Analysis of Public Comments on
DRAFT NRC REGULATORY ISSUE SUMMARY 2021-XX
"OPERATIONAL LEAKAGE"
(ML21166A122)

Comments on the subject draft regulatory issue summary are available electronically at the U.S. Nuclear Regulatory Commission's (NRC's) electronic Reading Room at http://www.nrc.gov/reading-rm/adams.html. From this page, the public can access the Agencywide Documents Access and Management System (ADAMS), which provides text and image files of the NRC's public documents. Comments were received from the following individuals or groups:

Submittal No.	ADAMS Accession No.	Commenter Affiliation	Commenter Name
1	ML22074A263	Public	Steven Bright
2	ML22074A264	Nuclear Energy Institute	Dr. Jennifer Uhle
3	ML22075A095	Constellation Energy Generation, LLC	Glen Kaegi
4	ML22075A097	Southern Nuclear Operating Company	Cheryl Gayheart
5	ML22075A098	Tennessee Valley Authority	James Polickoski
6	ML22075A099	Public	Megan Nally
7	ML22075A100	PSEG Nuclear, LLC	David Mannai

This document lists each public comment by correspondence (i.e., submittal number). The NRC staff has summarized some comments and, in some cases, combined comments that raise similar issues. Where a comment is reproduced verbatim, the comment is italicized. Each comment or comment summary is followed with the NRC staff's response. In some instances, comments have been broken into segments for clarity. Each comment is referred to by the submittal number listed above and each comment from the corresponding submittal.

Comment 1-1

1-1: The issue is whether the license holders should be able to use the original construction code applicable to their system to return the pressure vessel to operable standards or should license holders be required to use the codes currently applicable to them under 10 C.F.R. § 50.55a(g)(4,5). Under 10 C.F.R. § 50.55a(g)(4), during the initial 120-month service interval of the pressure vessel, in-service inspection standards are based on the standards referenced in 10 C.F.R. § 50.55a(a) that are ratified "on the date 18 months before the date of issuance of the operating 3 license under this part, or 18 months before the date scheduled for initial loading of fuel." 10 C.F.R. § 50.55a(g)(4)(i). Similarly, for successive 120-month service interval pressure vessels, the applicable code will be "the latest edition and addenda of the ASME Code incorporated by reference in paragraph (a) of this section 18 months before the start of the 120–month inspection interval." 10 C.F.R. § 50.55a(g)(4)(ii). While it would seem acceptable to use the original construction code for systems operating in their first 120-month service interval, it would seem imprudent for a license holder in subsequent 120-month inspection intervals to use the code applicable when the facility was built. For the safety of the public, license holders should be required to return their systems to the code applicable for their current inspection interval. As the RIS is stated currently, it appears that a license holder, who has been in operation for more than 120-months, would be required to reference the construction code that was applicable more than 120-months in the past. For example, a licensee that was midway through its first subsequent 120- month inspection interval, might be applying applicable *construction codes that are more than sixteen years out of date. The applicable code would be the code that was in place eighteen months before the initial 120-month inspection interval. The hypothetical licensee is sixty months into its first subsequent inspection interval for a total of 198 months since the adoption of the relevant code.*

The RIS should be amended to require license holders to apply the code applicable to their current inspection interval. This amendment would increase safety for the public by requiring licensees to use the most up-to-date building codes with which the licensees have already been required to comply. Using the most up-to-date building codes increases safety by requiring the use of the most up-to-date materials and techniques. The adherence to older building codes could allow licensees to use materials and techniques that have been found unsafe and were eliminated with adoption of revised and newer building codes.

NRC Staff Response

The NRC staff notes this comment is out of scope for the regulatory issue summary (RIS), because implementing the comment's proposal to require licensees to update their "building code" would require rulemaking.

The license or license amendment authorizing operation of the particular system, structure, or component (SSC) establishes the licensee's "construction code" for each SSC (generally American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV Code), Section III). The current regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a, "Codes and standards," paragraph (a)(1)(i) incorporate by reference ASME BPV Code, Section III, 1963 Edition through the 1970 Winter Addenda and the 1971 Edition (Division 1) through the 2017 Edition (Division 1), subject to the conditions identified in the current 10 CFR 50.55a(b)(1)(i)–(xii). These codes specify standards for the construction of nuclear facility components and supports, independent from local building codes. Licensees are not required to update their construction codes, though they may do so voluntarily. Rather, the update requirement the comment refers to is for the inservice inspection (ISI) code ASME BPV Code, Section XI. A separate inservice examination and testing (IST) code, the ASME Operation and Maintenance Code, has similar update requirements in 10 CFR 50.55a(f).

Taken together, the ISI and IST codes, as incorporated by reference in 10 CFR 50.55a, define inspection, testing, and repair requirements. Thus, this RIS is clarifying that updated codes must be applied to a leaking component when it clarifies that ASME BPV Code, Section XI, the ISI code, applies to these SSCs "[t]hroughout the service life of a boiling or pressurized water-cooled nuclear power facility." The RIS indicates that licensees have the option of replacing leaking components with new components that meet their construction code, but doing so would generally be more onerous than repairing the components even under the most up-to-date ISI code, if a repair is possible.

No change was made to the RIS in response to the comment.

Comments 2-1, 3-1, 4-1, 7-2

2-1: The comments assert that there is no legally binding requirement mandating the exclusive use of ASME Code Section XI flaw acceptance and evaluation methods to determine operability in response to discovery of operation leakage in ASME Code Class 2 and 3 components. The comments state that the inservice inspection rules of Section XI of the ASME Code apply only to flaws discovered during Section XI inservice inspections and tests, and thus the Section XI rules do not apply to flaws identified at other times. Further, the comments argue that the Commission's regulations in 10 CFR 50.55a do not expand the applicability of the flaw acceptance and evaluation requirements contained in Section XI to cover operational leakage. In addition, the comments point out that the generic communications and correspondence cited in the RIS (e.g., Generic Letter (GL) 90-05, the Reedy Letters, RIS 2005-20 and associated inspection manual chapters) do not establish legally binding requirements. The comments also note there is no question that if a licensee is going to undertake a repair or replacement activity on a Class 2 or 3 component, that repair must conform to the requirements of Article IWA-4000 (or an approved alternative). However, the comments disagree with the NRC position, asserting instead that operability determinations are evaluations of Technical Specifications (TS) compliance and do not constitute a repair or replacement activity.

NRC Staff Response

The NRC staff disagrees with these comments. 10 CFR 50.55a(g)(4) mandates the use of ASME BPV Code, Section XI, (or an approved code case) "[t]hroughout the service life of a boiling or pressurized water-cooled nuclear power facility." This means that licensees subject to 10 CFR 50.55a(g) are not, at any time during the service life of their facility, permitted to deviate from the requirements of the applicable Section XI requirements, as incorporated by reference in § 50.55a, without relief, an approved alternative, or an exemption. For SSCs covered by TS, the operability requirements established by the limiting conditions for operations (LCOs) in the TS assume that the associated SSCs maintain structural integrity. Thus, a challenge to the structural integrity of a TS SSC is a challenge to its specified safety function. As such, the NRC regulatory requirement is in the interrelation between 10 CFR 50.55a and the TS requiring a facility to ensure operability of an SSC experiencing operational leakage. In addition, the TS establish the time to verify or restore structural integrity (i.e., compliance with 10 CFR 50.55a(g)) for SSCs rendered inoperable due to operational leakage through the TS completion time. Thus, 10 CFR 50.55a and the TS establish the structural integrity requirements for Class 1, 2, and 3 SSCs, and the NRC has documented this longstanding regulatory position in generic communications, other NRC letters, and NRC inspector guidance for more than 30 years.

The comments assert that the NRC did not intend its regulations in 10 CFR 50.55a to apply to operational leakage. The NRC position on the implementation of 10 CFR 50.55a for operational leakage has been documented over the past four decades in multiple regulatory actions completed to grant relief requests to licensees, where appropriate, and to take enforcement action to ensure that agency requirements are met. To provide effective and efficient oversight, agency guidance documents for both NRC inspectors and operating reactor licensees have consistently articulated this position. This RIS again highlights to licensees the NRC's position in this regard.

Flaw Evaluation versus Repair/Replacement and GL 90-05

Under 10 CFR 50.55a(g), licensees are required to implement Section XI of the ASME BPV Code throughout the service life of the plant for ASME Code Class 1, 2, and 3 SSCs. Before the NRC staff issued GL 90-05, "Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping," dated June 15, 1990 (ML031140590), the clear understanding of the NRC staff and licensees was that through-wall leakage discovered during operation required a repair/replacement activity in accordance with IWA-4000. GL 90-05, for the first time, provided generic guidance on circumstances in which the NRC staff would consider granting a request for relief from the requirement to perform such a repair/replacement. Typically, under Section XI when a flaw is visually identified, IWB/C/D-3000 provides acceptance criteria and options for licensees to allow continued service of a component. For example, no flaw in Class 2 or 3 piping can remain in service if it exceeds 75 percent through-wall per IWC/D-3642. The NRC staff's position on this matter, as documented in GL 90-05 and this RIS, is consistent with the acceptance criteria in Section XI for flaws in piping. This RIS defines operational leakage as leakage through a flaw in the pressure-retaining boundary of an ASME BPV Code Class 1, 2, or 3 SSC. For example, through-wall leakage clearly does not meet the 75 percent maximum acceptance criteria of IWB/C/D-3642. Thus, before GL 90-05 was issued, no additional evaluation was needed once leakage was determined to be through-wall because an IWA-4000 repair/replacement activity was clearly required to address the flaw and restore structural integrity.

Although the scope of GL 90-05 encompasses flaws other than operational leakage, it frequently uses leakage as an example of the kind of flaws that require repair/replacement activity under IWA-4000. Further, GL 90-05 specifically relies on ASME Code requirements to establish its scope: "leakage through a flange gasket is not considered to be a flaw in the piping by Section XI of the ASME Code and is excluded." Note that GL 90-05 specifies that it was only an option for ASME Code flaws in ASME Class 3 components for which repairs required by the ASME Code would force the plant to shut down because of TS timing requirements: "if the affected section of piping can be isolated for completing a code repair within the time period permitted by the limiting condition for operation (LCO) without a plant shutdown, the licensee is required to perform a code repair." Thus, GL 90-05, for the first time, provided generic guidance for licensees on options to avoid a shutdown otherwise required under their TS in response to ASME Code flaws (e.g., leakage discovered during operation).

After GL 90-05 was issued, in the 1996 Edition of the ASME BPV Code, IWA-4110 was revised to state that "[t]he requirements of this Article [IWA-4000] apply regardless of the reason for the repair/replacement activity[Endnote]4 or the method that detected the condition requiring the repair/replacement activity." Endnote 4 explains that the reasons for repair/replacement activities may include (1) discrepancies detected during inservice inspection, maintenance, or service, (2) damage, or (3) failure during service. Shortly after the 1996 revision to IWA-4110, additional alternatives to repair/replacement activities were made available to evaluate operational leakage flaws (e.g., ASME BPV Code Cases N-513, issued in 1997, and N-705, issued in 2006). The use of these ASME Code alternatives for ASME BPV Code Class 2 and 3 components is for temporary acceptance of flaws, including through-wall flaws, without performing a repair/replacement activity until the next scheduled refueling outage.

The NRC staff provides the following clarification in response to the comment that "operability determinations are evaluations of TS compliance, and do not constitute a repair or replacement activity. Thus, the requirements of Article IWA-4000 do not govern operability determinations." The NRC staff's position, consistently stated since at least GL 90-05, is that a flaw found in an ASME BPV Code Class 1, 2, or 3 SSC under the scope of 10 CFR 50.55a(g) constitutes a discrepancy detected during service (potentially a result of damage) and an indication of potential failure during service (i.e., a challenge to TS operability). As indicated in GL 90-05, under some circumstances, non-through-wall flaws that meet Section XI acceptance criteria may not require repair/replacement under IWA-4000 to ensure that they can perform a TS-required function. For through-wall flaws (e.g., operational leakage), GL 90-05 states that IWA-4000 would apply and the only other option to demonstrate TS operability is relief from IWA-4000. Therefore, the NRC staff's position, clarified in the RIS, is the same as the position described in GL 90-05: For SSCs required to be operable by TS, the operability requirements established by the LCOs in the TS rely on the associated SSCs maintaining structural integrity, and 10 CFR 50.55a(g) establishes the NRC regulatory requirement that Section XI must be used to ensure structural integrity for ASME BPV Code Class 1, 2, and 3 SSCs throughout the service life of the plant. In the special case of operational leakage, no additional evaluation is required to determine that Section XI, Article IWA-4000, or NRC-approved Code Cases must be followed to verify structural integrity and demonstrate operability. TS LCOs establish time limits for completing these activities in addition to the timeframes otherwise established by licensees' corrective action or inservice inspection programs.

As explained below, this NRC position is clearly described in letters, generic communications, and inspection manuals. Further, the NRC implements this position through authorization of alternatives and relief requests, as well as the finding of violations in cases of noncompliance.

The Reedy Letters

The Reedy Letters clearly restate the NRC policy on this issue in letters from the Director of the Office of Nuclear Reactor Regulation and the Executive Director of Operations for the NRC, with concurrence from the Office of the General Counsel and the NRC Chairman at the time of issuance. Mr. Reedy was the former Chairman of the Subcommittee on Nuclear Power, ASME Section III, and had a series of communications with the NRC during the early and mid-1990s on these issues. These specific letters are significant in that they directly answer the question posed by this comment in 1996 for the very same issue raised during that timeframe concerning the regulatory requirements for operational leakage. The NRC staff's response provided in the February 20, 1996, letter (ML20006H277) was as follows:

> Section 50.55a, paragraph (g)(4) states, in part, that "[t]hroughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2 and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI..." As such, the regulations would not be satisfied if deterioration has caused a breach (i.e., leakage) in the wall of components within the scope of Section 50.55a. That is, if a pipe has a through-wall defect that causes a leak, then the pipe obviously has a flaw in it and a licensee could not demonstrate that the structural integrity of the component meets the flaw acceptance criteria of Section XI, IWX-3000 (See 3[a] response). Arguments that Code references do not specifically require the defect causing a leak to be characterized and flaw evaluation to be performed are insufficient for determining operability. Part 50, Appendix B, Criterion XVI, "Corrective Measures," would require further evaluation of the deterioration to ascertain if the system, subsystem, or component has sufficient safety margin and to ensure that other design basis and regulatory requirements are met (e.g., Appendix A, General Criteria 14, 15, 31, 36, 37, 45, 46, and 51, plant SARs, plant technical specifications, etc.).

Additionally, the Reedy Letters explain in the 3(a) response:

> ASME Code Inquiry 92-005, March 10, 1992, states corrective measures are required if a leak is found during a pressure test and the acceptance criteria of IWX-3000 are exceeded and that for leakage found during normal plant operation, Section XI, IWA-5250(a) does not apply. However, leakage found during plant operation brings into question the capability of a system, subsystem, or component to fulfill its safety function (i.e., operability).

> The interpretation could mislead a licensee to conclude that it should take different actions if a leak is discovered by an operator during rounds rather than during the conduction of an inservice leak test because of the difference between the code interpretation and the guidance in GL 91-18. As a result, a nonconforming condition could remain indeterminable for an extended period of time.
>
> If a licensee has reason to believe that it would fail a required inservice test, such as an inservice leakage test, it should take corrective actions as if the test had identified the failed condition and declare the system inoperable when the acceptance criteria for such a test were not satisfied.

Of note, in the RIS, the NRC staff explains, "[t]his RIS emphasizes that operational leakage must be addressed in the same manner as leakage detected during an ASME BPV Code, Section XI, pressure test."

In the June 12, 1996, letter to Mr. Reedy (ML20112K084), the Executive Director of Operations for the NRC reaffirmed the NRC position above in response to a follow-up letter from Mr. Reedy. The Executive Director also noted the NRC staff's position that ASME interpretations are not part of the regulations. Further, he explained that NRC regulations permit the use of alternatives, including those that may be based on engineering judgment. However, the NRC is responsible for ensuring that 10 CFR is effectively implemented and that alternatives to the regulations are reviewed and approved by the NRC staff before being used by a licensee. The Office of General Counsel and the NRC Chairman concurred with this letter. The Reedy letters clearly state the NRC position on operational leakage as concurred with by the full staff management chain at the agency.

Generic Communications

The NRC position on the regulatory requirements for operational leakage have been documented consistently through NRC inspection manuals and generic communications over the past 30 plus years. The following quotes from each of these documents are provided to highlight the consistency of the regulatory position.

GL 90-05 states in part the following:

> Section XI of the ASME Boiler and Pressure Vessel Code (hereafter called the code) specifies code -acceptable repair methods for flaws that exceed code acceptance limits in piping that is in service. A code repair is required to restore the structural integrity of flawed ASME Code piping, independent of the operational mode of the plant when the flaw is detected.

GL 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability," dated November 7, 1991 (ML031140549) withdrawn May 20, 2016 (81 FR 31969), includes "NRC Inspection Manual Part 9900: Technical Guidance, Resolution of Degraded and Nonconforming Conditions," which states the following:

> <u>6.15 Operational Leakage</u>
> Furthermore, the regulations and TS require that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained according to Section XI of the

ASME Code. If a leak is discovered in a Class 1, 2, or 3 component in the conduct of inservice inspections, maintenance activities, or during plant operation, IWA-5250 of Section XI requires corrective measures be taken based on repair or replacement in accordance with Section XI. In addition, a through-wall flaw does not meet the acceptance criteria in IWB-3600.

Upon discovery of leakage from a Class 1, 2, or 3 component pressure boundary (i.e., pipe wall, valve body, pump casing, etc.) the licensee should declare the component inoperable. The only exception is for Class 3 moderate energy piping as discussed in Generic Letter 90-05. For Class 3 moderate energy piping, the licensee may treat the system containing the through-wall flaw(s), evaluated and found to meet the acceptance criteria in Generic Letter 90-05, as operable until relief is obtained from the NRC.

NRC RIS 2005-20, Revision 0, "Revision to Guidance Formerly Contained in NRC Generic Letter 91-18," issued September 26, 2005 (ML052020424), which superseded GL 91-18, and Inspection Manual Part 9900, issued September 26, 2005 (ML052060365). The 2005 revision of Part 9900 states the following:

C.11 Flaw Evaluation
In accordance with 10 CFR 50.55a(g), structural integrity must be maintained in conformance with ASME Code Section XI for those parts of a system that are subject to Code requirements. The Code contains rules describing acceptable means of inspecting welds in piping, vessels, and areas of high-stress concentration. The Code also specifies acceptable flaw sizes based on the material type, location, and service of the system within which the flaw is discovered. If the flaw exceeds the generally acceptable limits, the Code also describes an alternate method by which a refined calculation may be performed to evaluate the acceptability of the flaw. At no time does the Code allow an unrepaired through-wall flaw to be returned to service. If a flaw is discovered by any means (including surveillance, maintenance activity, or inservice inspection) in a system subject to Code requirements (whether during normal plant operation, plant transition, or shutdown operation), the flaw must be promptly evaluated using Code rules. If the flaw is through-wall or does not meet the limits established by the Code, the component and part of the system containing the flaw is inoperable.

Evidence of leakage from the pressure boundary indicates the presence of a through-wall flaw. It may be possible to use visual methods to determine the exterior dimension(s) and orientation of a through-wall flaw in a leaking component. When the outside surface breaking dimension of a through-wall flaw is small, the length and extent of the flaw inside the component wall may be quite long and potentially outside the limits established by the Code. For these reasons the component is declared inoperable while methods such as ultrasonic examination are performed to characterize the actual geometry of the through-wall flaw.

C.12 Operational Leakage from Code Class 1, 2, and 3 Components
Existing regulations and TSs require that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained in accordance with the ASME Code. In the case of specific types of degradation, other regulatory requirements

must also be met. If a leak is discovered in a Class 1, 2, or 3 component in the conduct of an inservice inspection, maintenance activity, or facility operation, corrective measures may require repair or replacement activities in accordance with IWA-4000 of Section XI. In addition, the leaking component should be evaluated for flaws according to IWB-3000, which addresses the analytical evaluation and acceptability criteria for flaws.

NRC RIS 2005-20, Revision 1, "Revision to NRC Inspection Manual Part 9900 Technical Guidance" (ML073440103), issued April 16, 2008, informed licensees of revisions to Inspection Manual Part 9900 (ML073531346), also issued April 16, 2008, which states the following:

> C.11 Flaw Evaluation
> In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(g), structural integrity must be maintained in conformance with American Society of Mechanical Engineers (ASME) Code Section XI for those parts of a system that are subject to ASME Code requirements. 10 CFR 50.55a(g)(4) further requires, "Throughout the service life of a boiling or pressurized watercooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI..."
>
> C.12 Operational Leakage from ASME Code Class 1, 2, and 3 Components
> The regulations require that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained in accordance with the ASME Code or construction code acceptance standards. If a leak is discovered in a Class 1, 2, or 3 component while conducting an inservice inspection, maintenance activity, or during facility operation, any corrective measures to repair or replace the leaking component must be performed in accordance with IWA-4000 of Section XI.
>
> To evaluate the structural integrity of the leaking component, the licensee may use the criteria in Section XI of the ASME Code, the construction code, or any applicable ASME Code Case approved by the NRC.
>
> Once a component is evaluated for structural integrity using criteria acceptable to the NRC staff as described herein, and determined to be unacceptable, the component has to be declared inoperable and the technical specification action statements for the applicable system must be followed.
>
> The NRC has no specific guidance or generically approved alternatives for temporary repair of flaws (through-wall or non-through-wall) in system pressure boundary components other than piping in Class 1, 2, or 3 high-energy system components, or for Class 2 or 3 moderate-energy system components. Therefore, all such flaws in these components must be repaired in accordance with ASME Code requirements, or relief from ASME Code requirements must be requested of and approval obtained from the NRC.

NRC RIS 2005-20, Revision 2, "Revision to NRC Inspection Manual Part 9900 Technical Guidance," issued June 15, 2015 (ML15106A484), announced NRC Inspection Manual Chapter 0326, "Operability Determinations and Functionality Assessments for Conditions Adverse to Quality or Safety," issued January 31, 2014 (ML13274A578), which states the following:

C.11 Flaw Evaluation
In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(g), structural integrity must be maintained in conformance with American Society of Mechanical Engineers (ASME) Code Section XI for those parts of a system that are subject to ASME Code requirements. 10 CFR 50.55a(g)(4) further requires, “Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI…”

C.12 Operational Leakage from ASME Code Class 1, 2, and 3 Components
The regulations require that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained in accordance with the ASME Code or construction code acceptance standards. If a leak is discovered in a Class 1, 2, or 3 component while conducting an inservice inspection, maintenance activity, or during facility operation, any corrective measures to repair or replace the leaking component must be performed in accordance with IWA-4000 of Section XI.

NRC Inspection Manual Chapter 0326, “Operability Determinations,” dated October 1, 2019 (ML19273A878), states the following:

08.12 Flaw Evaluation
In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(g)/50.55a(f), structural integrity must be maintained in conformance with ASME Code Section XI for those parts of a system that are subject to ASME Code requirements. 10 CFR 50.55a(g)(4) further requires, “Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and pre-service examination requirements, set forth in Section XI…”

If flaws are found in components for which ASME Section XI has no acceptance standards, then the construction code is to be used to establish the acceptance standards. This is supported by Sub-article IWA-3100(b) which states “if acceptance standards for a particular component, Examination Category, or examination method are not specified in this Division [Division 1] then flaws that exceed the acceptance standards for materials and welds specified in the Section III Edition applicable to the construction of the component shall be evaluated to determine disposition.”

08.13 Operational Leakage from ASME Code Class 1, 2, and 3 Components
The NRC staff does not consider through-wall leakage in components to be in accordance with the intent of the ASME Code or construction code, unless intentionally designed to be there such as sparger flow holes. Therefore, components with through-wall leakage would not meet ASME Section XI or construction code requirements. Thus, unless a 100% through-wall flaw is evaluated and found acceptable using an applicable methodology as described in the table above and in which all provisions are met including any additional

requirements or limitations imposed (e.g. by the NRC approved code case), the system or component does not demonstrate structural integrity.

10 CFR 50.55a requires that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained in accordance with the ASME Code or construction code acceptance standards. If a leak is discovered in a Class 1, 2, or 3 component while conducting an in-service inspection, maintenance activity, refueling outage, or during facility operation, appropriate corrective measures to repair or replace the leaking component must be performed in accordance with IWA-4000 of Section XI.

The NRC has been consistent throughout these documents in stating that 10 CFR 50.55a provides the regulatory requirements for flaw analysis and operational leakage. The NRC staff has explained that 10 CFR 50.55a requires that the structural integrity of ASME Code Class 1, 2, and 3 components be maintained in accordance with the ASME Code or construction code acceptance standards.

Operating Experience

In addition to extensive documentation, the NRC staff's position on operational leakage is supported by significant operating experience implementing the position, including documented violations and requests for alternatives and relief. The following paragraphs provide a few example cases.

The following are examples of violations from requirements addressing operational leakage.

Case 1:

> NRC inspectors identified a Green noncited violation of Technical Specification 3.7.4 because the licensee had one independent loop of essential cooling water inoperable for longer than the allowed outage time of 7 days. Specifically, on October 27, 2009, the licensee failed to initiate actions to evaluate and repair a through-wall leak in the 30-inch essential cooling water return line from the Unit 2 train C component cooling water heat exchanger, as required by American Society of Mechanical Engineers Boiler and Pressure Vessel Code, and in accordance with guidance contained in NRC Generic Letter 90-05, "Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping." The inspectors questioned the licensee's reportability review and determined there was firm evidence that the through-wall leak caused the Unit 2 train C essential cooling water system to be inoperable for a period of 11 days instead of 8 days as initially concluded by the licensee. The finding was more than minor because the through-wall leak could have challenged the structural integrity of the piping and it was associated with the Mitigating Systems Cornerstone attribute of configuration control and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. ("IR 05000498-10-004, on 09/30/10, South Texas Project Electric Generating Station, Units 1 and 2, Integrated Inspection," issued November 2, 2010, ML103060091)

Case 2:

> [A licensee] did not properly evaluate and document an adequate basis for operability, when relevant information was available that would have challenged the "reasonable expectation of operability" threshold for a service water (SW) through-wall leak that degraded incrementally from weepage on August 7, 2013, to a significantly larger leak on August 28, 2013. The licensee completed a temporary non-code repair of the flaw with the installation of a weldolet on September 1, 2013, following NRC review and approval of a relief request. ("IR 05000443-13-004; 07/01/2013; Seabrook Station, Unit No. 1; Operability Determinations and Functionality Assessments & IR 07200063-13-001," issued November 19, 2013, ML13323A634)

Case 3:

> The inspector identified a non-cited violation of 10 CFR 50.55a(g)(4) for the licensee's failure to evaluate an ASME code class piping leak in the spent fuel pool piping, or perform evaluation prior to returning the system to service. A through-wall leak in the piping of the spent fuel pool cooling system downstream of valve SFP 23, spent fuel pool to the cask loading pit isolation valve, was identified in August 2009. The licensee closed [the condition report and work order] after completing clean-up of the boric acid crystals. As of May 23, 2014, the exact location, size, and geometry of the flaw were still unknown. ("IR 05000313-14-003; 05000368-14-003; on 04/01/2014–06/30/2014; Arkansas Nuclear One, Units 1 and 2, Integrated Inspection Report; Post-Maintenance Testing, Radiological Environmental Monitoring Program; Inservice Inspection Activities," issued August 13, 2014, ML14225A852)

The following paragraphs provide examples of proposed alternatives for operational leakage identified outside of system pressure test. These approved requests for alternatives in accordance with 10 CFR 50.55a are consistent with the NRC staff's position that Section XI in combination with TS requires licensees to address operational leakage in these components using Section XI methods. The NRC establishes the regulatory basis for each authorization of an alternative, and if there is no regulatory basis, the NRC staff would not approve it. Thus, the approval of these alternatives demonstrates the application of the NRC staff's position that Section XI methods must be applied to verify structural integrity.

Alternative 1:

> On September 18, 2007, a nuclear plant operator conducting a routine plant walkdown noted minor leakage of approximately 5 drops per minute in one of the two cement-lined 18" diameter, 0.375" nominal thickness, service water supply lines for the containment building [fan cooler units (FCUs)]. As a result of this leak, a volumetric examination of the surrounding area was performed and the results were evaluated against the requirements of ASME Code Case N-513-1. Although this evaluation confirmed that the affected piping remains within the requirements of Code Case N-513-1, the calculated corrosion rate does not support continued structural integrity through the remainder of the current operating cycle.

> A weld repair/replacement fully compliant with the requirements of IWA-4000 [was] not practical. The affected piping section would need to be removed from service, which would result in three FCUs inoperable. [The licensee's] Technical Specification 3.6.6 does not have a condition statement for that configuration, so it would require [the plant] to be shut down. [The licensee requested a non-code repair to temporarily address the issue until] no later than the next refueling outage. ("Indian Point Nuclear Generating Unit No. 3—Relief Request (RR) No. 3-42 For Temporary Non-Code Repair of Service Water Pipe (TAC MD6821). Issued February 22, 2008," ML080280073)

Alternative 2

> On August 14, 2014, a licensee identified a leak in an elbow on the east raw water (RW) piping. The leak required the plant to enter into Technical Specification (TS) 2.4(2)d. The licensee reported that the pinhole leak was approximately 600 milliliters (ml) per hour on the inside of the elbow towards the middle of the pipe. On August 15, 2014, the licensee reported that the leak rate had increased to 1100 ml/hour. The licensee stated that performing an ASME Code repair or replacement activity to correct the pinhole in the RW elbow would require the plant to shut down (i.e., entry into a 24-hour hot shutdown TS requirement) and create a hardship based on the potential risks associated with unit cycling and emergent equipment issues incurred during shutdown and startup evolutions. The licensee noted that the ASME Code does not include analytical evaluation criteria for acceptance of 100 percent through-wall flaws in pressure retaining base material of ferritic pipe or fittings. NRC Regulatory Guide 1.147, Revision 17, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," August 2014 (ADAMS Accession No. ML 13339A689), conditionally approves ASME Code Case N-513-3 which provides analytical evaluation rules for temporary acceptance of 100 percent through-wall flaws in piping. The licensee noted that Code Case N-513-3 does not apply to through-wall flaws located in elbows. [Therefore, the licensee requested authorization of a non-code repair.] (Fort Calhoun Station, Unit 1—Relief Request RR-14, Proposed Alternative for Temporary Acceptance of a Phin Hole Leak in Raw Water System 20-inch Elbow Located in Room 19 of Auxiliary Building (TAC No. MF4643)," issued November 19, 2014, ML14316A167)

Alternative 3

> On November 3, 2016, a licensee detected a pinhole through-wall leak in the 3-inch diameter 31 fan cooler unit service water return line located inside the vapor containment building. The licensee explained that the basis for hardship is the requirements of TS 3.6.6, "Containment Spray System and Containment Fan Cooler System," in which Action C states that an inoperable containment fan cooler unit must be restored to operable status within 7 days or the plant must be in Mode 3 within 6 hours and Mode 4 within 12 hours. The licensee recognized that an alternative is required in order to apply N-513-3 to evaluate the leak for operability. [The licensee needed relief because it] was not able to satisfy the requirement of inspecting the full pipe circumference in accordance with paragraph 2(b) of N-513-3 due to interference. ("Indian Point Nuclear Generating Unit No. 3—Relief from the Requirements of the ASME Code Regarding

> Alternate IP3-RR-10 to the Full Circumferential Inspection Requirement of Code Case N-513-3 (CAC No. MF8792)," issued January 11, 2017, ML16358A444)

ASME BPV Code Case N-513

Many proposed alternatives over the past 20 years deal with ASME BPV Code Case N-513, originally approved in August 1997. The latest version provides a generically approved alternative to repair/replacement activities through rules and criteria for evaluation and temporary acceptance of flaws, including through-wall flaws (i.e., operational leakage) identified in ASME BPV Code Class 2 and 3 piping systems. Use of ASME BPV Code Case N-513-x is allowed by the NRC until the next scheduled refueling outage, when an ASME Code repair is required. N-513 has been revised many times over the years to expand its applicability, as identified by the many licensees' proposed alternatives. Note that an alternative is not necessary if a licensee can comply with the current NRC approved version of N-513-x at the time the leakage is identified.

N-513 is germane to the operational leakage regulatory requirement discussion because if there is no regulatory requirement to address operational leakage under 10 CFR 50.55a(g) and Section XI, as the comment proposes, then there would be no need to use N-513-x or for a proposed alternative or regulatory relief in accordance with 10 CFR 50.55a to accept operational leakage, until the next scheduled refueling outage. In accordance with the comment's position, the only regulatory requirement for a licensee to address leakage would be for compliance with the ASME Code, Section XI, system pressure test, typically performed at the end of an outage. However, the comment's position is not consistent with current regulatory requirements, as described in the NRC's *Federal Register* (FR) notice (62 FR 63892) dated December 3rd, 1997, for the proposed rule to allow licensees to use ASME Code Case N-513 as an option to address operational leakage. Specifically, the FR notice states the following:

> Proposed § 50.55a(b)(2)(xvi) would permit licensees to use Code Case N-513, "Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping,"… Section XI contains repair methods for pipes with a flaw exceeding acceptable limits. These repairs restore the integrity of the flawed piping. There are certain cases, however, where a Section XI Code repair may be impractical for a flaw detected during plant operation (i.e., a plant shutdown would be required to effect the Code repair). For many safety-related piping systems, immediate repair is required regardless of plant status. However, it has been determined that under certain conditions, temporary acceptance of flaws, including through-wall leaking, of low and moderate energy Class 3 piping is acceptable provided that the conditions are met, and the repair is effected during the next outage. At present, licensees must request NRC staff approval to defer Section XI Code repair for this Class 3 moderate energy (200 °F, 275 psig) piping systems.

The preamble to the final rule reiterated the regulatory requirements for operational leakage (64 FR 51370) dated September 22, 1999:

> 2.5.2.2 Flaws in Class 3 Piping.
> Section 50.55a(b)(2)(xvi) in the proposed rule pertained to use of ASME Code Case N-513, "Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping," and Code Case N-523-1, "Mechanical Clamping Devices for Class 2 and 3 Piping." These Code cases were developed to address criteria for temporary acceptance of flaws (including through-wall leaking) of moderate energy Class 3

> piping where a Section XI Code repair may be impractical for a flaw detected during plant operation (i.e., a plant shutdown would be required to perform the Code repair). In the past, licensees had to request NRC staff approval to defer Section XI Code repair for these Class 3 moderate energy (200 °F, 275 psig) piping systems.

In addressing public comments in the final rule, the NRC staff further confirms its position on 10 CFR 50.55a(g), Section XI, and operability requirements:

> The reason for incorporating the Code cases in the proposed rule was that §50.55a(g)(4) requires the application of Section XI during all phases of plant operation. Under Section XI structural and operability requirements, piping containing indications greater than 75 percent of the pipe thickness are deemed unsatisfactory for continued service.

This language in the preamble for this rule is consistent with the NRC regulatory requirements for licensees to address operational leakage, as stated throughout this response. In conclusion, the NRC regulatory requirement is in the interrelation between 50.55a and the TS for a facility to ensure operability for an SSC with operational leakage. As stated in the RIS:

If through wall operational leakage is observed from an ASME BPV Code Class 1, 2, or 3 SSC and the structural integrity of the SSC must be established to conclude that the system remains operable, then the methods described in the provisions of the applicable inservice inspection requirements, as specified in 10 CFR 50.55a(g), must be used. These methods require performance of a repair/replacement activity in accordance with the original construction code or ASME BPV Code, Section XI, or implementation of an NRC approved substitute for the repair/replacement activity (e.g., Code Case N-513, alternatives under 50.55a(z)) to verify structural integrity.
No change was made to the RIS in response to these comments.

Comments 2-2, 5-2, 7-3

The comments asserted that the expansion of the scope of Section XI to cover operational leakage from Class 2 and 3 components would constitute backfitting.

NRC Staff Response

The NRC staff disagrees with these comments. The NRC position has not changed regarding operational leakage through the language in the RIS as addressed in response to comment 2-1. Therefore, issuance of the RIS is not a backfit.

No change was made to the RIS in response to the comment.

Comments 2-3, 4-2, 5-1, 7-1

The comments express the concern that the RIS would unnecessarily eliminate much needed flexibility that has been inherent in licensees' approach to determining the operability of Class 2 and 3 SSCs experiencing operational leakage. The comments present some background information regarding operability determinations to support their position and explained their current approach to determining operability of Class 2 and 3 SSCs experiencing operational leakage. Finally, the comments argue that the NRC must give different treatment to operability determinations, corrective actions undertaken pursuant to Appendix B of 10 CFR 50, and repair/replacement of Class 2 and 3 SSCs.

NRC Staff Response

The NRC staff agrees with the comment concerning the definition of operability for standard TS. As noted in the RIS, "[o]perational leakage is a safety concern due to the unknown condition of the component when leakage is identified." IMC 0326, section 08.13, describes the safety concern as follows:

> Unless a 100% through-wall flaw is evaluated and found acceptable using an applicable methodology [as described in the RIS] and in which all provisions are met including any additional requirements or limitations imposed (e.g., by the NRC-approved code case), the system or component does not demonstrate structural integrity.

The RIS clarifies operability as follows:

> [t]he requirement for maintaining structural integrity is a fundamental assumption used in the development of the TS under Title 10 of the Code of Federal Regulations (10 CFR) 50.36, "Technical specifications." TS are derived from safety analyses that assume ASME BPV Code Class 1, 2, and 3 components continue to have structural integrity during operation.

Therefore, an SSC required to be operable by TS that does not demonstrate structural integrity should be considered inoperable. As stated in comment 2-1, the NRC has established the regulatory requirements for licensees to verify structural integrity of ASME BPV Code Class 1, 2, and 3 SSCs in 10 CFR 50.55a.

With this understanding, the NRC staff recognizes the comment's distinction between ASME BPV Code Class 1 leakage requirements under TS and ASME BPV Code Class 2 and 3 system requirements under TS to be operable. Some ASME BPV Code Class 2 and 3 components are merely attached to a main system that performs a specified safety function governed by TS, and loss of structural integrity in some such ASME BPV Code Class 2 and 3 components will not necessarily ever challenge the operability of a system governed by TS. While the impact of these leaking ASME BPV Code Class 2 or 3 components, which are not required to be operable by TS, will need to be addressed, the TS would not require a repair to restore operability. Repairs on such items would be required in accordance with the owner's requirements (e.g., the Technical Requirements Manual) or other corrective action process. This was the purpose of the language in the RIS that qualifies when methods described in the provisions of the applicable inservice inspection requirements, as specified in 10 CFR 50.55a(g), must be used. The RIS attempts to clarify the entry condition by stating "[i]f through-wall operational leakage is observed from an ASME BPV Code Class 1, 2 or 3 SSC **and the structural integrity of the SSC must be established to conclude that the system remains operable**…" [emphasis added].

The NRC staff recognizes that the language related to the operability determination allowance for ASME BPV Code Class 2 and 3 SSCs can be clarified, as intended in the RIS. Therefore, the NRC staff will modify the RIS to include additional wording following the second paragraph under the Summary of Issue section of the RIS. This paragraph will state the following:

> To clarify, the language in the preceding paragraph, "and the structural integrity of the SSC must be established to conclude that the system remains operable," is linked to the entry into a TS action statement. Licensees are allowed to evaluate the location to determine if the leakage affects the structural integrity of an SSC governed by TS. If operational leakage is from a component that does not need to maintain structural integrity for a system to perform its specified safety function, and the leak does not impact the ability of other SSCs, governed by TS, to perform their specified safety functions, then the leakage can be addressed through other processes (e.g., corrective action program). For example, if the licensee identifies leakage from a drain line, the complete failure of which would not affect operability of any system (e.g., complete failure will not result in loss of adequate flow in the main system, will not result in room flooding that could result in loss of a specified safety function, etc.), then the requirements discussed in this RIS would not apply. In contrast, any degradation in the main line of a system can challenge the structural integrity of that system and that system's specified safety function. This requires further action as identified in this RIS to demonstrate operability. Additionally, for leakage in ASME Class 1 systems, this condition is governed by the leakage allowances of the applicable TS, and any pressure boundary leakage requires repair of the reactor coolant pressure boundary, in accordance with this RIS.

This clarification directly addresses the comment's example of operational leakage from drains or instrument lines. Note that an assessment of the maximum bounding leakage must be available to verify that there is no challenge to the safety function of the main safety system from a complete failure of the leaking component. Additionally, the effect of leakage from the complete failure of the component on the possibly affected safety systems' capability to meet their specified safety function must be assessed.

The other leakage examples presented by the comment do not necessarily fall under this clarification. The NRC was not asked to review for acceptance the Nuclear Energy Institute (NEI) 18-03, "Operability Determination" (ML19284C872) guidance as noted by the comment. However, the NRC staff has stated on various occasions that the NRC position on operational leakage is not met by the recommendations of NEI 18-03. Specifically, in the case where it is presumed that the ASME BPV Code does not provide a requirement to address operational leakage in an ASME BPV Code Class 2 or 3 SSC, which could impact the safety function of a system under TS requirements. If an NRC-approved flaw evaluation method is not available for the specific component, the ASME BPV Code would require a repair/replacement activity. The RIS states the following:

> Alternatives under 10 CFR 50.55a(z) can be used as long as NRC staff authorization is granted before implementation. Implementation is deemed to be the moment that the structural integrity of the component is required to be established (e.g., before expiration of the TS allowed completion time). Licensees can avail themselves of the alternative process to propose evaluation methods or repair/replacement activities to resolve any circumstances that are not addressed by NRC-approved ASME Code evaluation methods.

The comment raises additional concerns regarding a perceived flexibility in using the general allowances of operability determinations provided for a potential generic fault in any TS SSC. The NRC staff notes that other options are available in IMC 0326; however, the specific section describing the regulatory requirements of 10 CFR 50.55a(g) when addressing operational leakage is in section 08.13 of IMC 0326 for TS SSCs. Section 08.13 is a specific operability issue to address operational leakage in lieu of the general requirements. See the response to comments 2-1 and 3-2 for further information on this item.

This comment also raises the concern that the relationship between operability determinations, corrective actions, and repair/replacement activities of ASME BPV Code Class 2 and 3 SSCs may be confused in the RIS. The comment states that corrective actions and operability are distinct processes. While the NRC staff agrees that these processes can be separate, there is no rule that requires them to be separate. Specifically, in the special case of operational leakage, as noted in the RIS, corrective actions may be required to verify the structural integrity of a TS SSC experiencing operational leakage, and therefore actions to verify or restore structural integrity (i.e., corrective actions) may need to be completed within a TS-specified timeframe. Additionally, there is no requirement that prevents a licensee from choosing to perform a permanent ASME BPV Code repair to address operational leakage from an ASME BPV Code Class 3 component to verify the structural integrity of the component. In that case, it would be a corrective action that addresses the continued operability of the component. The purpose of the RIS is not to establish rules for operability generically but to clarify the regulatory requirements under 10 CFR 50.55a to verify the structural integrity of a TS SSC with operational leakage. Current NRC-approved methods include many options and combinations of options (i.e., flaw evaluation, examination expansion, modification, and repair/replacement), as clarified in the RIS.

The comment also notes that additional activities may be required to address operational leakage. The NRC staff agrees with this position and reiterates that the RIS only provides clarity for the regulatory requirements under 10 CFR 50.55a to verify the structural integrity of a TS SSC with operational leakage. All other requirements continue to apply.

The NRC staff will include one additional paragraph in the final RIS on operational leakage. This new paragraph was identified in the response to this comment. This additional paragraph is intended to clarify the current wording in the RIS on operational leakage.

<u>*Comment 3-2*</u>

The RIS's position that only NRC-approved methods may be used to determine the operability of an ASME Code Class 2 or 3 SSC exhibiting operational leakage clearly contradicts the agency's own guidance. NRC operability guidance permits the use of alternative methods during the period of corrective action (i.e., methods different than those supporting plant design, including the use of engineering judgement). As stated in Section 08.04 of IMC 0326, alternative methods "may be useful and acceptable" to determine operability if they are technically appropriate for the application. In contrast, the comment notes, a corrective action is the requirement in 10 CFR Part 50, Appendix B, Criterion XVI to restore a degraded SSC to comply with the design and licensing bases.

<u>NRC Staff Response</u>

The NRC staff disagrees with this comment. Section 08 of IMC 0326 is entitled "Specific Operability Issues." Section 08.04 of IMC 0326 is general guidance for operability determinations to use alternative methods. However, specific guidance for operational leakage is contained in section 08.13, "Operational Leakage from ASME Class 1, 2 and 3 Components." IMC 0326 also provides specific guidance for operational leakage from ASME BPV Code Class 2 and 3 components. The information in section 08.13 of IMC 0326 is consistent with the clarification of options allowed to verify structural integrity, as stated in the RIS. The latest guidance in IMC 0326 has expanded beyond the guidance provided in GL 91-18, “Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability,” dated November 7, 1991 (ML031140549). However, the regulatory basis of 10 CFR 50.55a, in accordance with TS to address operational leakage as a special case, has remained consistent throughout the various revisions of the NRC inspection manual guidance over the years.

The NRC staff notes that the purpose of the RIS is not to explain all required operability actions necessary to address leakage but to explain the actions required to verify the structural integrity of an SSC when operational leakage is identified in order to ensure operability. As noted in the NRC staff response to comment 2-3, licensees may have other reasons to perform additional assessments when leakage is identified.

The NRC established the requirements of 10 CFR 50.55a(g) to provide reasonable assurance of structural integrity for ASME BPV Code Class 1, 2, and 3 SSCs throughout the service life of the plant. The allowance to use Section XI of the ASME BPV Code is a relaxation of the original construction code and license basis for these safety-related SSCs during the service life of the plant. No provision of 10 CFR 50.36 exempts the licensee from meeting these requirements. However, TS do allow licensees time to address a condition to verify that the SSC can perform its specified safety function. In the case of operational leakage, this requires validation of structural integrity, as a fundamental assumption in the development of the TS themselves is to provide reasonable assurance of public health and safety.

No change was made to the RIS in response to the comment.

Comment 6-1

The comment recommends that the NRC should either not allow for another authorized method or should specify the types of alternative methods to address operational leakage that are authorized. Commentor recommends only allowing for ASME methods or providing stronger guidelines for non-ASME options methods to address operational leakage.

NRC Staff Response

The NRC staff notes that the purpose of the RIS is to clarify the current regulatory requirements for licensees to address operational leakage in ASME BPV Code Class 1, 2, or 3 SSCs covered under TS. The RIS listed the options currently available to licensees. These methods require performance of a repair/replacement activity in accordance with the original construction code or ASME BPV Code, Section XI, or implementation of an NRC approved substitute for the repair/replacement activity (e.g., Code Case N-513, alternatives under 50.55a(z)) to verify structural integrity. Additionally, the RIS clarifies that licensees may use 10 CFR 50.55a(z), “Alternatives to codes and standards requirements,” as long as the NRC staff authorization is granted prior to its implementation. Licensees can avail themselves of the alternatives process to propose evaluation methods or repair/replacement activities to resolve any circumstances that are not addressed by NRC-approved ASME BPV Code evaluation methods. The NRC staff notes that 10 CFR 50.55a(z) is the current regulation that allows licensees to seek alternatives from requirements under 10 CFR 50.55a(b)–(h).

No change was made to the RIS in response to the comment.