by this new test requirement, additional guidance should be provided for the initial implementation timeframe to minimize confusion.</p> <p>While Condition (b)(3)(xi) is based upon a test currently contained in the Code, the modification of the existing test is such that an entirely new test requirement is being created through this condition. The NRC is proposing a risk-based modification to the implementation with the proposed change. Specifying an initial test date of no later than 2 years (ISTC-3700 Frequency) from the start of the interval matches the historical precedent for a new requirement.</p>	TVA recommends that NRC specify an initial test date of no later than 2 years (ISTC-3700 Frequency) from the start of the interval for which the newer Code applies.
6. 50.55a(f)(4)	The proposed change to 10 CFR 50.55a(f)(4) removes valuable wording and changes implementation requirements in a manner that could result in excessive and potentially unexpected relief requests from licensees, and could represent a significant administrative burden for many licensees and the NRC. The current wording allows licensees to document an alternative position for components not classified as ASME BPV Code Class 1, Class 2, or Class 3 without requiring regulator approval. The proposed removal of	TVA recommends that the current statement, "without requesting relief under paragraph (f)(5) of this section or alternatives under paragraph (z) of this section" remain unchanged in the

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6. 50.55a(f)(4)	<p>this wording would indicate that the NRC expects to approve relief for components within the augmented IST program. TVA recommends that the current statement, “without requesting relief under paragraph (f)(5) of this section or alternatives under paragraph (z) of this section.” remain within the CFR as currently approved. This statement was included to minimize the burden on licensees for non-Code components, and should be retained unless the need for additional review requirements is demonstrated.</p> <p>As an example, there are numerous non-Code valves that perform a safety function that may not have been designed to be explicitly tested to ASME OM Code Requirements. At present, licensees may internally document deviations from the ASME OM Code relying on technical positions within the respective augmented IST programs. The proposed CFR change above would immediately result in each of these positions requiring relief from the NRC, and may place licensees in violation of 10 CFR 50.55a(f)(4).</p> <p>TVA perceives that this change would be an expansion of regulatory oversight and burden, and as such, would be a backfit that requires analysis and justification to implement.</p>	CFR. If this statement is to be removed as proposed, TVA recommends that it be evaluated and justified as a backfit under 10 CFR 50.109.
7. 50.55a(f)(7)	<p>The proposed addition of 10 CFR 50.55a(f)(7) is a burdensome change with no commensurate benefit to public health and safety. TVA recommends removal of this proposed requirement. This new administrative requirement would require a broad revision of licensee administrative procedures and processes, without commensurate benefit. Even without this proposed regulation, the licensee must work to the latest approved program document, and it must be available to the regulator upon request. During any inspection or event that requires the NRC to review an IST Program for requirements, the latest copy is generally requested and duly provided by the licensee. Additional preparation, verification, and review time for the increased frequency required by the proposed change for submittal of IST Program documents, which are typically several hundred pages, could</p>	TVA recommends removing the addition of 10 CFR 50.55a(f)(7) from this proposed change. If addition of 50.55a(f)(7) is pursued, TVA recommends that it be evaluated and justified as a backfit under 10 CFR 50.109.



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7. 50.55a(f)(7) (continued)	require significant additional resource burden without commensurate benefit to safety or quality. While TVA recommends removal of this proposed change, if NRC pursues implementation, this change should be evaluated and justified as a backfit under 10 CFR 50.109.	