



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-15-245

December 2, 2015

80 FR 56820

Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Attention: Rulemaking and Adjudications Staff

Subject: **Tennessee Valley Authority (TVA) - Comments on Proposed Rulemaking  
10 CFR 50, Incorporation by Reference of American Society of Mechanical  
Engineers (ASME) Codes and Code Cases (Docket ID NRC-2011-0088)**

Reference: 80 FR 56820 (September 18, 2015)

In the referenced Federal Register, NRC requested comments on proposed amendments to regulations to incorporate by reference American Society of Mechanical Engineers (ASME) codes and code cases.

The enclosure to this letter provides Tennessee Valley Authority's comments on the proposed rulemaking.

Please contact Mark Gowin at 423-751-3669 if you have any questions concerning these comments.

There are no new regulatory commitments contained in this letter.

Respectfully,

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J. W. Shea  
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Enclosure:  
TVA Comments on Proposed Changes to 10CFR50.55a

cc (Enclosure):  
NRC Document Control Desk  
NRC Regional Administrator - Region II

**TVA Comments on Proposed Changes to 10CFR50.55a**

Docket ID NRC-2011-0088

Paragraph	Draft Rule Wording	Comments
<b>50.55a(b)(2)(xxx) Steam Generator Preservice Examinations</b>	Prior to plant start up with a newly installed steam generator, a 100 percent full length examination will be conducted of the tubing in each new steam generator instead of the preservice inspection requirements of IWB-2200(c).	In the Section III. Discussion associated with the proposed rule, it is stated “The NRC proposes to add § 50.55a(b)(2)(xxx) to require a full length examination of 100 percent of the tubing in each newly installed steam generator prior to startup.” This could be read to infer the eddy current preservice inspection (PSI) is to be performed after the components are installed in the plant. For replacement steam generators (RSGs), the current Technical Specification requirements as specified in the Electric Power Research Institute (EPRI) guidelines allow performance of the PSI after hydro-testing and prior to start up which allows performance of the PSI at the vendor facilities prior to shipment or in the plant yard after shipment which reduces the commercial, schedule, and dose impact. Please consider rewording the regulation and discussion to clearly indicate that the performance of the PSI for RSGs prior to installation in the plant is acceptable.
<b>50.55a(b)(3)(ii)(A) MOV Diagnostic Test Interval</b>	Licensees shall evaluate the adequacy of the diagnostic test interval for each MOV and adjust the interval as necessary, but not later than 5 years or three refueling outages (whichever is longer) from initial implementation of OM Code, Appendix III.	The wording of this condition is not as clear as it should be. As written, this condition could be construed to require a maximum diagnostic test interval of 5 years or 3 refueling outages (whichever is longer) from initial implementation of Appendix III. If this is the intent, then this is a significant change and ignores all of the progress achieved through the Generic Letter (GL) 89-10 and Joint Owners’ Group (JOG) programs. The adequacy of diagnostic test interval has already been evaluated via the GL 89-10 and JOG programs.
<b>50.55a(b)(3)(ii)(D) MOV Stroke Time</b>	When applying Paragraph III-3600, “MOV Exercising Requirements,” of Appendix III to the OM Code, licensees shall verify that the stroke time of the MOV satisfies the assumptions in the plant safety analyses.	Appendix III was developed and incorporated into Operation and Maintenance (OM) Code based on the notion that stroke time testing was not an adequate method to detect degradation of MOVs. As such, the requirement for stroke time testing of MOVs was eliminated. There is no technical value in re-introducing stroke time testing considering the GL 89-10, JOG, and Appendix III processes are already designed to ensure MOVs are capable of performing their design bases functions which includes stroke assumptions in the plant safety analysis.
<b>50.55a(b)(3)(iii)(A) Power-Operated Valves</b>	Licensees shall periodically verify the capability of power-operated valves to perform their design-basis safety functions.	This condition is too vague as written. It should provide enough detail for a licensee to be sure they are complying with the intent of this condition. For example, adding a statement such as, “Compliance with OM Code Appendix III and Appendix IV adequately address this condition.” This still leaves solenoid and hydraulic actuated valves with no guidance of what is expected to be done (both method and frequency) to comply with the condition.

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Paragraph	Draft Rule Wording	Comments
<b>50.55a(b)(3)(iii)(B)</b> <b>Check Valves</b>	Licensees must perform bi-directional testing of check valves within the IST program where practicable.	This condition is unnecessary considering that the Edition/Addenda of OM Code which would be applicable to IST Programs of New Reactors already include the requirements for bi-directional testing of check valves in Subsection ISTC and Appendix II.
<b>50.55a(b)(3)(iii)(C)</b> <b>Flow-Induced Vibration</b>	Licensees shall monitor flow-induced vibration from hydrodynamic loads and acoustic resonance during preservice testing and inservice testing to identify potential adverse flow effects on components within the scope of the IST program.	This condition is reasonable for new reactors during initial start-up (preservice period). However, this condition is unreasonable and not practical during the inservice period. The OM Code does not address requirements for monitoring flow-induced vibration nor does this condition. As a result, this condition is too vague because it does not provide guidance (e.g, methods, frequency, etc.) or expectations on how to satisfy the condition.
<b>50.55a(b)(3)(iv)</b> <b>OM Condition:</b> <b>Check Valves</b> <b>(Appendix II)</b>	Appendix II, "Check Valve Condition Monitoring Program," of the OM Code, 2003 Addenda through the 2012 Edition, is acceptable for use without conditions with the clarifications that (1) the maximum test interval allowed by Appendix II for individual check valves in a group of two valves or more must be supported by periodic testing of a sample of check valves in the group during the allowed interval and (2) the periodic testing plan must be designed to test each valve of a group at approximate equal intervals not to exceed the maximum requirement interval. Licensees applying Appendix II of the OM Code, 1995 Edition with the 1996 and 1997 Addenda, shall satisfy the requirements of paragraphs (b)(3)(iv)(A) through (C) of this section. Licensees applying Appendix II, 1998 Edition through the 2012 Edition, shall satisfy the requirements of paragraphs (b)(3)(iv)(A), (B), and (D) of this section.	The condition additions of clarifications (1) and (2) should be removed from rulemaking. These clarifications add new requirements which should be pursued through the consensus code process with the ASME OM Code committee.  This condition should only be applicable to 1998 Edition through 2003 Addenda. This condition should not be applicable to the 2004 Edition through 2012 Edition because the requirements of (b)(3)(iv)(A), (B), and (D) have already been incorporated into these versions of the code.

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Paragraph	Draft Rule Wording	Comments
<p><b>50.55a(b)(3)(xi) OM Condition: Valve Position Indication</b></p>	<p>When implementing ASME OM Code, Subsection ISTC-3700, "Position Verification Testing," licensees shall develop and implement a method to verify that valve operation is accurately indicated by supplementing valve position indicating lights with other indications, such as flow meters or other suitable instrumentation, to provide assurance of proper obturator position.</p>	<p>This condition circumvents the consensus code process and should be removed. The OM Code, Subgroup ISTA/ISTC has been working on a code change to address this issue and NRC has been included in this process. The code process should be allowed more time to arrive at reasonable requirements that are commensurate with the available methodologies and burden of implementation considering the low rate of occurrences of disc-to-stem separation events of safety related valves in the industry.</p> <p>The wording of this condition demonstrates the difficulty in crafting language for testing to detect disc-to-stem separation. For example, it is possible for the obturator of globe valves to be detached from the stem and float with flow and sink on absence of flow. In this case, the testing required by this condition would not detect the disc-to-stem separation.</p> <p>This condition represents a major change in IST requirements which will require significant effort to develop implementation procedures. For example, the three TVA nuclear plants have approximately 3,000 power operated valves that will need to be evaluated for available supplemental indication methods. Considering that both open and closed positions must be verified, this translates to approximately 6,000 new tests. New or revised procedures will be required for these new tests. Therefore, if this condition remains in the rulemaking, it should be revised to provide a reasonable implementation period (e.g., 2 refueling outages or next 10 year interval update, whichever is longer) to allow Licensees time to develop the necessary test procedures.</p> <p>If this condition remains in the rulemaking, should add a "where practicable" clause in order to reduce the potential large volume of requests for relief.</p>

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<b>Paragraph</b>	<b>Draft Rule Wording</b>	<b>Comments</b>
<p><b>50.55a(f): Inservice Testing Requirements</b></p>	<p>Systems and components of boiling and pressurized water-cooled nuclear power reactors must meet the requirements for preservice and inservice testing (referred to in this paragraph collectively as inservice testing) of the ASME BPV Code and ASME OM Code as specified in this paragraph. Each operating license for a boiling or pressurized water-cooled nuclear facility is subject to the following conditions. Each combined license for a boiling or pressurized water-cooled nuclear facility is subject to the following conditions, but the conditions in paragraphs (f)(4) through (6) of this section must be met only after the Commission makes the finding under § 52.103(g) of this chapter. Requirements for inservice inspection of Class 1, Class 2, Class 3, Class MC, and Class CC components (including their supports) are located in § 50.55a(g).</p>	<p>This change attempts to address a previous weakness in the rule where preservice testing was not specifically addressed. This is a welcome change. However, more should be done to clarify the applicable code of record for preservice testing - perhaps in (f)(1) through (3).</p> <p>Referring to preservice and inservice testing collectively as inservice testing may cause confusion. Recommend being specific as applicable.</p>

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<p><b>Paragraph</b> <b>50.55a(f)(4) Inservice Testing Standards Requirement for Operating Plants</b></p>	<p><b>Draft Rule Wording</b></p>	<p><b>Comments</b></p>
	<p>Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, pumps and valves that are within the scope of the ASME OM Code must meet the inservice test requirements (except design and access provisions) set forth in the ASME OM Code and addenda that become effective subsequent to editions and addenda specified in paragraphs (f)(2) and (3) of this section and that are incorporated by reference in paragraph (a)(1)(iv) of this section, to the extent practical within the limitations of design, geometry, and materials of construction of the components.</p>	<p>Removal of reference to ASME Code Class 1, Class 2, and Class 3 is a major change and will have significant impact to licensees and NRC. The current industry practice is to limit the IST Program to those Class 1, 2 and 3 pumps and valves that fit the scope of OM Code, ISTA-1100. Non-Code Class pumps and valves that fit the scope of OM Code ISTA-1100 are included in an Augmented IST Program.</p> <p>This condition would require relocation of non-Code Class components to the IST Program. As a result, a significant number of plant procedures would have to be revised and any OM Code requirements that can't be implemented as required would require new relief requests to be submitted to NRC for approval. Generally, Augmented IST Programs are designed to meet the OM Code where practicable, but relief requests are not required when alternate testing is required.</p> <p>For example, the three TVA nuclear plants have approximately 800-900 pumps and valves currently in scope of the Augmented IST Program that will need to be relocated to the IST Program. Each of these components will require multiple tests and each of these tests would have to meet the strict compliance of OM Code or require new relief requests. Hundreds of implementation and program procedures will have to be revised. Therefore, if this change remains in the rulemaking, it should be revised to provide a reasonable implementation period (e.g., 2 refueling outages or next 10 year interval update, whichever is longer) to allow Licensees time to revised the associated procedures and request relief from code requirements where needed.</p> <p>Recommend leaving the restriction to Code Class 1, Class 2, and Class 3 applicable to existing plants. Then remove the restriction to Code Class pumps and valves for new reactors only.</p>

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<b>Paragraph</b>	<b>Draft Rule Wording</b>	<b>Comments</b>
<p><b>50.55a(g)(6)(ii)(F)(11)</b>  <b>Cast Stainless Steel</b></p>	<p>Examination of ASME Code Class 1 piping and vessel nozzle butt welds involving cast stainless steel materials, shall be performed with Appendix VIII, Supplement 9 qualifications, or qualifications similar to Appendix VIII, Supplement 2 or 10 using cast stainless steel mockups no later than the next scheduled weld examination after January 1, 2020, in accordance with the requirements of paragraph - 2500(a).</p>	<p>Although the industry is working to develop examination technology that will meet Appendix VIII, Supplement 9 qualification requirements, current UT techniques have not yet been demonstrated as fully capable. It is unknown if the industry, along with EPRI and ASME, will have a resolution to this problem by the year 2020. Please consider deleting this proposed condition until additional testing can be completed.</p>