

RulemakingComments Resource

From: EARLS, Chris <cee@nei.org>
Sent: Monday, March 21, 2016 1:16 PM
Subject: [External_Sender] NEI Comments on Petition for Rulemaking (PRM) 50-112, Determining Which Structures, Systems, Components and Functions are Important to Safety, 81 Fed. Reg. 410; Docket No. PRM-50-112; NRC-2015-0213
Attachments: 03-21-16 NRC_NEI Comments on PRM 50-112.pdf

March 21, 2016

Ms. Annette L. Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: NEI Comments on Petition for Rulemaking (PRM) 50-112, *Determining Which Structures, Systems, Components and Functions are Important to Safety*, 81 Fed. Reg. 410; Docket No. PRM-50-112; NRC-2015-0213

Project Number: 689

Dear Ms. Vietti-Cook:

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI) appreciates the opportunity to provide comments on the subject Petition for Rulemaking, *Determining Which Structures, Systems, Components and Functions are Important to Safety*. The industry does not believe that rulemaking is necessary to further define "important to safety." Moreover, we believe that, if pursued, the proposed rulemaking would introduce more confusion rather than clarity, and should therefore be discontinued or withdrawn.

While the petitioner is correct that "important to safety" is used "in numerous regulations and NRC guidance documents," it is incorrect to imply that there is widespread industry confusion over the application of the term in the various contexts for which it is used. Rather, the industry has taken great care to understand the meaning of "important to safety" in these various regulations and guidance documents and to train the individuals working in those subject areas to recognize proper application of the term in each context. In particular, a definition of "SSCs important to safety," encompassing the topics suggested for inclusion by the petitioner, has already been developed and approved by the NRC in Regulatory Guide (RG) 1.187, *Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments*, as described in our response to specific request for comments (4) below.

The NRC has requested specific comments in four areas: (1) new information and analysis that could provide the basis for changes to the NRC's regulations, (2) specific examples where the lack of a formal NRC definition (i.e., codified in 10 CFR chapter I) of the terms, "safety related," and "important to safety" directly resulted in adverse consequences to external stakeholders, (3) regulations that would have to be revised to reflect the

new definition, and (4) guidance that would be needed to implement the new definition. Industry feedback and recommendations on these areas follows:

- (1) We are not aware of any new information or analysis that would provide a sufficient basis for NRC to pursue the proposed rulemaking. Each regulation, and its associated guidance, has been carefully developed and stakeholders have come to common understandings of the meaning of the term “important to safety” for each context. Further, some licensees have a definition of “important to safety” in their plant-specific licensing basis. Thus, to pursue an all-encompassing definition of such granularity in rulemaking would not only be unnecessary, but would also create both generic and plant-specific implementation concerns as the potential for unintended consequences is high considering the many regulations and various plant licensing bases affected. Particularly in the current environment of addressing the cumulative impact of industry and regulatory activities, we cannot support a rulemaking that does not clearly improve safety and efficiency and could distract NRC attention and resources that are otherwise focused on safe, reliable facility operation.
- (2) We are not aware of any examples where the lack of a formal NRC definition (i.e., codified in 10 CFR chapter I) of the terms “safety related” and “important to safety” directly resulted in adverse consequences to external stakeholders. Such a rulemaking would result in substantial costs for the industry (and NRC) given the time and effort required to meticulously capture every detail of the existing regulation-specific definitions and guidance, as well as the required guidance revisions, possible licensing basis revisions, licensee procedure and process revisions, and required training to implement the revisions.

For example, Equipment Qualification (EQ) Programs under 10 CFR 50.49 have identified electrical equipment within the scope of the regulation, including electrical equipment “important to safety” (ITS), and these programs are maintained to assure the continued qualification of in-scope equipment throughout their qualified lives. The regulation-specific ITS definition in 10 CFR 50.49(b) has been in existence for over 30 years, with few, if any, questions or issues encountered in its understanding, as it relates to 10 CFR 50.49 or its implementation. Any material change to the ITS definition would, at a minimum, involve (1) a re-review of electrical components located in post-accident harsh environments, (2) revision of EQ program, design, procurement, quality assurance, and other procedures and internal direction, (3) purchase/installation of new equipment, (4) additional qualification testing and/or analysis of new equipment so identified, and (5) revision of qualification records to include such equipment. The cost of such an effort would easily run into the tens of millions of dollars per site with little to no overall nuclear safety benefit. Additionally, following a revision to the ITS definition there is a likelihood of unintended consequences with regard to redefining/creating new 10 CFR 50.49 design basis events, or inclusion of non-design basis events (some of which have already been reviewed and such a classification rejected by the Commission), that result in “harsh environments,” or causing expanded expectations related to license renewal aging management. Either or both of which would *substantially* expand the impacts of such a proposal, with no demonstrated safety benefit.

- (3) Numerous regulations would have to be revised to reflect a new definition and the impact would extend to individual plant licensing bases as well. It is unclear whether a new definition would be applied to all licensees, including those that have their own definition already in their licensing basis, and how this would be evaluated or justified as a forward- or backfit. As demonstrated by the petitioner’s identification of recently promulgated regulatory requirements, e.g., 10 CFR 50.150 aircraft impact assessment, the NRC’s regulations evolve and a single definition would quickly become unsettled and unwieldy.

- (4) As indicated above, guidance for each regulation that uses the term “important to safety” has been carefully developed and common understandings cultivated through years of stakeholder interactions. Numerous guidance documents would need to be reexamined to determine the scope of changes introduced by a new definition and how the new definition applies within the context of the previous regulation and its associated guidance. As an example, guidance in NEI 96-07, Rev. 1, *Guidelines for 10 CFR 50.59 Implementation*, as endorsed by RG 1.187, contains comprehensive guidance on the definition of “SSCs important to safety,” encompassing the topics suggested for inclusion by the petitioner.

The term “structure, system, or component (SSC) important to safety” is utilized three times in 10 CFR 50.59(c)(2)(ii), (iv), and (vi). During the development of this regulation, the absence of a defined term was evident. As a result, a definition was incorporated into NEI 96-07, Revision 1, which has been endorsed by Regulatory Guide 1.187.

Definition 3.9 of NEI 96-07, Revision 1, provides the following:

Malfunction of SSCs important to safety means the failure of SSCs to perform their intended design functions described in the UFSAR (whether or not classified as safety-related in accordance with 10 CFR 50, Appendix B).

The term “design function,” as used within Definition 3.9, refers to NEI 96-07, Revision 1, Definition 3.3. That definition reads in part:

Design functions are UFSAR-described design bases functions and other SSC functions described in the UFSAR that support or impact design bases functions. Implicitly included within the meaning of design function are the conditions under which intended functions are required to be performed, such as equipment response times, process conditions, equipment qualification and single failure. Design bases functions are functions performed by systems, structures and components (SSCs) that are (1) required by, or otherwise necessary to comply with, regulations, license conditions, orders or technical specifications, or (2) credited in licensee safety analyses to meet NRC requirements.

UFSAR description of design functions may identify what SSCs are intended to do, when and how design functions are to be performed, and under what conditions. Design functions may be performed by safety-related SSCs or nonsafety-related SSCs and include functions that, if not performed, would initiate a transient or accident that the plant is required to withstand.

As used above, “credited in the safety analyses” means that, if the SSC were not to perform its design bases function in the manner described, the assumed initial conditions, mitigative actions or other information in the analyses would no longer be within the range evaluated (i.e., the analysis results would be called into question). The phrase “support or impact design bases functions” refers both to those SSCs needed to support design bases functions (cooling, power, environmental control, etc.) and to SSCs whose operation or malfunction could adversely affect the performance of design bases functions (for instance, control systems and physical arrangements). Hence, both safety-related and nonsafety-related SSCs may perform design functions.

Thus, an "SSC Important to Safety" is an SSC that performs a design function, as defined by NEI 96-07, Revision 1. The petitioner provides a number of suggestions for inclusion in the proposed definition, and, in general, those suggested aspects have been incorporated into the definition discussed above:

- Incorporate the guidance regarding 10 CFR 50.2 Design Bases, as contained within NEI 97-04, Appendix B and as approved by the NRC in Regulatory Guide 1.186.
- Expand the included functions to those that "support or impact" Design Bases Functions.
- Include selected non-safety related SSCs.
- Include the potential for transient initiation.

A careful examination of the two definitions cited above will reveal that the overall intent of the petitioner has already been achieved. This is true for 10 CFR 50.59 and the various other regulations that would be affected.

Based on the above information, we believe that there is not a compelling need for rulemaking in this area and ask the NRC not to pursue rulemaking as proposed in PRM-50-112. We appreciate the NRC staff's consideration of our comments. If you have any questions concerning this letter, please contact me or Kati Austgen (202.739.8068; kra@nei.org).

Sincerely,

Christopher E. Earls
Senior Director, Engineering & Licensing

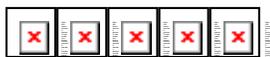
Nuclear Energy Institute
1201 F Street NW, Suite 1100
Washington, DC 20004
www.nei.org

P: 202-739-8078
F: 202-533-0135
E: cee@nei.org



TAKE THE NEI FUTURE OF ENERGY QUIZ, www.NEI.org/futureofenergy

FOLLOW US ON



This electronic message transmission contains information from the Nuclear Energy Institute, Inc. The information is intended solely for the use of the addressee and its use by any other person is not authorized. If you are not the intended recipient, you have received this communication in error, and any review, use, disclosure, copying or distribution of the contents of this communication is strictly prohibited. If you have received this electronic transmission in error, please notify the sender immediately by telephone or by electronic mail and permanently delete the original message. IRS Circular 230 disclosure: To ensure compliance with requirements imposed by the IRS and other taxing authorities, we inform you that any tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties that may be imposed on any taxpayer or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

CHRISTOPHER E. EARLS

Senior Director, Engineering and Licensing

1201 F Street, NW, Suite 1100
Washington, DC 20004
P: 202.739.8078
cee@nei.org
nei.org



March 21, 2016

Ms. Annette L. Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: NEI Comments on Petition for Rulemaking (PRM) 50-112, *Determining Which Structures, Systems, Components and Functions are Important to Safety*, 81 Fed. Reg. 410; Docket No. PRM-50-112; NRC-2015-0213

Project Number: 689

Dear Ms. Vietti-Cook:

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI)¹ appreciates the opportunity to provide comments on the subject Petition for Rulemaking, *Determining Which Structures, Systems, Components and Functions are Important to Safety*. The industry does not believe that rulemaking is necessary to further define "important to safety." Moreover, we believe that, if pursued, the proposed rulemaking would introduce more confusion rather than clarity, and should therefore be discontinued or withdrawn.

While the petitioner is correct that "important to safety" is used "in numerous regulations and NRC guidance documents," it is incorrect to imply that there is widespread industry confusion over the application of the term in the various contexts for which it is used. Rather, the industry has taken great care to understand the meaning of "important to safety" in these various regulations and guidance documents and to train the individuals working in those subject areas to recognize proper application of the term in each context. In particular, a definition of "SSCs important to safety," encompassing the topics suggested for inclusion by the petitioner, has already been developed and approved by the NRC in Regulatory Guide (RG) 1.187, *Guidance*

¹ The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments, as described in our response to specific request for comments (4) below.

The NRC has requested specific comments in four areas: (1) new information and analysis that could provide the basis for changes to the NRC's regulations, (2) specific examples where the lack of a formal NRC definition (i.e., codified in 10 CFR chapter I) of the terms, "safety related," and "important to safety" directly resulted in adverse consequences to external stakeholders, (3) regulations that would have to be revised to reflect the new definition, and (4) guidance that would be needed to implement the new definition. Industry feedback and recommendations on these areas follows:

- (1) We are not aware of any new information or analysis that would provide a sufficient basis for NRC to pursue the proposed rulemaking. Each regulation, and its associated guidance, has been carefully developed and stakeholders have come to common understandings of the meaning of the term "important to safety" for each context. Further, some licensees have a definition of "important to safety" in their plant-specific licensing basis. Thus, to pursue an all-encompassing definition of such granularity in rulemaking would not only be unnecessary, but would also create both generic and plant-specific implementation concerns as the potential for unintended consequences is high considering the many regulations and various plant licensing bases affected. Particularly in the current environment of addressing the cumulative impact of industry and regulatory activities, we cannot support a rulemaking that does not clearly improve safety and efficiency and could distract NRC attention and resources that are otherwise focused on safe, reliable facility operation.
- (2) We are not aware of any examples where the lack of a formal NRC definition (i.e., codified in 10 CFR chapter I) of the terms "safety related" and "important to safety" directly resulted in adverse consequences to external stakeholders. Such a rulemaking would result in substantial costs for the industry (and NRC) given the time and effort required to meticulously capture every detail of the existing regulation-specific definitions and guidance, as well as the required guidance revisions, possible licensing basis revisions, licensee procedure and process revisions, and required training to implement the revisions.

For example, Equipment Qualification (EQ) Programs under 10 CFR 50.49 have identified electrical equipment within the scope of the regulation, including electrical equipment "important to safety" (ITS), and these programs are maintained to assure the continued qualification of in-scope equipment throughout their qualified lives. The regulation-specific ITS definition in 10 CFR 50.49(b) has been in existence for over 30 years, with few, if any, questions or issues encountered in its understanding, as it relates to 10 CFR 50.49 or its implementation. Any material change to the ITS definition would, at a minimum, involve (1) a re-review of electrical components located in post-accident harsh environments, (2) revision of EQ program, design, procurement, quality assurance, and other procedures and internal direction, (3) purchase/installation of new equipment, (4) additional qualification testing and/or analysis of new equipment so identified, and (5) revision of qualification records to include such equipment. The

cost of such an effort would easily run into the tens of millions of dollars per site with little to no overall nuclear safety benefit. Additionally, following a revision to the ITS definition there is a likelihood of unintended consequences with regard to redefining/creating new 10 CFR 50.49 design basis events, or inclusion of non-design basis events (some of which have already been reviewed and such a classification rejected by the Commission), that result in "harsh environments," or causing expanded expectations related to license renewal aging management. Either or both of which would *substantially* expand the impacts of such a proposal, with no demonstrated safety benefit.

(3) Numerous regulations would have to be revised to reflect a new definition and the impact would extend to individual plant licensing bases as well. It is unclear whether a new definition would be applied to all licensees, including those that have their own definition already in their licensing basis, and how this would be evaluated or justified as a forward- or backfit. As demonstrated by the petitioner's identification of recently promulgated regulatory requirements, e.g., 10 CFR 50.150 aircraft impact assessment, the NRC's regulations evolve and a single definition would quickly become unsettled and unwieldy.

(4) As indicated above, guidance for each regulation that uses the term "important to safety" has been carefully developed and common understandings cultivated through years of stakeholder interactions. Numerous guidance documents would need to be reexamined to determine the scope of changes introduced by a new definition and how the new definition applies within the context of the previous regulation and its associated guidance. As an example, guidance in NEI 96-07, Rev. 1, *Guidelines for 10 CFR 50.59 Implementation*, as endorsed by RG 1.187, contains comprehensive guidance on the definition of "SSCs important to safety," encompassing the topics suggested for inclusion by the petitioner.

The term "structure, system, or component (SSC) important to safety" is utilized three times in 10 CFR 50.59(c)(2)(ii), (iv), and (vi). During the development of this regulation, the absence of a defined term was evident. As a result, a definition was incorporated into NEI 96-07, Revision 1, which has been endorsed by Regulatory Guide 1.187.

Definition 3.9 of NEI 96-07, Revision 1, provides the following:

Malfunction of SSCs important to safety means the failure of SSCs to perform their intended design functions described in the UFSAR (whether or not classified as safety-related in accordance with 10 CFR 50, Appendix B).

The term "design function," as used within Definition 3.9, refers to NEI 96-07, Revision 1, Definition 3.3. That definition reads in part:

Design functions are UFSAR-described design bases functions and other SSC functions described in the UFSAR that support or impact design bases functions. Implicitly included within the meaning of design function are the conditions under which intended functions are required to be performed, such as equipment response times, process conditions, equipment qualification and single failure. Design bases functions are functions performed by systems, structures and components (SSCs) that are (1) required by, or otherwise necessary to comply with, regulations, license conditions, orders or technical specifications, or (2) credited in licensee safety analyses to meet NRC requirements.

UFSAR description of design functions may identify what SSCs are intended to do, when and how design functions are to be performed, and under what conditions. Design functions may be performed by safety-related SSCs or nonsafety-related SSCs and include functions that, if not performed, would initiate a transient or accident that the plant is required to withstand.

As used above, "credited in the safety analyses" means that, if the SSC were not to perform its design bases function in the manner described, the assumed initial conditions, mitigative actions or other information in the analyses would no longer be within the range evaluated (i.e., the analysis results would be called into question). The phrase "support or impact design bases functions" refers both to those SSCs needed to support design bases functions (cooling, power, environmental control, etc.) and to SSCs whose operation or malfunction could adversely affect the performance of design bases functions (for instance, control systems and physical arrangements). Hence, both safety-related and nonsafety-related SSCs may perform design functions.

Thus, an "SSC Important to Safety" is an SSC that performs a design function, as defined by NEI 96-07, Revision 1. The petitioner provides a number of suggestions for inclusion in the proposed definition, and, in general, those suggested aspects have been incorporated into the definition discussed above:

- Incorporate the guidance regarding 10 CFR 50.2 Design Bases, as contained within NEI 97-04, Appendix B and as approved by the NRC in Regulatory Guide 1.186.
- Expand the included functions to those that "support or impact" Design Bases Functions.
- Include selected non-safety related SSCs.
- Include the potential for transient initiation.

A careful examination of the two definitions cited above will reveal that the overall intent of the petitioner has already been achieved. This is true for 10 CFR 50.59 and the various other regulations that would be affected.

Ms. Annette L. Vietti-Cook

March 21, 2016

Page 5

Based on the above information, we believe that there is not a compelling need for rulemaking in this area and ask the NRC not to pursue rulemaking as proposed in PRM-50-112. We appreciate the NRC staff's consideration of our comments. If you have any questions concerning this letter, please contact me or Kati Austgen (202.739.8068; kra@nei.org).

Sincerely,

A handwritten signature in black ink that reads "Chris Earls". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Christopher E. Earls

c: Mr. Robert Beall, NRR/DPR/PRMB/PFLT, NRC
NRC Document Control Desk