

March 18, 2015

MEMORANDUM TO: Greg Casto, Branch Chief
Balance of Plant Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

FROM: Todd Keene, Project Manager **/RA/**
Generic Communications Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: RESPONSE TO PUBLIC COMMENTS ON DRAFT REGULATORY
ISSUE SUMMARY 2015-XX, "TORNADO MISSILE PROTECTION"

A notice of opportunity for public comment on this Regulatory Issue Summary (RIS) was published in the *Federal Register* (79 FR 18933) on April 4, 2014. A 60-day comment period was provided in the April 2014 notice. On May 8, 2014, a notice was published (79 FR 26464) extending the comment period for an additional 15 days. Ten organizations and individuals provided comments, which were considered before issuance of this RIS in final form. Comments were received from Brian Guntherman (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14139A449), Carey Brown (ADAMS Accession No. ML14170A019), Nuclear Energy Institute (NEI) (ADAMS Accession No. ML14169A262), Florida Power and Light (NextEra) (ADAMS Accession No. ML14171A405), V.C. Summer Unit 1 (ADAMS Accession No. ML14176B119), STARS Alliance (ADAMS Accession No. ML14176B120), XcelEnergy (ADAMS Accession No. ML14176B122), South Texas Project (ADAMS Accession No. ML14182A285), and anonymous submittals (ADAMS Accession No.'s ML14107A008, and ML14157A319). Enclosed are the staff responses to all public comments.

Enclosure:
As stated

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301-415-1994

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ADAMS Accession Nos.: Package/ML15054A069; Memo/ML14356A295 *concurred via e-mail

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**NRC Staff Response to Public Comments on
DRAFT NRC REGULATORY ISSUE SUMMARY 2014-XX
“TORNADO MISSILE PROTECTION” (ML13094A421)**

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 gain entry into the Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC’s public documents. Comments were received from the following individuals or groups. Comments were provided by:

Letter No.	ADAMS Accession No.	Commenter Affiliation	Commenter Name
1	ML14107A008	No Known Affiliation	Anonymous
2	ML14139A449	No Known Affiliation	Brian Gutherman
3	ML14157A319	No Known Affiliation	Anonymous
4	ML14170A019	No Known Affiliation	Carey Brown
5	ML14169A262	Nuclear Energy Institute (NEI)	Christopher Earls
6	ML14171A405	Florida Power and Light (NextEra)	James Petro
7	ML14176B119	V.C. Summer Unit 1	Bruce Thompson
8	ML14176B120	STARS Alliance	Scott Bauer
9	ML14176B122	XcelEnergy	Martin Murphy
10	ML14182A285	South Texas Project	Michael Murray

There were five recurring topics in the comments received. Those topics are:

1. The draft Regulatory Issue Summary (RIS) changes the definition of “current licensing basis” (CLB) in 10 CFR § 54.3.
2. The draft RIS denies or diminishes the importance of the Systematic Evaluation Program (SEP) and the Individual Plant Examination of External Events (IPEEE).
3. The proposed enforcement discretion compels licensees to perform reviews and analyses based on the RIS.
4. The draft RIS, because it changes a staff position, constitutes a backfit.
5. The draft RIS does not take into consideration the level of detail in licensing bases for pre-General Design Criteria (GDC) plants.

Five Recurring Topics

1. Comment: The draft RIS changes the definition of CLB as defined in 10 CFR § 54.3, and the staff is imposing a significant narrowing of the scope of CLB. (submitted by commenters 5-1, 8-1 and 9-1)

NRC Response: The staff disagrees with this comment. The staff is not changing the definition of CLB, nor does the staff intend to change the definition of CLB in Part 54 – which applies only to nuclear power plant operating license renewals. In an effort to improve clarity, the RIS was modified to remind licensees that they are required to conform to the plant-specific licensing bases, and the term CLB was removed from the RIS.

Enclosure

2. Comment: The draft RIS appears to deny or diminish the importance of the SEP and the IPEEE in resolving questions about tornado missile protection requirements for plants subject to those two programs. (Submitted by commenters 3-1, 5-2, 8-2 and 10-2).

NRC Response: The staff disagrees with the comment. Both the SEP and IPEEE were important licensee reviews of their own vulnerabilities. However, the SEP and IPEEE reviews did not automatically change the licensing basis for a plant. The RIS was revised for clarity to make a clear statement that SEP and IPEEE results do not constitute regulatory requirements, and are not part of the plant-specific licensing basis unless the NRC or licensee took action to specifically amend that plant's operating license or other parts of the plant's licensing basis.

The RIS contains a summary of the purpose of the SEP and IPEEE. NRC Generic Letter 88-20, Supplement 4 "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities - 10CFR 50.54(f)" (GL 88-20) dated June 28, 1991, requested 10 CFR Part 50 licensees to conduct individual plant examinations for severe accidents initiated by external events. GL 88-20 specifically informed licensees that the key outcome of the IPEEE is the knowledge and appropriate improvements resulting from such an examination. Additionally, the NRC noted in GL 88-20, section 7 "Use of IPEEE Results", that if NRC consideration of all pertinent and relevant factors indicates that the plant design or operation does not meet the facility's current licensing basis, then appropriate actions will be required consistent with the Commission's rules and regulations. Generic Letter 95-04, "Final Disposition of the Systematic Evaluation Program Lessons-Learned Issues", dated April 28, 1995, provided notification that Tornado Missile issues would be tracked and resolved in the IPEEE program. The final report for the IPEEE Program was documented in NUREG-1742, "Perspectives Gained from the Individual Plant Examination of External Events (IPEEE) Program", published in April, 2002, which stated that the objective of the NRC reviews of the IPEEE were to ascertain the extent to which the licensees' IPEEE submittals have achieved the intent of GL 88-20. The NRC reviews were not intended to validate or verify the licensee's IPEEE analyses or results.

From NUREG-1742 and as noted above, the primary objectives of the NRC's technical review process was to ascertain the extent to which IPEEE submittals have achieved the intent of GL 88-20, and satisfied the four principal IPEEE objectives listed in the introduction section, and followed the guidance in NUREG-1407. The reviews focused on verifying that the critical elements of acceptable IPEEE analyses in the fire, seismic, and high winds, floods and other (HFO) areas were performed in accordance with the guidelines in NUREG-1407. The reviews were not intended to validate or verify the licensee's IPEEE analyses or results (i.e., an in-depth evaluation of the various inputs, assumptions, and calculations was not performed). Rather, the methods, approaches, assumptions, and results were reviewed for reasonableness. If inconsistencies were found, they were reported in the plant-specific IPEEE Safety Evaluation Reports (SER).

The RIS was revised to include the following discussion to clarify the SEP/IPEEE relationship to licensing basis: The staff has found examples where a SEP plant has used IPEEE to probabilistically address tornado missile protection structures, systems, and components and include within their plant-specific licensing bases. The staff has also found examples where licensees have cited SEP/IPEEE insight, but did not appear to have incorporated that insight into their plant-specific licensing bases, as evidenced by contradictions between plant-specific licensing bases references to protection of equipment versus perceived probabilistic based

credit for non-protection of some equipment that supports a safety related function. In cases where a non-conforming plant is specifically justified to compare with a SEP plant, SEP/IPEEE evaluation may be acceptable as part of a restoration to conformance track for submission to the NRC.

3. Comment: The proposed enforcement discretion compels licensees to perform reviews and analyses based on the RIS. (submitted by commenters 5-4 and 9-3)

NRC Response: The staff disagrees. Licensees are not compelled to perform additional reviews or analyses, or request enforcement discretion. However, if a licensee requests enforcement discretion, that licensee must comply with required actions specified by that enforcement discretion. The staff believes that most licensees are compliant with their licensing bases in regard to tornado missile protection.

While preparing the draft RIS, the staff recognized that there may be cases where a technical specification (TS) action(s) would require a licensee to shut down the reactor if a structure, system and component (SSC) is identified as inoperable on the basis that the SSC is not conforming to the plant's licensing basis for tornado-generated missile protection and the TS remedial action(s) conditions cannot be accomplished within the TS completion time. The RIS's discussion of enforcement discretion is intended to provide for the safe and risk informed operation of the plant upon discovery of such a non-compliance on tornado protection. The RIS states that no actions are required by licensees, and the staff clarified the RIS to remind licensees that enforcement discretion may be available per current NRC Enforcement Policy.

4. Comment: The draft RIS changes a staff position and constitutes a backfit that would provide little or no safety benefit and addresses a topic that was closed for pre-GDC plants. (submitted by commenters 3-2, 5-5, 6-3, 8-5, 9-2, and 10-3)

NRC Response: The staff disagrees. The RIS does not change any staff position or approved licensing basis for any nuclear power plant or ISFSI relative to tornado missile protection. The staff has clarified language within the RIS to ensure that stakeholders understand that staff positions are not being changed.

5. Comment: The draft RIS does not take into consideration the level of detail in current licensing bases (CLB) for pre-General Design Criteria plants. In many cases historical information in the CLB met the documentation expectations at the time the bases were established, but would require additional detail and rigor to meet today's expectations. (submitted by commenters 6-2, 7-1, 8-4 and 10-1)

NRC Response: The staff interprets the comment as referring to the "plant-specific licensing basis, inasmuch as the term, "current licensing basis" applies to nuclear power plant operating license renewal. The staff disagrees with the comment. The RIS does not request licensees to develop additional documentation on a plant's tornado missile protection beyond that required by the plant-specific licensing basis. The RIS is only reminding licensees of the requirement to follow the plant-specific licensing bases. No change to the RIS was made in response to this comment.

Other Topics in Comments

Comment No. 2-1: The RIS should be expanded to address 10 CFR Part 72 evaluation of tornado winds and missiles.

NRC Response: The staff agrees with this comment based on the requirements delineated in 10 CFR 72.92, which requires that external natural events must be identified and assessed according to the potential effect on the safe operation of an ISFSI. The RIS was revised to include 10 CFR Part 72 licensees under the "Addressees" section:

All holders of and applicants for a license under 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Fuel, High Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste"

Comment No. 3-3: This guidance also fails to address supported systems of systems, structures, and components (SSCs) and whether the NRC is reinterpreting the guidance to redefine SSCs to include supported systems [sic] in determining compliance with the applicable general design criteria.

NRC Response: The staff disagrees with this comment. A RIS does not provide new guidance. The NRC is not reinterpreting existing guidance to redefine SSCs to include supported systems in determining compliance with the applicable general design criteria. The staff has always considered SSCs required for safety-related SSCs to perform their safety function as part of the safety-related SSC in determining compliance with the applicable GDC and any other licensing basis. Specifically, the Appendix to Regulatory Guide 1.117, Revision 1 discusses systems or portions of systems that support SSCs that should be protected from tornados and tornado missiles. No change to the RIS was made in response to this comment.

Comment No. 4-1: The RIS is incomplete in that it does not provide examples of components (or portions of systems) that have to be protected.

NRC Response: The staff disagrees. The RIS is being used to communicate information to the addressees of the RIS, and includes examples of components and systems that have been identified to not be in compliance with the respective plant specific licensing basis for tornado missiles. No change to the RIS was made in response to this comment

Comments No. 5-3, 6-1: The draft RIS makes statements about the use of physical separation of redundant or alternative structures or components as not normally an acceptable method of tornado missile protection. These statements appear to deny or diminish the fact that NRC has previously approved physical separation as a basis for tornado missile protection, particularly for plants licensed before issuance of Regulatory Guide 1.117 and Standard Review Plan 3.5.2. These statements appear to be inconsistent with the NRC's approval of the use of the TORMIS methodology, as mentioned in the draft RIS itself.

NRC Response: The staff disagrees with this comment. The NRC is not imposing new staff positions. A plant that has an approved licensing basis specifying that physical separation is adequate for tornado missile protection will continue to have physical separation as an acceptable basis for protection. The point the staff is making in the RIS is that since the

issuance of Regulatory Guide 1.117, Rev 1, in April 1978, the staff position has been that separation by itself is not acceptable for tornado missile protection. However, in 1983 the staff approved the EPRI developed TORMIS methodology that brought probability into consideration. As an example, by satisfying the acceptance criteria for the TORMIS methodology, a licensee may be able to justify separation as acceptable and that would be reflected in the plant-specific license. No change to the RIS was made in response to this comment.

Comment No. 5-6: CLBs are exceptionally and appropriately facility-specific; therefore, one licensee's action or enforcement is not indicative of a necessary industry action.

NRC Response: The staff interprets the comment as referring to the "plant-specific licensing basis, inasmuch as the term, "current licensing basis" applies to nuclear power plant operating license renewal. The staff agrees with this comment, and believes that most licensees are compliant with their plant specific licensing bases in regard to tornado missile protection. The staff is not proposing additional or specific licensee actions, nor is the staff proposing an increase in regulatory inspection activities beyond that currently in place. The examples cited in the RIS are for informational purposes, and are not intended to convey industry wide generic action. Corrections were made to remove "CLB" from the RIS.

Comment No. 5-7: Point Beach Nuclear Plant did not, as stated in the draft RIS, submit a license amendment request to address tornado-generated missiles. Rather, the licensee modified and clarified the CLB to address the issue.

NRC Response: The staff interprets the comment as referring to the "plant-specific licensing basis for *Point Beach*," inasmuch as the term, "current licensing basis" applies to nuclear power plant operating license renewal. The staff disagrees in part with the comment. By letter dated April 26, 2012, NextEra Energy Point Beach, LLC, submitted License Amendment Request 268, "One-Time Only License Amendment to Add Notes for Technical Specification 3.3.8.1 and 3.3.8.2 Actions to Address Nonconformance with Point Beach Nuclear Plant GDC 2" (ADAMS Accession No. ML121170493). Thereafter, the licensee superseded the original request by letter dated April 30, 2012 (ADAMS Accession No. ML12122A018) and subsequently withdrew the request via letter dated May 2, 2012 (ADAMS Accession No. ML121230352). Changes were made in the RIS to clarify this example.

Comment No. 5-8: The Surry Power Station Inspection Report referenced in the draft RIS details a finding for a design change that conflicted with the UFSAR guidance. This is a design control issue, not one indicating the need for a license amendment request in response to tornado missile design non-conformance.

NRC Response: The staff agrees with this comment, in part. Inspection Reports 05000280/2009004 and 05000281/2009004 (ADAMS Accession No. ML093020726) cite what are referred to as a design control issue. Although the violation can be attributed to design control failure to conform to the tornado missile protection licensing bases requirements, the plant was in a non-conforming condition ever since the components had been installed, since the modification was not in conformance with the Updated Final Safety Analysis Report (UFSAR). The RIS was updated to provide clarification as noted above.

Comment No 5-9: The Fermi-2 [Enrico Fermi Nuclear Generation Station] license amendment request, which has not yet been granted, signifies one licensee's desire to amend its license

and reflects a decision by that licensee to change its design basis. The decision-making of one licensee in a plant-specific situation is not evidence that the industry as a whole must react to a generic issue with a license amendment request.

NRC Response: The staff disagrees with this comment. This finding, with the other noted examples, is indicative of an issue that warrants an industry-wide reminder. In this case, the licensee had incorporated an analysis using the TORMIS methodology into the UFSAR without requesting NRC review of a methodology different than any previously approved for use at Enrico Fermi Nuclear Generation Station. This was cited as a finding. The license amendment was a resolution to the inspection finding. It should also be noted that the licensee identified additional components that needed to be included in the probabilistic analysis in the subsequent amendment request. The NRC approved the license amendment on March 10, 2014 (ADAMS Accession No. ML14016A487). This example was clarified in the RIS.

Comment No. 8-3: The draft RIS states in part, "In the absence of specific descriptions of protective features for tornado missile protection contained in the licensing basis documents, the staff relies on NRC regulations and guidance provided in regulatory guides and the standard review plans to interpret any generalities in a plant's licensing basis." The NRC should rely on the review of material defined in 10 CFR §54.3 as the current license basis for the plant instead of regulatory guides and the standard review plan if the licensee made no commitment to these documents.

NRC Response: The staff agrees that this statement in the RIS was confusing, and has removed it. To further clarify, the RIS is being used to communicate information to the addressees of the RIS, and examples of components and systems that have been identified as being out of compliance with the respective plant specific licensing basis was added to the current revision.

Comment No. 10-4: The draft RIS does not make any distinction between pre-GDC plants and post-GDC plants. This will lead to significant resources being applied to review the current design.

NRC Response: The staff agrees with this comment, in part. The draft RIS did not make any distinction between pre-GDC and post-GDC plants, as in all cases the bases for compliance is in a plant's plant-specific license. The staff disagrees with the outcome in the comment. The RIS has been revised to remind licensees of the requirement to follow the plant-specific licensing bases, and, as stated, believes that most licensees are compliant with their licensing bases. Further, the RIS was changed to remove any reference to GDC, since only post-GDC plants are required to be consistent with the GDC-2 requirements of 10 CFR Part 50 Appendix A, and clarify that licensees' requirements are limited to their site specific licensing basis. The RIS does not request licensees to develop additional documentation on a plant's tornado missile protection beyond that required by the plant-specific licensing basis.

Comment No. 10-5: Industry requested that NRC consider issuing inspection guidance concurrently with the RIS in order to allow licensees to better evaluate the issues. The RIS does not provide adequate detail.

NRC Response: The staff disagrees with the comment. The RIS is not intended to provide guidance to licensees or inspectors; it was intended to provide specific information to the addressees of the RIS. The references in the RIS to "inspections of tornado missile protection" in the "Staff Position" section have been removed from the final RIS.