

Issue #5 NRC-Mandated Method Change

Issue Description

Approximately two years before a scheduled steam generator replacement outage, a licensee submitted a license amendment request (LAR) that included the re-analysis of several accidents using the physical and thermodynamic characteristics of the new generators. The re-analysis was based on an NRC-approved methodology that was documented in the current licensing basis (CLB) for the plant. This methodology is used by a majority of U.S. PWRs. About two months before the amendment was needed to support plant restart, NRC raised a concern about the compliance of an aspect of the methodology with 10 CFR 50.46. The NRC reviewer advised that the LAR could not be approved unless the licensee changed the methodology or accepted an operational penalty. The stated basis for the reviewer's position was that an element of the licensing basis method was not in compliance with 10 CFR 50.46.

Licensee Position

- The licensee disagreed with the NRC's compliance position because the methodology in question is part of the plant-specific licensing basis and conforms with 10 CFR 50.46 and Appendix K.
- NRC should raise critical path concerns well before the need date for the requested licensing action.
- In imposing these conditions on the LAR, the NRC dismissed extensive plant-specific and industry precedent.
- The regulatory process should permit plant operation pending resolution of disagreements, subject to acceptance criteria that ensure sufficient near-term safety margin.
- The NRC position is a "new or different interpretation" in the context of 10 CFR 50.109.

NRC Staff Position

The reviewer took the position that one element of the licensing basis methodology no longer complies with 10 CFR 50.46. The reviewer did not provide a basis for the position.

Need for NRC Regulatory Analysis

- Either verify that the regulatory position is not new or different, or determine the safety or compliance basis if the position is new or different.
- Determine whether the change to the plant-specific licensing basis passes a cost-benefit test.
- Ensure NRC staff conformance with standard licensing processes and NRC internal office instructions.
- Ensure proper consideration of applicable precedent.
- Obtain input from other stakeholders that have an interest in the methodology in question.
- Ensure management oversight.

Status or Final Outcome

The licensee disagreed with NRC, but accepted the NRC position to obtain approval of a time-sensitive licensing action.

Impact of NRC Staff Position

- The NRC position does not result in an improvement in plant safety or security.
- The NRC position increased review and operational costs without commensurate safety benefit.
- The stability and reliability of the plant-specific licensing basis are reduced when NRC mandates a change without performing a regulatory analysis.
- Resources (NRC and licensee) are not used effectively when NRC pursues an issue with generic applicability (such as a method change) with a series of plant-specific licensing actions. Generic issues should be dispositioned with one front-end technical review followed by a standardized implementation plan (such as the CLIIP). The objective should be "1 issue, 1 review, 1 resolution."
- The industry sees this example as a change in regulatory position without justification and without conformance with NRC internal procedures.

Issue #9: Treatment of ODP Guidance as a Requirement (Class 2&3 Flaws)

<p>Issue Description</p> <ul style="list-style-type: none">• RIS 2005-20 distributed a new Inspection Manual Chapter (IMC) containing revised guidance on the “operability determination process.” The new IMC supplemented and superseded the process described in Generic Letter 91-18. Appendix C of the IMC contains guidance on the treatment of specific operability issues.• IMC Appendix C.11 and Appendix C.12 pertain to “flaw evaluation” and “operational leakage,” respectively. Appendix C.11 states that a component containing a flaw that exceeds the threshold of the ASME Code (or other applicable Code Case) is “inoperable until the NRC approves an alternative analysis, evaluation, or calculation to justify the system’s return to service with the flaw and the subsequent operability of the system.” Appendix C.12 states: “Upon discovery of leakage from a Class 1, 2, or 3 pressure boundary component (pipe wall, valve body, pump casing, etc.), the licensee must declare the component inoperable.”• Some NRC inspectors are using the IMC as the basis for proposed violations in cases where a licensee does not declare a Class 2 or 3 component inoperable on discovery of operational leakage. Thus, the IMC “guidance” is being improperly treated as a “requirement.”• An immediate declaration of inoperability starts a Tech Spec LCO (limiting condition for operation) clock. This can lead to a forced shutdown due to a pinhole leak in a non-safety-related component or a component that has low risk significance.
<p>Licensee Position</p> <ul style="list-style-type: none">• The plant-specific technical specifications, not the ASME Code, establish the bases for component operability.• NRC guidance cannot be used to preempt the control room operator from participating in an operability determination. Such a result is inconsistent with the main body of the IMC, which provides in all other cases a reasonable time frame for making an “immediate determination” (ID) of component operability. NEI has submitted a White Paper that proposes clarifying guidance for performing an ID of operational leakage from Class 2 and 3 components.• NEI has requested that NRC issue interim guidance pending final issue resolution and clarification of the IMC.
<p>NRC Staff Position</p> <p>Through-wall flaws in ASME Class 2 and 3 components do not satisfy ASME Code requirements; therefore, they are inoperable on discovery. [NEI has pointed out that this is not consistent with the Standard Technical Specifications, NUREG series 1430-1434.]</p>
<p>Need for Regulatory Analysis</p> <ul style="list-style-type: none">• Either verify that the regulatory position is not new or different, or determine the safety or compliance basis if the position is new or different.• Determine whether compliance with the contested Appendices in the IMC passes a cost-benefit test.• Ensure NRC staff conformance with standard licensing processes and NRC internal office instructions.• Ensure proper consideration of applicable operational and inspection precedent.• Obtain input from all other stakeholders that could be affected by the issue.• Ensure management oversight.
<p>Status or Final Outcome</p> <p>Licensees disagree with NRC, but accept the NRC position to maintain regulatory goodwill.</p>
<p>Impact of NRC Position</p> <ul style="list-style-type: none">• There is no impact (no improvement) in safety or security because pinhole leaks in Class 2 and 3 components are not safety issues.• Defining a component with a pinhole leak as inoperable at time of discovery could lead to a costly plant shutdown if the component is in technical specifications and the leak cannot be evaluated or repaired within the relatively short period of time permitted by the applicable limiting condition for operation (LCO). Thus, the plant would shutdown for a non-safety reason.• The NRC position excludes operating experience from the operational decision-making process.• The NRC position preempts licensed operators from having a role in the operability determination.• To avoid shutdown, the licensee is obliged to propose an emergency/exigent license amendment or initiate the notice of enforcement discretion (NOED).

Issue #15: EDG Output Frequency Range

Issue Description

- Some NRC inspection reports from Component Design Basis Inspections (CDBIs) have challenged licensees to defend how they account for acceptable operation of electrical safeguards equipment at all emergency diesel generator (EDG) output frequencies permitted by technical specification surveillance requirements (typically 60 Hz \pm 2%).¹
- The typical licensing basis assumes that equipment will operate at a nominal 60 Hz. NRC is questioning this fundamental design parameter by postulating extended operation at the extremes of the frequency range. In order to obtain approval for needed licensing actions, several licensees have revised the plant-specific licensing basis to either reduce the surveillance range in the technical specifications or commit to testing critical components at the most limiting frequency (usually the low end of the range). Industry is unaware of the NRC's basis for this new position.

Licensee Position

- The typical licensing basis assumes that electrical equipment will operate at the nominal design frequency of 60 Hz. This is a fundamental design parameter used in the design of essentially all electrical components for use on the U.S. electric grid.
- Control room operators and auxiliary equipment operators monitor EDG output frequency and adjust it as needed to maintain a nominal 60 Hz.
- There is extensive precedent in support of the existing plant procedures used to test EDGs and to demonstrate functionality of critical components.
- This is a generic issue, but NRC is proceeding plant by plant. The NRC position is leading to inconsistent, non-standard EDG surveillance practices across the industry.

NRC Staff Position

The NRC position is contained in various CDBI inspection reports. NEI is in the process of compiling the reports.

Need for Regulatory Analysis

- Either verify that the regulatory position is not new or different, or determine the safety or compliance basis if the position is new or different.
- Determine whether more restrictive technical specifications or testing requirements pass a cost-benefit test.
- Ensure NRC staff conformance with standard licensing processes and NRC internal office instructions.
- Ensure proper consideration of extensive precedent.
- Obtain input for all stakeholders potentially affected by the issue.
- Ensure NRC management oversight.

Status or Final Outcome

The industry disagrees with NRC, but several licensees have revised technical specifications in accordance with the NRC position to maintain regulatory goodwill.

Impact of NRC Staff Position

- NRC has imposed additional requirements and costs to manage an issue that has not been confirmed as a safety issue.
- The industry sees this example as a change in regulatory position without justification and without conformance with NRC internal procedures.
- Using individual inspection reports to establish a generic regulatory position deprives stakeholders of the opportunity to respond collectively to the position.
- The NRC inspection position is not consistent with NRC Standard Technical Specifications.

1 NUREG-1431, Vol. 1, Rev. 3.0, SR 3.8.1.2, "Standard Technical Specifications, Westinghouse Plants" (June 2004).

Issue #25: Tornado Missile Design Basis

Issue Description

- Safety-related components are placed in Class 1 structures to protect them from tornado missiles. However, if certain acceptance criteria in the NRC standard review plan (SRP) can be met, particular components may be excluded from the missile protection design basis.
- A number of licensees have received NRC approval to use the TORMIS code as the basis for exclusion. However, the NRC staff recently began to use the LAR process to question the acceptability of using TORMIS for the purpose of excluding exposed ventilation piping (i.e., piping that penetrates the Class 1 envelope) from the missile protection design basis.

Licensee Position

- The use of the TORMIS code is an element of the plant-specific licensing basis for a number of plants, as documented in their UFSARs and licensing history. UFSARs typically address missile protection in terms of complete systems, i.e., the UFSAR will state that “the system is missile protected.” Components (such as ventilation piping) that are part of the “system” are considered protected unless specifically excluded in a separate statement in the UFSAR.
- If the NRC now finds it necessary to question licensees about their interpretation of the tornado missile licensing basis, it should use a generic process rather than a series of non-standard, plant-specific licensing actions to do so. A front-loaded technical review, with stakeholder input, would be the most efficient and effective way to derive standard acceptance criteria that could be implemented by all affected licensees by using the consolidated line item improvement process (CLIIP).

NRC Staff Position

Some NRC staff members have questioned whether current UFSAR language is sufficient to conclude that exposed piping is missile protected. They also question the validity of using TORMIS for small targets. NEI is not aware of any documentation explaining the staff’s position.

Need for Regulatory Analysis

- Establish groundrules for using plant-specific risk profiles to identify at-risk components.
- Conduct a cost-benefit evaluation before requiring open-ended reanalysis.
- Develop a generic resolution based on a front-end technical review followed by a standardized implementation plan (such as the CLIIP). The objective should be “1 issue, 1 review, 1 resolution.”
- Ensure NRC staff conformance with standard licensing processes and NRC internal office instructions.
- Ensure proper consideration of applicable precedent.
- Obtain input from all stakeholders affected by the NRC staff’s position on TORMIS.
- Ensure NRC management participation in setting and reaching schedule milestones.

Status or Final Outcome

Affected licensees have been given an untenable choice between (1) initiating open-ended plant-specific analyses without benefit of a documented regulatory basis and (2) withdrawing the LAR. In most cases licensees will withdraw the LARs because they do not have the resources to act as a pilot plant for resolving a generic issue.

Impact of NRC Position

- There is a reasonable likelihood that the issue is not risk significant, yet there has been no attempt to establish groundrules for using risk-informed evaluation methods.
- The LAR process is not an efficient way to pursue a generic issue. A generic issue is not likely to be resolved by a set of unique, plant-specific licensing actions.
- Resources are not used effectively when NRC pursues an issue with generic applicability (such as a method change) with a series of plant-specific licensing actions.
- An opportunity to use the CLIIP is being overlooked.

Issue #34: Technical Specifications for Limiting Safety System Setpoints

Issue Description

- Since approximately 2004, the NRC has been using the RAI process to require licensees to modify plant-specific technical specifications that pertain to setpoints for limiting safety system settings (LSSS). The NRC position exceeds the typical plant-specific CLB.
- The issue has not been classified as a safety issue. The NRC reviewers' stated basis is compliance with 10 CFR 50.36(c)(1).
- The issue is well documented in NRC/industry correspondence.
- The final resolution for operating plants depends on the outcome of NRC's review of TSTF Traveler 493 (TSTF-493, Revision 2).
- Recently, NRC published BTP-12, which extends the LSSS issue into the licensing process for new-plant design certifications (DCs) and combined construction/operating licenses (COLs).

Licensee Position

- This is not a compliance issue. There are no inspection findings or enforcement actions that support the NRC's position that licensees must change their technical specifications to achieve compliance with 10 CFR 50.36(c)(1). The NRC is using the RAI process improperly to establish a new interpretation of 10 CFR 50.36 compliance.
- The NRC has withheld approval of time-sensitive LARs to leverage its position. Many licensees have compromised to obtain NRC approval of LARs that were necessary in support of plant modifications or startup from an outage. The NRC has not met its obligations under the backfitting rule (10 CFR 50.109).
- A backfitting claim is not a practical alternative for a licensee when the NRC staff is withholding approval of a time-sensitive LAR.
- The staff has used the LAR and RAI processes improperly to impose a high-cost resolution to a non-safety issue.

NRC Staff Position

- Refer to plant-specific LARs and NRC safety evaluations filed in ADAMS.
- NRC has not provided an evaluation of the industry's technical position, which is documented in several letters from NEI to NRC.

Need for Regulatory Analysis

- Either verify that the NRC reviewers' position is not new or different, or determine the safety or compliance basis if the position is new or different.
- Determine whether the change to the plant-specific licensing basis passes a cost-benefit test.
- Ensure NRC-staff conformance with standard licensing processes and internal NRC office instructions.
- Ensure that the NRC is acting properly in dismissing extensive precedent.
- Obtain stakeholder input.
- Ensure that NRC management agrees with the staff's position and actions.

Status or Final Outcome

- Operating plant licensees disagree with NRC, but compromise to obtain approval of time-sensitive licensing actions.
- DC and COL applicants are faced with a similar situation.
- The reviewers' position on setpoint is a backfit, independent of whether licensees file backfitting claims pursuant to 10 CFR 50.109. The NRC is not complying with its own regulations.

Impact of NRC Position

- No increase in safety, and possibly a decrease in safety due to the diversion of resources to a non-safety issue.
- Unilateral NRC changes to previously approved and documented licensing bases.
- Industry has experienced over three years of non-standard, plant-specific licensing actions instead of one standardized format using the CLIIP.
- High cost with no attendant increase in protection of public health and safety.

Issue #35: NRC-Mandated Change to the Licensing Basis (Station Blackout)

Issue Description

- A licensee submitted a license amendment request (LAR) for an extended power uprate of approximately 3%. The LAR was similar to a previously approved LAR for another unit at the same site.
- NRC issued a request for additional information (RAI) asking the licensee to change the plant's station blackout coping duration from 4 hours to 16 hours. This was a substantial change to the plant-specific licensing basis that was unrelated to the licensee's request.
- The NRC reviewer used a time-sensitive LAR to leverage a new position. The licensee was obliged to trade off its reluctance to change a compliance strategy (station blackout coping duration) with its need for the uprate amendment.

Licensee Position

- The licensee disagreed with the NRC's position because the basis for compliance with 10 CFR 50.63 had been approved by the NRC in 1992, and plant conditions had never identified a need to change the station blackout compliance strategy.
- The NRC reviewer's position was different from NRC-approved generic guidance in NUMARC 87-00.
- By imposing new conditions through the LAR process, the NRC reviewer unilaterally overruled a significant body of documented precedent.

NRC Staff Position

The NRC reviewer reinterpreted previously accepted guidance and concluded that the licensee had experienced more than one grid-related event within a 20-year period. The reviewer did not provide a basis for his new position.

Need for NRC Regulatory Analysis

- Either verify that the regulatory position is not new or different, or determine the safety or compliance basis if the position is new or different.
- Determine whether the change to the plant-specific licensing basis passes a cost-benefit test.
- Ensure NRC staff conformance with standard licensing processes and NRC internal office instructions.
- Ensure proper consideration of applicable precedent.
- Obtain input from other stakeholders subject to the station blackout rule (10 CFR 50.63).
- Ensure NRC management oversight.

Status or Final Outcome

The licensee disagreed with NRC, but changed the compliance strategy in order to obtain approval of a time-sensitive licensing action.

Impact of NRC Staff Position

- The NRC position does not result in an improvement in plant safety or security.
- The NRC position increased review and operational costs without commensurate safety benefit.
- The stability and reliability of the plant-specific licensing basis are reduced when NRC mandates a change without performing a regulatory analysis.
- Resources (NRC and licensee) are not used effectively when NRC pursues a new interpretation in reviewing/approving a plant-specific licensing action that has generic applicability (such as a compliance strategy involving a specific regulation that deviates from previously approved guidance).
- The industry sees this example as a change in regulatory position without justification and without conformance with NRC internal procedures.