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Attachments

Comments on ASME Code Update Proposed Rule

Comments on Proposed Rule: ASME Code Cases and Update Frequency
[NRC-2018-0291]

The proposed rule would use the 2019 edition of Section XI and the 2020 edition of the OM Code as a threshold for determining the applicable requirements in 10 CFR 50.55a. For example, the proposed definition of the code of record interval changes when a licensee adopts the 2019 edition or later of Section XI. In the preamble for the proposed rule, the NRC states: "The inservice inspection interval and the code of record update interval should be synchronized to promote order and predictability in licensee inservice inspection programs." The NRC indicates that the proposed conditions on Code Case N-921 and OMN-31 would achieve this result. However, there are a number of issues with the proposed new definitions in 50.55a(y) and conditions on Code Cases N-921 and OMN-31.

Rather than using the 2019 edition of Section XI and the 2020 edition of the OM Code as a threshold in the proposed code case conditions and new definitions in 50.55a(y), the NRC should use the effective date of the final rule. Specifically, the longer code of record intervals should be applicable starting at the next code of record update following the effective date of the proposed rule. The current ISI, IST, and code of record intervals in progress at the time the rule is made effective should remain at 10-years. If the NRC wants to ensure that the 2019 edition of Section XI and 2020 edition of the OM Code are implemented, the effective date could be made to coincide with the date 18 months after these specific editions were incorporated by reference into 50.55a. In addition, Code Case N-921 and OMN-31 should be conditioned to require that they be implemented at the beginning of the ISI or IST interval, as applicable, instead of conditioning these code cases as the NRC proposed. These changes would eliminate some of the regulatory uncertainty that would result if the final rule included the NRC-proposed new definitions and conditions on Code Cases N-921 and OMN-31, and these changes would achieve the order and predictability that the NRC desires.

The issues with the proposed definitions and conditions on Code Case N-921 and OMN-31 are further discussed below.

Approved Alternatives

Under FRN Section III.E, "Proposed Revision to Code of Record Update Requirements, the NRC states:

> With respect to alternative requests in accordance with § 50.55a(z), the NRC will address the duration of each new authorized alternative in the safety evaluation describing its review of the request consistent with the current procedures for evaluating alternative requests. Existing NRC-approved alternatives were approved based on the IST or ISI interval. The proposed rulemaking language regarding the code of record interval does not extend the approval timeframe for these existing alternatives. Licensees seeking to extend the timeframe of approved alternatives therefore would need to submit an alternative request per § 50.55a(z) to continue using previously granted alternatives in a subsequent IST or ISI interval in the same code of record update interval. Licensees may request future alternatives based upon the code of record interval.

Although not discussed in the FRN, this statement indicates that there would be an extra burden with implementing Code Cases N-921 or OMN-31 mid-interval. Specifically, extending the authorized timeframe of an existing alternative from 10 years to 12 years would require

additional NRC approval. For example, the NRC staff has authorized alternatives which have eliminated certain examinations for the duration of the current 10-year interval. It is unlikely that the bases for such authorizations considered the potential for a 12-year interval. Conditioning Code Cases N-921 and OMN-31 to require that they be implemented at the start of an interval would potentially avoid a large influx of alternative requests submitted to the NRC from licensees that decide to adopt these code cases mid-interval. Additionally, the NRC's draft regulatory analysis does not appear to address the additional costs associated with implementing Code Cases N-921 and OMN-31 mid-interval.

Approved Alternatives to Specific ASME Code Examination Frequencies

Currently, licensees have NRC-approved alternatives under 10 CFR 50.55a(z) to specific Section XI examination frequencies. However, these were alternatives to the ASME BPV Code, Section XI, requirements, and not to the modified examination frequencies allowed by Code Cases N-921. The NRC should clarify if existing NRC-approved alternatives would need to be re-approved prior to implementation of Code Case N-921. Specifically, the NRC should identify whether or not existing alternatives would need to be approved as alternatives to Code Case N-921 in addition to Section XI.

Mid-Interval Updates to 2019 Edition of Section XI and 2020 Edition of OM Code

The regulations in 10 CFR 50.55a(f)(4)(iv) and (g)(4)(iv) allow a licensee to use all or portions of a later edition of the OM Code or Section XI if approved by the NRC. Licensees may request to use a later edition at any time. For example, a licensee could request approval to use the 2019 edition of Section XI in the middle of the current 10-year interval when their code of record is the 2017 edition of Section XI. Based on the proposed rule language and statement of consideration, it is not clear if the extended code of record intervals would apply following such a mid-interval update. It is also not clear if licensees would be allowed to use Code Cases N-921 and OMN-31 under these circumstances based on the NRC-proposed conditions on these code cases.

The NRC should not apply the extended code of record intervals nor allow the use of Code Cases N-921 and OMN-31 when a licensee uses 10 CFR 50.55a(f)(4)(iv) or (g)(4)(iv) to transition from an older edition to the 2019 edition (or later) of Section XI or the 2020 edition (or later) of the OM Code mid-interval. The use of these new provisions and code cases should only apply when the required code of record, ISI, and IST program updates occur. This would help ensure the order and predictability that the NRC desires.

There has been significant industry interest in adopting these new provisions and code cases. If 50.55a(f)(4)(iv) and (g)(4)(iv) can be used as a means for adoption mid-interval, there will likely be a large influx of 50.55a(f)(4)(iv) and (g)(4)(iv) requests to use the 2019 edition of Section XI and the 2020 edition of the OM Code. As stated in FRN Section III.E, licensees would also need to seek new approvals for all their existing alternatives under this situation. This would result in a significant burden on licensees and the NRC staff which does not appear to have been considered in the regulatory analysis.

A large influx of such requests would undermine the "order and predictability" that the NRC desires. First, it is not clear that the proposed rule would allow the extended code of record intervals and Code Cases N-921 and OMN-31 to be used following a mid-interval update to a later edition of the ASME Code. Second, the NRC staff would need to consider the implications of transitioning in the middle of a 10-year ISI/IST interval and 10-year code of record interval to

a possible 12-year ISI/IST interval and 24-year code of record interval on a plant-specific basis. Third, there may be unforeseen consequences associated with making such changes mid-interval that may take additional time and effort to resolve. As a result, significant NRC and licensee resources would be needed to resolve these issues.

As noted above, it would be preferable to only allow the use of the new provisions and Code Case N-921 and OMN-31 when the next required program and code of record updates occur. However, if the NRC wants to allow mid-interval updates, this should be done through a rule change rather than requiring the entire industry to seek plant-specific licensing actions with uncertain outcomes.

Backfit Discussion

The backfitting discussion for the proposed rule states:

> The NRC is proposing to revise the requirement to update to the latest edition and addenda before the start of every other ISI and IST interval. This proposed revision would be a voluntary relaxation, and thus not a backfit, because licensees will continue to have the option to voluntarily update before the start of each ISI or IST interval under §§ 50.55a(f)(4)(iv) or (g)(4)(iv).

The claim that this proposed revision is a voluntary relaxation is incorrect. First, the update interval is mandatory, not voluntary. Second, the backfitting discussion fails to mention that the "option to voluntarily update" under §§ 50.55a(f)(4)(iv) or (g)(4)(iv) requires NRC approval. The regulations do not guarantee that the NRC staff will approve such a request, and the licensee incurs additional costs for the preparation and NRC review of the application required to obtain NRC approval. The NRC's draft regulatory analysis does not consider these costs and does not identify a backfit associated with this proposed change.

Once a licensee has updated to the ASME BPV Code, Section XI, 2019 Edition, and OM Code, 2020 Edition, or later, the proposed rule would not allow a licensee to continue to update its ISI/IST code of record at the start of each ISI/IST interval without prior NRC approval. This reduces the flexibility for licensee that want to update their ISI/IST programs to take advantage of improvements in the ASME Code. The final rule should revise §§ 50.55a(f)(4)(iv) and (g)(4)(iv) to allow licensees to update their code of record every interval without needing NRC approval. To ensure adequate regulatory oversite, the NRC could require the licensee to notify the NRC of its intent to either remain on the current code of record or to update to the latest edition/addenda of the ASME Code incorporated into 50.55a. If these changes are not made, the NRC should perform a backfit analysis to justify the changes to the code of record update frequency.

Additionally, the NRC's logic appears to undermine the backfit rule. The NRC argues that the proposed change is not a backfit because the licensee can request NRC approval to not follow the new rule. Continuing with this line of logic, no rule change would be a backfit because the regulations allow licensees to voluntarily request an exemption from the revised rule. The fact that the regulations provide a process which may allow the licensee to maintain the status quo, subject to NRC approval, is not a valid reason for determining that an action is not a backfit.

Condition on Code Case N-921

The proposed rule would condition Code Case N-921 as follows: “The licensee’s code of record for the inservice inspection program must be the 2019 Edition of Section XI or later, in order to apply this code case.” Instead of this condition, the NRC should condition the use of Code Case N-921 to require that it be implemented at the start of the ISI interval rather than allowing for implementation mid-interval. The final rule could be made effective 18 months after the 2019 Edition of Section XI was incorporated into the rule to ensure that the code case is not applied to Section XI editions prior to 2019. The NRC-proposed condition has several issues as discussed below.

First, the proposed condition on Code Case N-921 and the proposed definition for code of record create ambiguity over what would be considered sufficient for the NRC to consider the code of record for the ISI program to be the 2019 Edition or later of Section XI. The regulations in 10 CFR 50.55a(g)(4)(iv) allow a licensee to use all or portions of a subsequent edition of Section XI that has been incorporated into 10 CFR 50.55a if approved by the NRC. A licensee may also adopt all or portions of a later edition that has not been incorporated into 50.55a through a proposed alternative under 50.55a(z). In addition, a licensee could be approved to use all or portions of an earlier edition than required by 50.55a(g) as an alternative under 50.55a(z). The NRC should not allow the general use of Code Case N-921 when only a small portion of the code of record is on a 2019 edition or later, but most of the code of record is on an earlier edition. At the same time, the NRC should not prohibit the use of N-921 if a small portion of a licensee’s ISI program is on an earlier edition.

Second, it is possible for two ISI intervals to overlap, which means that two Code editions are implemented at the same time. For example, the containment ISI program may not coincide with the remainder of the ISI program. Thus, the definition for the code of record creates ambiguity when a portion of the ISI program is on an earlier edition of Section XI and another portion of the program has been updated to the 2019 edition of Section XI.

Condition on OMN-31

The proposed rule would condition OMN-31 as follows: “Contrary to the ASME OM Code Case Applicability Index, this OM Code Case may only be applied by licensees implementing the ASME OM Code, 2020 Edition through the latest edition of the ASME OM Code incorporated by reference in 10 CFR 50.55a.” Requiring licensees to implement the “2020 Edition **through** the latest edition” is not reasonable, as the licensee cannot apply multiple editions of the OM Code to the same parts of the IST program simultaneously. If the NRC desires to retain such a condition, the condition should be changed to require licensees to implement the “2020 Edition or later.” However, this is not recommended because the proposed condition on OMN-31 suffers from many of the same issues as the condition on N-921 (see section above). Thus, the NRC should condition the use of Code Case OMN-31 to require that it be implemented at the start of the IST interval rather than allowing for implementation mid-interval.

Applicability of Code of Record Definition

The NRC should clarify whether or not the defined terms in 50.55a(y) apply to documents incorporated by reference in 10 CFR 50.55a. For example, Regulatory Guide 1.147 uses the term “Code of Record” in multiple places, so would the new definition of “Code of Record” apply to this regulatory guide?

Elimination of “120-Month Interval” and Addition of Definitions

The proposed revisions to eliminate the references to 120-month intervals in 50.55a and add the terms code of record interval, ISI interval, and IST interval would significantly improve the clarity of 50.55a. Defining these intervals in 50.55a(y) would provide greater clarity and regulatory stability because future changes to these intervals would be done through the rulemaking process so that all stakeholders can inform the decision. The proposed rule would clarify that an individual licensee would only be able to use different intervals if special circumstances are present in accordance with 10 CFR 50.12. This would preserve the original intent of the 50.55a rule, which was to require period updates to the ISI and IST program on a timeframe consistent with Commission policy. In addition, this would ensure that the 25-year limit between code of record updates (described in the FRN) is not exceeded through the misapplication on 10 CFR 50.55a(z). However, the proposed definitions should be clarified in the final rule as discussed below.

Code of Record Definition

The proposed rule states:

> *Code of record* means: (i) For the ASME BPV Code, Section XI, the edition (and addenda) implemented by a licensee in accordance with the requirements of this section. (ii) For the ASME OM Code, the edition (and addenda) implemented by a licensee in accordance with the requirements of this section. (iii) For the ASME BPV Code, Section III, the edition implemented by a licensee in accordance with the requirements of this section, which may vary by component.

Instead of a single definition for “code of record,” the final rule should have separate definitions for “ISI code of record” and “IST code of record.” A code of record definition for the construction code should not be included in the final rule as it is not necessary. The use of “code of record” in the proposed 50.55a rule is limited to the ASME Codes that require updates by paragraphs 50.55a(f) or (g). These updates do not include Section III of the ASME BPV Code. In addition, ASME uses the term Construction Code, which can include codes other than Section III, and not the term code of record.

The proposed definition of “code of record” is not consistent with the NRC’s previous definitions of this term in NUREG-1482 and RIS 2004-12. The final rule should use definitions of “ISI code of record” and “IST code of record” consistent with these previous definitions. For example, the following definitions would be preferable as they are similar to the NRC’s previous definitions (some modification would be needed to account for snubbers):

- *IST code of record* means the specific edition(s) and addenda of the ASME OM Code required by paragraphs (f)(4)(i) or (ii) of this section, subject to the conditions listed in paragraph (b) of this section, for inservice tests to verify operational readiness of pumps and valves, whose function is required for safety.

- *ISI code of record* means the specific edition(s) and addenda of the ASME BPV Code, Section XI, required by paragraphs (g)(4)(i) or (ii) of this section, subject to the conditions listed in paragraph (b) of this section, for the inservice examination of components and system pressure tests.

Different aspects of the ISI or IST program may be on different codes of record (e.g., containment ISI may not align with the rest of the ISI program). The proposed definition for code of record uses the phrase “the edition,” which is singular and does not appear to permit the code of record to consist of multiple editions for different aspects of the program.

The regulations in 10 CFR 50.55a(f)(4)(iv) and 50.55a(g)(4)(iv) allow a licensee to use all or portions of a later edition of the OM Code or Section XI if approved by the NRC. The NRC’s proposed definition for code of record appears to exclude those portions of later editions that have been approved in accordance with 10 CFR 50.55a(f)(4)(iv) and 50.55a(g)(4)(iv). This may be appropriate as implementation of the later editions, following NRC approval under these provisions, is optional. However, the NRC should clarify whether or not all or portions of later editions approved for use under these provisions are part of the code of record, and revise the definition accordingly.

The code of record needs to be defined by what the NRC requires, and it should not depend on whether or not the code edition has been implemented. The code of record for the next interval is established 18 months prior to the start of the interval, even though it has not yet been implemented. As another example of why this is an issue, suppose a licensee fails to implement the 2019 edition of Section XI in accordance with the requirements of this section. Then, the proposed definition would suggest that the 2019 edition is not the code of record.

Code of Record Interval Definition

The proposed rule states:

> *Code of record interval* means the period of time between the code of record updates required by paragraphs (f)(4) and (g)(4) of this section for the inservice inspection and inservice examination and test programs, respectively.
>
> (i) For licensees with codes of record prior to ASME BPV Code, Section XI, 2019 Edition, and OM Code, 2020 Edition, as incorporated by reference in paragraph (a) of this section, the code of record interval is the same as the inspection interval or inservice examination and test interval.
>
> (ii) For licensees with codes of record of ASME BPV Code, Section XI, 2019 Edition and OM Code, 2020 Edition, or later, as incorporated by reference in paragraph (a) of this section, the code of record interval is two consecutive inservice inspection or inservice examination and test intervals.

The proposed definition of the “code of record interval” incorrectly states that ISI is under paragraph (f)(4) and IST is under paragraph (g)(4). The definition also creates some ambiguity about the snubber program. The definition does not encompass the initial code of record interval because the initial code of record is not an update. The definition should also be revised to allow for the code of record to be voluntarily updated every ISI/IST interval.

As discussed above, the proposed revision to the update interval should be tied to the effective date of the proposed rule. For ISI/IST intervals that started prior to the effective date of the final rule, the code of record interval should be the same as the ISI/IST interval. For ISI/IST intervals that start after the effective date of the final rule, the code of record interval should be equal to (A) one ISI/IST interval for licensees that elect to update the code of record for the subsequent ISI/IST interval or (B) two consecutive ISI/IST intervals.

IST Interval and Inspection Interval Definitions

The IST interval and inspection intervals need to be clearly defined in the regulations to distinguish them from the code of record interval definition. The proposed rule states:

> *Inservice examination and test (IST) interval*, for the purposes of this section, means the inservice examination and test interval described by the licensee's code of record (paragraph ISTA-3120 of the ASME OM Code, 2001 Edition through 2009 Edition, or paragraph ISTA-3120 of the ASME OM Code, 2012 Edition and later).
>
> *Inspection interval,* as used in this section, means the inservice inspection interval described by the licensee's code of record (Article IWA-2432 of ASME BPV Code, Section XI, 1989 Edition with 1991 Addenda through the 2008 Addenda, or Article IWA-2431 of ASME BPV Code, Section XI, 2009 Addenda and later).

Code cases cannot provide alternatives to NRC regulations unless explicitly permitted by the regulations. However, the proposed definitions of the IST interval and inspection interval do not allow for the modification of these intervals by Code Cases OMN-31 and N-921. There is also not a provision currently in 50.55a that would allow code cases to provide alternatives to the proposed definitions. For both the BPV Code, Section XI, and OM Code, the NRC's proposed definition for the code of record means "the edition (and addenda) implemented by a licensee in accordance with the requirements of this section." Thus, the definition for the code of record does not include code cases, as these are not "the edition or addenda." Additionally, the specific paragraphs within the OM Code (e.g., ISTA-3120) and Section XI (e.g., IWA-2431) are specified in the proposed interval definitions, but the proposed definitions do not permit alternatives to these paragraphs.

In addition, these proposed definitions do not appear to encompass the snubber program.

Augmented Inspections

The regulations in 10 CFR 50.55a(g)(6)(ii)(E) specify augmented reactor coolant pressure boundary visual inspections. Footnote 10 to this regulation states, in part:

> For inspections to be conducted once per interval, the inspections must be performed in accordance with the schedule in Section XI, paragraph IWB-2400, except for plants with inservice inspection programs based on a Section XI edition or addenda prior to the 1994 Addenda.

As noted above, code cases cannot provide alternatives to NRC regulations unless explicitly permitted by the regulations. The final rule should clarify whether or not Code Case N-921 can be applied to these augmented inspections.

Code Case N-921

Code Case N-921 provides an alternative to the Section XI requirements in paragraphs IWA-2430 and IWA-2431 and tables IWB-2411-1, IWC-2411-1, IWD-2411-1, IWE-2411-1, and IWF-2410-1." Subparagraph IWA-2430(a) of Section XI states: "The inspections shall be performed

in accordance with the schedule of the Inspection Program of IWA-2431." As an alternative to this Section XI requirement, subparagraph -2430(a) of Code Case N-921 states (emphasis added): "The inspections shall be performed in accordance with the schedule of the inspection program of -2431 **and Table 1**." Thus, the code case includes an inspection scheduling requirement (i.e., Table 1) that is not in IWA-2430(a).

Section XI, paragraphs IWB-2411, IWC-2411, etc., require the percentage of examinations in each examination category to be completed in accordance with tables IWB-2411-1, IWC-2411-1, etc. (as applicable), **with exceptions**. However, Code Case N-921 does not identify any exceptions to Table 1 for paragraph -2431. A plain language reading would lead to the conclusion that subparagraph -2430(a) requires compliance with Table 1, without exception, for licensees that choose to use Code Case N-921.

The NRC should condition Code Case N-921 to make the Section XI exceptions to tables IWB-2411-1, IWC-2411-1, etc. applicable to subparagraph -2430(a) of Code Case N-921. Such a condition would avoid the need for licensees to request alternatives to this provision in Code Case N-921.

Code Case N-860

Code Case N-860 should not be endorsed in RG 1.174 and should not be incorporated in 10 CFR 50.55a. Code Case N-860 provides inspection requirements and evaluation standards for spent nuclear fuel storage and transportation containment systems. These systems are not systems, structures, or components of a production or utilization facility. Therefore, these systems are not within the scope of 10 CFR Part 50 and not within the scope of Part 50 or 52 licenses. Instead, spent nuclear fuel storage and transportation containment systems are regulated and licensed under 10 CFR Parts 71 and 72. The regulations in 10 CFR 50.55a do not apply to these systems and do not extend to 10 CFR Parts 71 and 72 (e.g., there are no references to 50.55a in Parts 71 or 72). In addition, the use of such systems is not limited to nuclear power plant licensees and applicants.

RG 1.147 is for code cases that the NRC has approved for use as voluntary alternative to the mandatory ASME BPV Code provisions that are incorporated by reference in 10 CFR Part 50. There are no mandatory ASME BPV Code provisions for spent nuclear fuel storage and transportation containment systems in 10 CFR Part 50. In fact, Code Case N-860 does not appear to provide an alternative to any ASME BPV Code provisions. Thus, it is not appropriate to endorse this code case in RG 1.147.

The FRN does not explain how this code case is compatible with the regulations, including the certificates of compliance, in 10 CFR Parts 71 and 72. For example, the code case states that it applies to canisters during the storage period of extended operation, which starts after the initial license period. This is ambiguous and could be interpreted as a change in staff position regarding when the aging management program begins. For generally licensed ISFSIs, the aging management program for such systems is not tied to the duration of the ISFSI license because the general license is not a fixed term. The aging management program for such systems is also not tied to the duration of the reactor license. If the NRC wants to endorse Code Case N-860, then it should consider doing this under a separate regulatory action that fully considers the impact to the regulations, certificates of compliance, and ISFSI licensees.