NRC Responses to Public Comments

Petition for Rulemaking 50-112: Determining Which Structures, Systems, Components, and Functions Are Important to Safety

Docket ID: NRC-2015-0213

U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards

Introduction

This comment response document contains a summary of all public comments received, and the associated U.S. Nuclear Regulatory Commission (NRC) responses, on petition for rulemaking (PRM) PRM-50-112, "Determining Which Structures, Systems, Components, and Functions are Important to Safety," published in the *Federal Register* January 6, 2016 (81 FR 410). This comment response document formally dispositions the public comments received on PRM-50-112.

In PRM-50-112, dated July 20, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15278A208), as supplemented on August 31, 2015 (ADAMS Accession No. ML15278A211), the petitioner requested that the NRC create a definition of "important to safety" in Section 50.2 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Definitions," with a set of specific criteria for determining which structures, systems, and components (SSCs) and functions are "important to safety." The petitioner asserted that there is "no clear definition" of "important to safety," and that, while the current regulatory framework can be used to determine which SSCs are classified as "safety related," it does not provide a set of criteria to determine which SSCs are "important to safety."

The NRC published PRM-50-112 in the *Federal Register* and requested public comments. As part of requesting public comments on the petition itself, the NRC also requested: (1) any 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 of the terms "safety related" and "important to safety" directly resulted in adverse consequences to external stakeholders, (3) the regulations that would require revision to reflect the new definition and the nature (objective) of the revision for each provision of the regulation that must be revised, and (4) any guidance needed to implement the new definition, including what the scope should be, level of detail, and content of the guidance.

Comment Categorization

This document places each public comment into one of the following categories:

(1) general support for the petition

(2) general opposition to the petition

(3) responses to NRC Question 1

(4) responses to NRC Question 2

(5) responses to NRC Question 3

(6) responses to NRC Question 4

(7) inadequacy, inconsistency, or generic nature of the current definition of "important to safety" or the opinion that "important to safety" and "safety related" are synonymous

(8) specific reasons why there is no need for the rulemaking requested in the petition

(9) other approaches proposed

(10) cost to industry

(11) miscellaneous

Within each category, the NRC has repeated comments as written by the commenter. At the end of the comment, the NRC references the source of the comment by abbreviation indicated in Table 1, below, followed by a number and letter indicating the sequential comment within the comment submission.

Overview of Public Comments

During the public comment period, the staff received 12 public comment submissions containing a total of 102 public comments, including 7 comment submissions from industry groups opposing the petition, 3 comment submissions from public interest groups supporting the petition, and 2 comment submissions from the petitioner. Although 3 of the public comment submissions were submitted after the comment period closed, the staff considered them in its analysis.

Table 1. List of Comment Submissions on PRM-50-112

Comment Number	Commenter	Affiliation	Abbreviation	ADAMS Accession No.
1	Paul Sicard	Private citizen	PS	ML16014A251
2	Margaret Harding	4 Factor Consulting, LLC	4FC	ML16019A234
3	Wolfgang Koenig	Institute of Electrical and Electronics Engineers (IEEE) Secretary Subcommittee 6 and Intermediate Chair of Working Group 6.2	IEEE	ML16064A403
4	Joe Weiss	Applied Control Solutions, LLC	ACS	ML16077A203
5	Samuel Miranda	Private citizen	SM	ML16081A396
6	Christopher Earls	Nuclear Energy Institute	NEI	ML16081A401
7	Patricia Campbell	GE Hitachi Nuclear Energy	GE	ML16082A358
8	Gary Johnson	Private citizen	GJ	ML16082A372
9	William Horin	Nuclear Utility Group on Equipment Qualification	NUGEQ	ML16083A529
10	Kurt Schaefer	Private citizen	KS	ML16084A673
11	David Helker	Exelon Generation Company, LLC	EG	ML16097A610
12	Kurt Schaefer	Private citizen	KS	ML20232D095

Public comment submissions are available electronically through the NRC Library at http://www.nrc.gov/reading-rm/adams.html. From this page, the public can access ADAMS, which supplies text and image files of the NRC's public documents. If you do not have access to ADAMS, or if there are problems in accessing the documents in ADAMS, contact the NRC's Public Document Room staff at 1-800-397-4209 or 301-415-4737, or by sending an e-mail to pdr.resource@nrc.gov. In addition, public comments and supporting materials related to this PRM can be found at https://www.regulations.gov by searching for Docket ID NRC-2015-0213.

Comments and Responses

Category 1. General Support for the Petition

Comments PS-1A, SM-5A, and GJ-8D:

The proposal would be a desirable enhancement to the regulatory structure. (PS-1A)

I fully support Kurt T. Schaefer's petition for rulemaking to address issues in determining which structures, systems, components, and functions are important to safety. I believe that it's time to define the term, "important to safety", in 10 CFR Part 50, perhaps in Appendix A, and refer to this definition when specifying design and performance requirements for affected structures, systems, components, and functions. (SM-5A)

Consequently, I agree with the petitioner that a clear definition of the term Important to Safety is needed. (GJ-8D)

NRC Response:

The NRC disagrees with comments PS-1A, SM-5A, and GJ-8D. As discussed in this comment response document and the accompanying *Federal Register* notice issuing the denial of this PRM, the NRC has determined that a rulemaking to define the term "important to safety" in 10 CFR 50.2 for SSCs and their functions in the NRC's regulations is not necessary to provide reasonable assurance of the safe construction and operation of nuclear power plants licensed under 10 CFR Part 50, "Domestic licensing of production and utilization facilities," or 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants."

Comment GJ-8H:

Most of the world has defined three safety classes within the important to safety category. NRC has, de facto, such a system consisting of safety systems, systems important to safety with enhanced requirements, and other systems important to safety. In the NRC structure, however, the enhanced requirements were, in many cases, developed ad hoc for each system involved. NRC may wish to rationalize this system by developing, or encouraging the development of, common criteria for such systems as part of defining the term important to safety. (GJ-8H)

NRC Response:

The NRC agrees that there are multiple classes of SSCs within the "important to safety" scope, including "safety-related" SSCs and certain non-safety-related SSCs. Over the years, applicants and licensees for nuclear power plants (NPPs) under 10 CFR Part 50 and 10 CFR Part 52 have established SSCs in the appropriate "important to safety" classifications based on their specific NPP design and operation in their NRC-approved license documentation. The NRC believes that applicants and licensees under 10 CFR Part 50 and 10 CFR Part 52 have appropriately characterized SSCs at their NPPs such that initiating a rulemaking effort to redefine SSCs that are "important to safety" for all NPPs would be unnecessary and would not provide significant safety benefits.

Category 2. General Opposition for the Petition

Comments NEI-6A, NEI-6D, NEI-6N, NUGEQ-9A, NUGEQ-9B, NUGEQ-9E, and Exelon-11A:

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. (NEI-6A)

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. (NEI-6D)

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. (NEI-6N)

We hereby submit as comments on the above-referenced petition for rulemaking our support and endorsement of the comments of the Nuclear Energy Institute (NEI), filed on March 21, 2016. The NEI comments reflect an industry position concerning that petition that there is no demonstrated need, or safety benefit to be gained, by granting the requested action. As demonstrated therein, the use of the term "important to safety" has been successfully adopted and integrated into the licensing standards applicable to many areas of NRC regulation. Indeed, it does not appear that there are any nuclear regulatory fields under NRC jurisdiction without adequate guidance and direction as to the application of that standard. (NUGEQ-9A)

As an example noted in the NEI comments, the application of "important to safety" in the context of 10 C.F .R. Section 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," wherein that term is applied (see Section 50.49(b)), has been satisfactorily accomplished and incorporated into EQ programs for over 30 years. During that period there has been no cognizable issue or concern with respect to the use of the terminology. (NUGEQ-9B)

Accordingly, the NUGEQ supports the NEI comments and recommends that the petition be denied. (NUGEQ-9E)

Exelon supports the comments submitted by the Nuclear Energy Institute (NEI) on behalf of the industry regarding this subject PRM. (Exelon-11A)

NRC Response:

The NRC agrees with comments NEI-6A, NEI-6D, NEI-6N, NUGEQ-9A, NUGEQ-9B, NUGEQ-9E, and Exelon-11A. As discussed in this comment response document and the accompanying *Federal Register* notice issuing the denial of this PRM, the NRC has determined that a rulemaking to define the term "important to safety" in 10 CFR 50.2 is not necessary to provide reasonable assurance of the safe construction and operation of NPPs licensed under 10 CFR Part 50 or 10 CFR Part 52.

Comment GE-7G:

The proposed rulemaking should be viewed from a risk-informed or performance-based perspective and considering the NRC risk policy goals. Defining the term could limit the current degree of flexibility in the regulatory processes that provides opportunities to define the scope of a requirement on a topic-specific basis through development of guidance. Including a prescriptive definition could limit the flexibility that is needed to implement risk-informed and performance-based requirements. Indeed, the items included in the proposed definition are generally addressed in regulatory guidance and are already implemented or identified in licensing basis documents. There are other terms used in requirements or guidance that may need to be redefined or reconsidered if "important to safety" is defined. (GE-7G)

NRC Response:

The NRC agrees with this comment that a prescriptive set of criteria that defines "important to safety" in 10 CFR 50.2 could limit the flexibility for applicants and licensees in developing risk-informed programs. Additionally, a prescriptive set of criteria in the regulations may not be practical based on the potential impact on existing plants, evolving designs of advanced reactors, and reactors with passive design features. The NRC agrees that a definition of "important to safety" could adversely affect the regulatory guidance for risk-informed programs used by the current fleet of operating NPPs.

Comment NEI-6C:

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. (NEI 6C)

NRC Response:

The NRC agrees with this comment, as applicants and licensees have been addressing the scope of SSCs that are "important to safety" for many years for their specific NPPs. The development of specific criteria to define SSCs that are "important to safety" in 10 CFR 50.2 might not be practical for future plant designs licensed under 10 CFR Part 50 or 10 CFR Part 52, and might require backfit evaluations of such criteria before regulatory implementation for the existing operating NPPs.

Category 3. Responses to NRC Question 1: "Provide any new information and analysis that could provide the basis for change to the NRC's regulations."

Comment IEEE-3A:

A potential basis that is missing from the current SECY documents listed is: 10 CFR 50.69, Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors. Any potential rule on "Important to Safety" should consider this risk-informed approach as a means to make the classification of both safety and non-safety "Important to Safety" components less subjective. (IEEE-3A)

NRC Response:

The NRC agrees with comment IEEE-3A that 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power plants," applies to a wide range of NPP SSCs that are "important to safety," including safety-related and non-safety-related SSCs. The treatment of these SSCs under a 10 CFR 50.69 program depends on their safety-related or non-safety-related classification and also their risk significance (e.g., their importance to safety). Therefore, a licensee implementing 10 CFR 50.69 will need to determine the relative importance to safety of a wide range of SSCs as applicable to its specific NPP beyond the "safety-related" definition. However, this information does not provide additional considerations that would alter the NRC's determination that no rulemaking is needed to define "important to safety" for NPPs in 10 CFR 50.2 and may result in unintended consequences as described further in the FRN.

Comment IEEE-3B:

IEEE/NPEC Working group 6.2 is working on a new standard for classification of safety related components of I&C and electrical systems and components that would be useful for a basis for this potential rulemaking, especially with respect to the differences in special treatments for the different levels of "Important to Safety." Any rulemaking that results from this petition should be delayed until that standard has been completed and issued. (IEEE-3B)

NRC Response:

The NRC has determined that a rulemaking will not be initiated at this time to address the definition of "important to safety" for SSCs in all NPPs in 10 CFR 50.2. As a normal practice, the NRC develops regulatory guides (RGs) endorsing industry standards that support compliance with regulations. The NRC staff reviews IEEE standards and other international standards as they become available. The NRC staff understands that the IEEE effort for classification of safety-related components of instrumentation and control (I&C) and electrical systems and components is scheduled for completion in 2022.

Category 4. Responses to NRC Question 2: "Provide 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."

Comment IEEE-3C:

Licensing is one of the largest cost items in instrumentation and controls´ design. Regulatory uncertainty has a substantial impact on the cost associated with these designs for the

instrument manufacturer as well as for the owner of the plant. Uncertainties due to lack of clearly defined guidance on the regulatory side should be avoided in order to mitigate this type of costs. (IEEE-3C)

NRC Response:

The NRC agrees with the comment that regulatory uncertainties can result in increased cost to all manufacturers of NPP components. However, the NRC position is that NPP licensees and applicants under 10 CFR Part 50 and 10 CFR Part 52 have had many years of experience with the safety terms used in the NRC regulations and that the meaning of these terms is sufficiently understood, as further described in the *Federal Register* notice documenting the denial of this PRM.

Comment IEEE-3D:

Some licensees require equipment that are not classified as safety related to meet the requirements of augmented quality. Since augmented quality is not clearly defined one licensee might require higher testing and acceptance criteria for seismic, radiological or other environmental robustness than another. A clear and non-misleading definition could avoid these additional requirements and associated costs for the manufacturers. (IEEE-3D)

NRC Response:

The NRC partially agrees and partially disagrees with the comment. The NRC agrees that demonstrating the capability of equipment not classified as safety-related, but which is required through licensee-developed methods to have augmented quality provisions because of the equipment's specific design functions, might result in different licensees implementing varying qualification and testing requirements. The NRC allows more flexibility in the implementation of augmented quality provisions such that applicants and licensees might take different approaches with equipment manufacturers to demonstrate the capability of such equipment. The NRC disagrees with the comment that a specific set of criteria would avoid additional requirements and associated costs for the manufacturers. The NRC has not identified significant weaknesses or deficiencies in licensee-developed methods for augmented quality equipment that would necessitate the NRC removing the flexibility afforded to applicants and licensees.

Comment IEEE-3E:

The lack of a clear definition of the terms "Safety Related" and "Important to Safety" impedes the harmonization of IEEE standards with international IEC-standards for I&C and electrical systems and components. It imposed considerable difficulties with the topics where an alignment of the corresponding standards was attempted and finally achieved in the recent past. As a consequence, products developed for the US market have a tough position on the international market. (IEEE-3E)

NRC Response:

The NRC agrees with the comment that the harmonization of standards across the global market would be beneficial for many stakeholders, including manufacturers participating in the international market. The NRC is continuing its efforts to improve the harmonization of NRC requirements and guidance with international regulators, where appropriate. However, the

benefit of harmonization would not constitute a sole basis for undertaking rulemaking without a commensurate safety benefit and when the existing regulatory framework provides adequate protection. The information in the comment does not provide additional considerations that would alter the NRC's determination that no rulemaking is needed to define "important to safety" in 10 CFR 50.2.

Comment SM-5E:

Item (1), above, is particularly significant, since failures in equipment and systems, categorized as "important to safety," that cause the development of minor, anticipated operational occurrences, into major accidents would violate this basic principle, since it would effectively create a new class of anticipated operational occurrences that produce the serious consequences of major accidents. Safety analysis reports do not include analyses of anticipated operational occurrences that become major accidents. Consequently, prevention and mitigation measures for such situations are not established, or even identified. Recognition of this possibility, through the use of a workable definition of "important to safety," could yield a significant improvement to plant safety. (SM-5E)

NRC Response:

The NRC does not agree with the comment that the development of a definition of "important to safety" in 10 CFR 50.2 for SSCs in all NPPs would result in a significant improvement in plant safety with regard to the establishment of analyses of anticipated operational occurrences with serious consequences. This is because the existing meaning of "importance to safety" is based on the many years of operating experience with NPP licensees and applicants under 10 CFR Part 50 and 10 CFR Part 52, and the current regulatory framework does capture events in which anticipated operational occurrences might result in serious consequences. As such, a definition of "important" to safety is not needed.

Comment GJ-8B:

Recently I studied the contributions of instrumentation, control (I&C), and human system interface (HSI) to accidents that involved significant core damage. [1] One conclusion of this study is that many of the I&C and HSI systems that contributed to these accidents were not safety systems. The Kemeny Commission report on the TMI-2 accident also highlighted this issue. (GJ-8B)

NRC Response:

The NRC agrees that some SSCs, such as some I&C and human-system interface (HSI) systems, that are not classified as safety-related can be important for the safe operation of NPPs. However, as explained in the accompanying *Federal Register* notice issuing the denial of this PRM, the NRC does not agree that the development of a specific definition of "important to safety" in 10 CFR 50.2 for SSCs in all NPPs would result in a significant improvement in plant safety, based on the many years of experience with NPP licensees and applicants under 10 CFR Part 50 and 10 CFR Part 52.

Comment GJ-8C:

NRC regulations (10 CFR 50) provide requirements for many systems important to safety and make it clear that quality assurance requirements apply to all systems important to safety.

Nevertheless, it is my experience that the lack of a clear definition of the term "important to safety" results in inconsistent application of NRC requirements. This creates a hazard that independent assessment and check of many critical systems, functions, and operations might not be performed. (GJ-8C)

NRC Response:

The NRC does not agree with the comment that the lack of a specific definition of "important to safety" in 10 CFR 50.2 for SSCs and their functions at all NPPs has caused inconsistencies in the application of NRC requirements for NPPs under 10 CFR Part 50 and 10 CFR Part 52. The NRC is not aware of any cases where the lack of definition has caused a safety issue. The intent of "important to safety" is established in the NRC's regulatory history, as further described in the accompanying *Federal Register* notice issuing the denial of this PRM.

Comments NEI-6E, NEI-6F, and NEI-6H:

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. (NEI-6E)

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. (NEI-6F)

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. (NEI-6H)

NRC Response:

The NRC agrees with comments NEI-6E, NEI-6F, and NEI-6H that external stakeholders have experienced no adverse consequences from the NRC regulations' lack of a specific definition for "important to safety" in 10 CFR 50.2. For example, NPP licensees have been implementing § 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," for environmental qualification of components "important to safety" without any identified

adverse consequences, including regulatory uncertainty, from the absence of a specific definition of "important to safety" in 10 CFR 50.2.

Category 5. Responses to NRC Question 3: "What regulations would have to be revised to reflect the new definition, and what would be the nature (objective) of the revision for each provision of the regulation which must be revised?"

Comment GE-7D:

If the NRC elects to define "important to safety" for purposes of 10 CFR Parts 50 and 52, then it is important to ensure that the rulemaking remains focused on Parts 50 and 52 so that it does not inadvertently impact other parts and other types of licenses and processes. (GE-7D)

NRC Response:

The NRC agrees that a rulemaking to define "important to safety" in 10 CFR 50.2 would need to focus on 10 CFR Part 50 and 10 CFR Part 52 so that it does not inadvertently impact other regulatory parts and other types of licenses and processes. For example, such a rulemaking effort would require a detailed review of all NRC regulations to ensure that a cross-reference from 10 CFR Part 50 or 10 CFR Part 52 into other NRC regulations, or vice versa, does not cause confusion or inconsistent application of terminology. The NRC would likely need to make numerous modifications to its regulations and regulatory guidance in response to adding a specific definition in 10 CFR 50.2 for SSCs that are "important to safety" at all NPPs. Further, the NRC would need to assess its regulatory guidance to determine whether modifications are necessary to reflect a set of prescriptive criteria for "important to safety" in the NRC regulations. Since the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment GE-7I:

Not only would regulations and guidance that currently use the term "important to safety" need to be reviewed, but the requirements and guidance that do not use either "safety-related" or "important to safety" would also need to be reviewed, and possibly amended, if a definition of "important to safety" is included in 10 CFR 50.2, "Definitions." Other subsets of "important to safety" SSCs may already be used in a particular context, but not within the subset of safety-related SSCs. The examples above of risk-informed regulations and processes may need to be reconsidered. A review would need to first focus on 10 CFR Part 50, and then expand to related regulations and guidance to ensure that there are no inconsistencies in the use of the term as it would be defined. (GE-7I)

NRC Response:

The NRC agrees with the comment that a rulemaking to specify criteria to define "important to safety" in 10 CFR 50.2 would require a detailed review of all NRC regulations and regulatory guidance. The NRC would need to ensure that the specified criteria do not cause confusion among stakeholders. Since the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment GE-7J:

Examples of mitigation rules that do not currently use the term "important to safety," but for which nonsafety-related SSCs may be credited for actions that are important to safety, could be

within the definition and may need to be amended:
• 10 CFR 50.62 “Requirements for reduction of risk from anticipated transients without scram (ATWS) events for light-water-cooled nuclear power plants.”
• 10 CFR 50.63 “Loss of all alternating current power.” (GE-7J)

NRC Response:

The NRC agrees with the comment that certain NRC regulations extend beyond safety-related SSCs and would need to be reviewed for possible modification if the NRC initiated a rulemaking to define “important to safety” in 10 CFR 50.2 for SSCs in all NPPs. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment GE-7K:

NRC regulations in 10 CFR Part 50, Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” do not currently define QA requirements for nonsafety-related SSCs which are determined to be important to safety. However, 10 CFR Part 50, Appendix A, Criterion 1, “Quality standards and records,” provides that SSC important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. To remain consistent with Appendix A, requirements that may be added to Appendix B would need to be based on the importance of the safety functions to be performed. (GE-7K)

NRC Response:

The NRC agrees that Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50 applies to SSCs that are “important to safety” at the applicable NPP, and that Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” to 10 CFR Part 50 applies to SSCs that are classified as safety related at the applicable NPP. A rulemaking effort to define “important to safety” in 10 CFR 50.2 would need to address both Appendix A and Appendix B to 10 CFR Part 50 to ensure that defining “important to safety” does not cause confusion. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment GE-7L:

Requirements in 10 CFR 50.49 would need to be reviewed, as it defines a specific scope of electric equipment important to safety covered by the regulation. If the general definition would create a conflict with the scope, then 10 CFR 50.49 may need to be amended. This could result in changes to environmental qualification programs and procurement specifications that exist or would be developed in the future. (GE-7L)

NRC Response:

The NRC agrees with the comment that the agency would need to review and possibly revise the requirements of 10 CFR 50.49 for the environmental qualification of electrical equipment “important to safety” at NPPs if it initiated a rulemaking effort to define “important to safety” for SSCs at all NPPs in 10 CFR 50.2. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment KS-12C:

The important to safety definition criteria in Petition for Rule Making NRC-2015-0213 (Docket No. PRM-50-112) was written (in part) to specifically cover the GDC, thus 10 CFR 50, Appendix A would not need to change, if the petitions definition was added to 10 CFR 50.2 (50.2). NRC-2015-0213 important to safety criteria only address existing design related regulations, which current licensees have already addressed in their plants' licensing bases. Therefore, the NRC-2015-0213 important to safety definition would not impose any new requirement on existing licensees. In addition, no other regulation, accept [sic] 50.2, would need to change, if the NRC-2015-0213 definition were to be added to the 10 CFR. The proposal to add the NRC-2015-0213 important to safety definition to 50.2 is only intended to be applied on a forward fit basis for new plants and regulations. (KS-12C)

NRC Response:

The NRC disagrees with the comment that the introduction in 10 CFR Part 50 of a specific definition of "important to safety" in 10 CFR 50.2 for SSCs in all NPPs would not impose any new requirements on existing licensees. Rather, NRC would address the backfit and forward fit implications of rulemaking on this issue if such activity were initiated. For the future, the NRC may address safety classification in 10 CFR Part 53.

Comment KS-12L:

One simple change to consider would be revising 10CFR100 Appendix A to use the more consistent term "Safety Related" vice "Important to Safety."' This change would not be technically correct, because some of the Appendix A GDC cover equipment and functions that are not safety-related. (KS-12L)

NRC Response:

The NRC agrees with the comment that it would not be technically correct to simply revise Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants," to 10 CFR Part 100, "Reactor site criteria," to modify its use of the terms "safety related" and "important to safety." A rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs in all NPPs would need to address all NRC regulations and regulatory guidance, as appropriate, to avoid creating unnecessary errors or confusion. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Category 6. Responses to NRC Question 4: "What, if any, guidance would be needed to implement the new definition, and what should be the scope, level of detail, and content of the guidance?"

Comments GE-7C, GE-7M, and GE-7N:

For any rule changes that may result, related changes to codes, standards, and guidance should be made concurrently to address the revised classification scheme. (GE-7C)

Regulatory guidance has been developed, modified, and maintained with certain assumptions regarding the scope of important to safety as it relates to the subject of the guidance. Reviews

may indicate a need for revisions to the guidance in light of the definition of “important to safety” to ensure that the term is not misused. (GE-7M)

The existing regulatory guidance would need to be reviewed and revised to be consistent with the definition of “important to safety.” It may not be necessary to issue new guidance specifically related to explaining the definition. (GE-7N)

NRC Response:

The NRC agrees with these comments that it would need to develop extensive guidance to implement a specific definition in 10 CFR 50.2 for SSCs that are “important to safety” that would be applicable to all NPPs. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment KS-12F:

Some existing NRC guidelines and generic communications provide positions and/or interpretations of the use of important to safety for the topic(s) that they address. Therefore, those positions and interpretations need not be changed. (KS-12F)

NRC Response:

The NRC disagrees with the comment that existing NRC guidelines and generic communications that provide positions or interpretations of “important to safety” would not need to be changed. Any rulemaking effort to add a definition of “important to safety” for SSCs at all NPPs in 10 CFR 50.2 would require significant review of all existing NRC guidelines and generic communications for possible revision for consistency with the changes made by rule. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment KS-12X:

The concerns in Comment (7) Items 1-3 are addressed above. Item 4 asks “What, if any, guidance would be needed to implement the new definition, and what should be the scope, level of detail, and content of the guidance?” Hopefully, (a) during the NRC staff review process any needed criteria changes to assure for clarity will be implemented, and (b) if the articles of consideration are thorough, no additional guidance should be needed. If needed, a generic NRC communication (e.g., Regulatory Issue Summary), can be issued to provide examples and clarifications. (KS-12X)

NRC Response:

The NRC disagrees with the comment that no guidance would be needed, even if a rule defining “important to safety” in 10 CFR 50.2 was sufficiently thorough, as the comment suggests. The NRC would conduct an extensive review of NRC guidance to assess whether modifications to that guidance are necessary to reflect a specific definition in the NRC regulations of “important to safety” for SSCs at all NPPs. However, as the NRC is denying the petition for rulemaking, no such review will be performed at this time.

Category 7. Inadequacy, inconsistency, or generic nature of the current definition of "important to safety" or the opinion that "important to safety" and "safety related" are synonymous

Comments PS-1C and PS-1D:

In defining the term, more examples and specifics on what is and what is not "Important to Safety" would increase regulatory clarity, consistency, and stability. (PS-1C)

A more precise definition would benefit the development of nuclear Standards and thus contribute to the efficiency of development of new nuclear designs. (PS-1D)

NRC Response:

The NRC does not agree with comments PS-1C and PS-1D that a rulemaking to define "important to safety" in 10 CFR 50.2 for SSCs at all NPPs is needed to provide clarity, consistency, stability, and efficiency. Current licensees have not indicated a concern with the clarity or stability of current regulations in response to this rulemaking petition. Significant factors, such as cost and backfit, would need to be addressed for each NPP based on plant-specific analyses which might result in confusion regarding a specific definition. The NRC agrees with comment PS-1D that the safety classification of SSCs should be addressed for new nuclear designs.

Comment IEEE-3G:

It should be also deliberated whether the terms "Safety Related" and "Important to Safety" should be applied directly to systems and components or rather to functions which have to be performed by such systems and components. The consequences of a failure to perform these functions should be also addressed by considering a severity level as the target to be achieved, i.e. to bring the plant into a safe state or to avoid the release of radioactivity beyond defined limits at all. (IEEE-3G)

NRC Response:

The NRC agrees with the comment that a rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs in all NPPs would need to determine whether to classify components and systems based on their physical status or their functions. This determination would require extensive interaction with stakeholders to determine the appropriate approach for the "important to safety" definition. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment ACS-4A:

My concerns with the term "important to safety" arise from the electronic connectivity issues associated with cyber security. Depending on the electronic connectivity, systems that normally would not be considered "Important to Safety" can become so if they have connectivity with systems that are important to safety or are safety-related. In June 2015, under contract to the International Atomic Energy Agency (IAEA), I analyzed three actual case histories of systems that would not be considered "important to safety" by themselves. However, because of connectivity to systems that are considered important to safety, each of these events resulted in

significant plant safety impacts – automatic shutdown of a nuclear plant, loss of off-site power of a nuclear plant, and loss of view and control of a turbine. (ACS-4A)

NRC Response:

The issue raised in this comment is addressed by existing NRC regulations. For example, the NRC addresses events related to electronic connectivity that could result in "automatic shutdown of a nuclear plant, loss of offsite power of a nuclear plant, and loss of view and control of a turbine" in 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants."

The regulations in 10 CFR 50.55a(h), require that protection systems for plants with construction permits issued after January 1, 1971, but before May 13, 1999, must meet the requirements stated in either IEEE Standard (Std.) 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," or IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations." Non-Class 1E circuits that are not physically separated or are not electrically isolated from Class 1E circuits by acceptable separation distance, safety class structures, barriers, or isolation devices are defined as associated circuits. Section 5.6, "Independence," of IEEE Std. 603-1991 provides separation criteria for such circuits. NRC RG 1.75, "Criteria for Independence of Electric Safety Systems," also provides similar guidance and states the following:

> The underlying separation criteria are that (1) physical separation and (2) electrical isolation must be provided to maintain the independence of safety-related circuits and equipment so that the safety functions required during and following any design-basis event can be accomplished.

Comment ACS-4B:

The NRC Regulatory Guide for Cyber Security, Regulatory Guide 5.71, would not have considered the non-safety systems that were the precursors to these three events to have been important to safety. Consequently, the term "Important to Safety" needs to be broadened to include any systems that, through electronic connectivity, can affect safety systems. (ACS-4B)

NRC Response:

The NRC does not agree with the comment. RG 5.71, Revision 0 states that devices should be identified as critical digital assets if one or more of the following criteria apply: (1) perform or are relied upon for safety security emergency preparedness functions, (2) could adversely affect safety security emergency preparedness functions or critical systems or critical digital assets that perform safety security emergency preparedness functions, (3) provide a pathway to a critical system or critical digital asset that could be used to compromise, attack, or degrade an safety security emergency preparedness function, (4) support a critical system or critical digital asset, (5) protect any of the above from a cyber-attack, up to and including the design basis threat, or (6) are balance of plant equipment that affects reactivity and could result in an unplanned reactor shutdown or transient.

Based on the above, the NRC finds that the scope of the term "important-to-safety" does not need to be broadened to include any non-safety-related systems that can affect safety systems because such non-safety-related systems are already identified by RG 5.71 as critical systems. Critical systems are defined in the RG to include systems that "…perform or are associated with

a safety-related, important-to-safety, security, or emergency preparedness function." (RG 5.71, revision 0, at page 35).

Comment SM-5B:

The term, "important to safety", needs to be clarified, since it is widely-applied; but little-understood, especially when used with respect to new functions and equipment (e.g., some mitigation functions that were identified as a result of the Fukushima accident). (SM-5B)

NRC Response:

The NRC does not agree that the term "important to safety" needs to be clarified in 10 CFR Part 50 or 10 CFR Part 52. The NRC does agree with the comment that there is a wide range of SSCs that are "important to safety" that can be used in response to plant events, including the accident at the Fukushima Dai-ichi NPP in Japan; however, this does not pose a safety concern necessitating rulemaking. The term "important to safety" is well understood in the existing regulatory framework and is adequately addressed in NRC licensee and applicant documentation.

Comment SM-5C:

Design requirements for structures, systems, components, and functions that are intended to prevent accidents or mitigate their consequences are designated, "General Design Criteria", and defined in Appendix A of 10 CFR Part 50. They require very high levels of reliability for equipment and systems that must deal with relatively frequent events, i.e., "anticipated operational occurrences," and for events that are in the design basis. For example, General Design Criterion 29 requires that, "The protection and reactivity control systems shall be designed to assure an extremely high probability of accomplishing their safety functions in the event of anticipated operational occurrences." These systems are in the "safety-related" category. It follows that reliability requirements would not be as high for equipment that must deal with very rare events (i.e., for events that are not expected to occur during the plant's lifetime). (SM-5C)

NRC Response:

The NRC agrees with the comment that Appendix A to 10 CFR Part 50 applies to SSCs that are "important to safety," including certain SSCs that are classified as safety related. However, the issue raised in this comment about the different safety classification of SSCs addressed in the general design criteria (GDC) of Appendix A to 10 CFR Part 50 does not necessitate a rulemaking to define "important to safety" in 10 CFR 50.2. Rather, as described in an NRC staff memorandum dated November 20, 1981, from Harold R. Denton, Director, Office of Nuclear Reactor Regulation (NRR), to all NRR personnel, the existing regulatory framework addresses SSCs that are safety-related (which is a sub-category of those that are "important to safety") and SSCs that are "important to safety" but not classified as safety-related (ADAMS Accession No. ML111230453). Subsequently, in December 1983, Harold R. Denton wrote a letter to the Utility Safety Classification Group restating the position taken in the 1981 memorandum and explaining the historical acceptance of the distinction between these terms (ADAMS Accession No. ML17150A235). The 1983 Denton letter also stated that "NRC regulatory jurisdiction involving a safety matter is not controlled by the use of terms such as 'safety related' or 'important to safety.'"

Comment SM-5D:

Equipment and systems that are used for normal operations (e.g., load follow or pressure control) are “commercial grade.” Nuclear plants are designed to tolerate failures in commercial grade systems. There are systems that must be more reliable than commercial grade; but not as reliable as “safety-related.” Unfortunately, this is a space that is ill-defined. (SM-5D)

NRC Response:

The NRC disagrees with the comment that there needs to be a definition for SSCs and functions whose safety classification falls between safety-related and commercial grade. The NRC’s current regulatory framework and the licensing bases of operating plants provide reasonable assurance of adequate protection without prescriptive criteria defining “important to safety” in § 50.2. Current NPP licensees have not indicated concerns with the scope of SSCs that are “important to safety” in support of this rulemaking petition.

Comment GJ-8E:

A term is needed for the sub-category "important to safety but not safety-related." The lack of a name for this important category makes it easy to ignore. (GJ-8E)

NRC Response:

The NRC does not agree with the proposal in the comment to develop a new term or definition for SSCs that are “important to safety” but not safety related. As indicated in NRC documents, such as an NRC staff memorandum dated November 20, 1981, from Harold R. Denton, Director, NRR, to all NRR personnel, the term “important to safety” is broader than and includes “safety related” as a subset of “important to safety.” The term “important to safety” includes both SSCs that are safety-related and also SSCs that are not safety-related but are determined to have a function with an importance to safety. In December 1983, Harold R. Denton wrote a letter to the Utility Safety Classification Group restating the position taken in the 1981 memorandum and explaining the historical acceptance of the distinction between these terms. Nuclear power plant licensees and applicants use tools, such as probabilistic risk assessments, to identify the SSCs at their specific NPPs that are “important to safety” but not safety related and this identification of SSCs is captured in licensee documentation.

Comments GJ-8F and KS-12O:

I recommend that the CFR include simple definitions for the term important to safety, and for a new term describing items that are not safety-related, but still important to safety. Given the global nature of today's nuclear industry it would be desirable to have terms and definitions that are consistent, or at least compatible with, the IAEA definitions and classification schemes. (GJ-8F)

Comment 3 Item 2 only applies to instrumentation and controls. It states, “the lack of a clear definition of the terms “Safety Related” and “Important to Safety” impedes the harmonization of IEEE standards with international IEC-standards for I&C and electrical systems and components.” Item 2 is technically incorrect on one point. The definition of safety-related is clearly defined in the regulations. The problem is the lack of definition of the term important to safety. (KS-12O)

NRC Response:

The NRC does not agree with the comment that the NRC should develop a “simple” definition for “important to safety” for the reasons described in the accompanying *Federal Register* notice issuing the denial of this PRM. Further, an effort to make NRC regulations consistent or compatible with the International Atomic Energy Agency definitions and classification schemes, or other international standards, as suggested in these comments would involve a rulemaking that the NRC does not find necessary. The NRC coordinates with international standards organizations to avoid conflict between international standards and NRC regulations, to the extent possible. The existing regulatory framework adequately addresses safety classifications, as described further in the accompanying *Federal Register* notice issuing the denial of this PRM.

Comment KS-12A:

SECY-86-164 tried to define important to safety without providing specific criteria for determining which structures, systems and components (SSCs) are important to safety. The SECY proposed the two following definitions. "Important-to-safety" when referring to structures, systems, and components means those structures, systems, and components for which the NRC staff has required the application of some specialized treatment in the facility licensing documents or generic regulatory requirements. Requirements imposed on important-to-safety items are only those which were specifically required by inclusion in the facility licensing documents or in generic regulatory requirements.” “Important-to-safety" when referring to structures, systems, and components means those structures, systems, and components that are described in the facility licensing documents and that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.” Neither of the proposed definitions actually defined important to safety to a level of detail consistent with the levels of detail of other 10 CFR definitions. (KS-12A)

NRC Response:

The NRC agrees with the comment that the effort to define “important to safety” in SECY-86-164, “Proposed Rule on the Important-to-Safety Issue,” dated May 29, 1986 (ADAMS Accession No. ML15322A005) was not successfully completed. However, the NRC notes that the definition of “important to safety” developed for SECY-86-164 was based on the best information and resources available at that time. In addition, a lesson learned from SECY-86-164 is the difficulty in reaching a broad consensus on a definition of “important to safety” for all NPPs. In part as a result of past rulemaking efforts, the NRC does not consider a rulemaking effort to develop a specific definition of “important to safety” in 10 CFR 50.2 for SSCs at all NPPs under 10 CFR Part 50 or 10 CFR Part 52 to be necessary in terms of the marginal benefit to safety versus the resources required to complete such a rulemaking.

Comment KS-12H:

Comment (1) recommends just having more regulatory and industry (i.e., NEI) guidelines, without have any specific criteria to determining important to safety. For example, NEI-96-07 has a large discussion on important to safety, but not does provide an actual definition with criteria. This approach is just “doing the same old thing,” and does not fix the problem. (KS-12H)

NRC Response:

The NRC does not agree with the comment that a rulemaking effort is needed to define "important to safety" in 10 CFR 50.2 rather than relying on existing or additional regulatory or industry guidelines. Further, the NRC does not agree that there is a "problem" to be fixed. This is, in part, because NPP licensees and applicants have not indicated, and NRC has not identified, a concern with determining the SSCs that are "important to safety" at their specific NPPs. If nuclear power plant licensees or applicants believe that additional guidance is needed to clarify the scope of "important to safety" at their specific NPPs, the NRC would evaluate that request. The existing regulatory framework adequately addresses safety classifications, as described further in the accompanying *Federal Register* notice issuing the denial of this PRM.

Comments KS-12M and KS-12I:

Comment (1) recommends: More examples "on what is and what is not" important to safety, but does not address how to make those determinations without having criteria on which to base the determinations. (KS-12I)

Comment (2) recommends a "standard" that "clearly defines these terms." However, Comment (2) does not provide any criteria on how to "clearly define" important to safety. Regardless of where important to safety is defined (a regulation or standard), criteria are still needed in the definition. (KS-12M)

NRC Response:

The NRC does not agree with the comments that a rulemaking effort is needed to specify criteria for examples of determinations of SSCs that are "important to safety" at NPPs. In response to this rulemaking petition, NPP licensees or applicants have not indicated a need for additional criteria with respect to determining SSCs that are "important to safety" at their specific NPPs. In addition, the existing regulatory framework adequately addresses safety classifications, as described further in the accompanying *Federal Register* notice issuing the denial of this PRM.

Comment KS-12J:

"A more precise definition would benefit the development of nuclear Standards and thus contribute to the efficiency of development of new nuclear designs." This is a valid comment, but does not address how to create a "more precise definition" without having defining criteria.

NRC Response:

The NRC will not initiate rulemaking to address this issue. Due to potential unintended consequences and confusion that may be created if a rulemaking was initiated, the NRC disagrees that a definition of important to safety would contribute to efficiency. Therefore, NRC is not considering how to create a more precise definition of "important to safety" at this time.

Comment KS-12P:

Comment 3 Item 3 recommends more guidelines and standards without providing any defining criteria. Item 3 states "It should be also deliberated whether the terms "Safety Related" and "Important to Safety" should be applied directly to systems and components or rather to functions which have to be performed by such systems and components." This statement is

technically wrong in the non-conservative direction, and is inconsistent with all US plants' current licensing bases. All FSAR abnormal event safety analyses model the functions that mitigate those events, e.g., accident analyses model the safety-related functional responses that mitigate the accidents. For example, if an accident analysis models an ECCS [Emergency Core Cooling System] system delivering 6000 gpm [gallons per minute] within 30 seconds after a low water condition is detected, then all components that must function to deliver that flow in less than 30 seconds are classified safety-related. Therefore, the function is first determined, then the components required to perform that function are determined. (KS-12P)

NRC Response:

The NRC agrees with the comment that the determination of which SSCs are "important to safety" is based on the SSC's function. However, the issues raised in this comment do not affect the NRC's determination on this PRM.

Comment KS-12R:

Comment (4) concludes "Consequently, the term "Important to Safety" needs to be broadened to include any systems that, through electronic connectivity, can affect safety systems." The 10 CFR regulations do not directly address the Comment (4) issue, thus it should not be added to the proposed regulation change. The comment's concern addresses electronic connectivity related events that could result in "automatic shutdown of a nuclear plant, loss of off-site power of a nuclear plant, and loss of view and control of a turbine." None of the listed events is an accident, nor adversely affects any safety-related function or SSC. The mitigation of the Comment (4) type events is already addressed in Criterion (b) "Equipment and function(s) assumed or used to mitigate the anticipated operational occurrences and non-accident events evaluated in the Final Safety Analysis Report (as updated) or Design Control Document Tier 2 safety analyses." If a change could create a new and significant "electronic connectivity" safety issue, (i.e., create a new potentially limiting anticipated operational occurrence) then it would be required to be added to the plant licensing basis via the 10 CFR 50.59 process, thus would still be covered by Criterion (b). (KS-12R)

NRC Response:

The NRC agrees with the comment that the examples in Comment (4) would likely be within the scope of SSCs that are "important to safety" at NPPs. However, the NRC disagrees with the comment's suggestion that the 10 CFR regulations do not address the issue. In 10 CFR 50.55a(h), the NRC requires that protection systems for plants with construction permits issued after January 1, 1971, but before May 13, 1999, must meet the requirements stated in either IEEE Standard (Std.) 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," or IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations." Non-Class 1E circuits that are not physically separated or are not electrically isolated from Class 1E circuits by acceptable separation distance, safety class structures, barriers, or isolation devices are defined as associated circuits. Section 5.6, "Independence," of IEEE Std. 603-1991 provides separation criteria for such circuits. NRC RG 1.75, "Criteria for Independence of Electric Safety Systems," also provides similar guidance and states the following:

> The underlying separation criteria are that (1) physical separation and (2) electrical isolation must be provided to maintain the independence of

safety-related circuits and equipment so that the safety functions required during and following any design-basis event can be accomplished.

The NRC addresses events related to electronic connectivity that could result in “automatic shutdown of a nuclear plant, loss of offsite power of a nuclear plant, and loss of view and control of a turbine” in 10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants.”

Comment KS-12T

Comment (6) provides the NEI response to the proposed rulemaking. Historically, NEI has been and is against any new rulemaking that may affect existing plants or their procedures. Another words, “don’t rock the boat.” Therefore, it is expected that Comment (6) would state something like ‘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.” There is nothing clear about the undefined term important to safety. Each person and plant owner subjectively interprets it differently. Having a definition with set of criteria, like for safety-related, could only reduce the confusion and add clarity, and not “introduce more confusion.” (KS-12T)

NRC Response:

The NRC does not agree with the comment that a rulemaking effort to define SSCs that are “important to safety” in 10 CFR 50.2 for all NPPs is needed to reduce confusion and add clarity for all NPPs licensed under 10 CFR Part 50 and 10 CFR Part 52. Current licensees have not indicated a concern with the clarity or stability of current regulations in response to this rulemaking petition. NPP licensees under 10 CFR Part 50 and 10 CFR Part 52 have many years of experience addressing the NRC regulations that apply to SSCs that are “important to safety” at their NPPs. The NRC believes that a rulemaking effort to define “important to safety” in 10 CFR 50.2 for SSCs at all NPPs under 10 CFR Part 50 and 10 CFR Part 52 is not necessary for adequate protection and would likely cause unnecessary confusion among those licensees. Further, significant factors, such as cost and backfit, would need to be addressed for each NPP based on plant-specific analyses which might result in confusion regarding a specific definition.

Comment KS-12U:

Comment (6) Item (1) states “stakeholders have come to common understandings of the meaning of the term “important to safety” for each context.” That is an unproven statement. Item (1) also states “some licensees have a definition of “important to safety” in their plants-specific licensing basis.” Just because a definition is in a licensing basis does not mean it is 100% consistent with the regulations, nor that functionally identical plants interpretations of important to safety agree with that plant’s definition, thus still no proven consistency. There are hundreds of statements in the regulations and regulatory documents that use the (undefined) term important to safety. Therefore, the positions in Item (1) can/have not been substantiated. (KS-12U)

NRC Response:

The NRC does not agree with the comment objecting to another commenter's statement that stakeholders have come to common understandings of the meaning of "important to safety" for each context. There is an established common understanding of "important to safety" within the NRC's regulatory framework, as explained in the accompanying *Federal Register* notice issuing the denial of this PRM. Moreover, NPP licensees and applicants have not indicated concerns with the scope of SSCs that are "important to safety" at their NPPs in response to this rulemaking petition. Similarly, the NRC has not identified a significant issue that would support the rulemaking petition with the scope of SSCs that are "important to safety" during the licensing review and inspection of NPP activities; the NRC has found that licensees' use of "important to safety" in their licensing bases is consistent with the NRC's usage and understanding of the term. Therefore, the NRC does not find it necessary to initiate a rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs at all NPPs under 10 CFR Part 50 and 10 CFR Part 52.

Category 8. Specific reasons why there is no need for the rulemaking requested in the petition

Comments NEI-6B, NEI-6J, NEI-6L, and NEI-6M:

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. (NEI-6B)

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. (NEI-6J)

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 § 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. (NEI-6L)

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. (NEI-6M)

NRC Response:

The NRC agrees with comments NEI-6B, NEI-6J, NEI-6L, and NEI-6M. Several NRC regulations and guidance documents currently address SSCs that are in the broader category of "important to safety." NPP licensees have not indicated a significant concern with identifying the SSCs that are within the scope of those regulations for their specific NPPs. The current regulatory framework adequately describes the meaning of "important to safety," as discussed in the accompanying *Federal Register* notice issuing the denial of this PRM. Therefore, the NRC has determined that a need for initiating a rulemaking to define "important to safety" in 10 CFR 50.2 for SSCs at all NPPs under 10 CFR Part 50 and 10 CFR Part 52 does not exist at this time.

Comment KS-10E:

One comment inferred that the three safety-related criteria are not understood. I worked for both GE and Westinghouse for over 40 years, and they have no problem understanding the safety-related criteria. However, a GE safety standard says not to use the term "important to safety", because it is an undefined term. (KS-10E)

NRC Response:

The NRC agrees with the comment that the term "safety-related," which is a defined term in 10 CFR 50.2, is well understood by NPP licensees and applicants. The NRC agrees that there is not a specific definition of "important to safety" in 10 CFR 50.2 or 10 CFR 52.1 for SSCs at all NPPs. Each NPP licensee and applicant under 10 CFR Part 50 and 10 CFR Part 52 addresses the scope of SSCs that are "important to safety" for their specific NPPs based on a variety of methods, including their importance based on probabilistic risk assessment. The NRC does not find that the lack of a specific definition of SSCs that are "important to safety" in § 50.2 at all NPPs is of sufficient safety concern to initiate a rulemaking effort that might cause confusion among applicants and licensees of NPPs within the scope of 10 CFR Part 50 and 10 CFR Part 52 without an identified safety benefit.

Comment KS-12Z

Comment (9) refers to 10 CFR 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants." The above Comment (9) position is not consistent with the actual requirements 10 CFR 50.49. Except certain post-accident monitoring equipment, only equipment that is needed to ensure the safety-related functions is governed by 10 CFR 50.49. The proposed rulemaking does not affect the applicability or application of 10 CFR 50.49. Therefore, the Comment (9) EQ program concerns are not valid. (KS-12Z)

NRC Response:

The NRC disagrees with this comment that concerns expressed by another commenter about the potential impact of a rulemaking to define "important to safety" on the environmental qualification program requirements in 10 CFR 50.49 are not valid. The NRC regulations in 10 CFR 50.49 apply to certain electrical equipment that is "important to safety" beyond the

"safety-related" definition. Any rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs and their functions in all NPPs would need to address the scope of 10 CFR 50.49 as well as numerous other regulations and regulatory guidance that extend beyond the "safety-related" scope.

Category 9. Other Approaches Proposed

Comment PS-1B:

A 10 CFR 50 definition of the term may not be required; an alternative might be a Regulatory Issue Summary (RIS) document or similar which can provide more detail than the current definition in the NRC-endorsed NEI 96-07 document, as well as providing clarification of differences in the definition of "Important to Safety" in different applications. (PS-1B)

NRC Response:

The NRC agrees in general with this comment and others in this category that the agency could employ several approaches to clarify the safety classification of SSCs at NPPs rather than engaging in rulemaking. For example, the NRC could prepare a regulatory issue summary to explain the use of various SSC safety classification terms. The NRC will consider these other approaches in the future if it determines that more guidance on the definition of "important to safety" would be beneficial for NPPs constructed and operated under 10 CFR Part 50 or 10 CFR Part 52.

Comment PS-1E:

FLEX equipment for Beyond Design Basis Events (e.g., post-Fukushima accident mitigation actions) and Severe Accident Mitigation equipment should not be considered "Important to Safety" unless there is a significant change to the current regulatory structure (e.g., a strongly risk-informed 10CFR50.59 process). (PS-1E)

NRC Response:

The NRC has developed specific regulations in 10 CFR 50.155, "Mitigation of beyond-design-basis events," for Diverse and Flexible Mitigation Capability (FLEX) equipment. The NRC agrees that any rulemaking effort to define SSCs that are "important to safety" in 10 CFR 50.2 at all NPPs would need to address the applicability of the definition to FLEX equipment. The NRC considers this topic to be another reason that a rulemaking effort to define SSCs that are "important to safety" at all NPPs under 10 CFR Part 50 and 10 CFR Part 52 might cause confusion and is not necessary to provide adequate protection. To that end, the NRC has determined that a rulemaking of this kind is not needed, as described in the *Federal Register* notice.

Comment PS-1F:

One simple change to consider would be revising 10 CFR 100 Appendix A to use the more consistent term "Safety Related" vice "Important to Safety." (PS-1F)

NRC Response:

The NRC disagrees with the suggestion to revise Appendix A to 10 CFR Part 100 to use the term "safety related" rather than "important to safety." Although the GDC in Appendix A to 10 CFR Part 50 apply to SSCs "important to safety," including those that are safety related, the language in Appendix A to 10 CFR Part 100 is not limited to safety-related SSCs. Thus, the suggestion in this comment is inconsistent with the current scope and applicability of Appendix A to 10 CFR Part 100. The NRC believes that any rulemaking effort to define "important to safety" for SSCs in all NPPs would need to address the NRC regulations and regulatory guidance that relate to the scope of SSCs at NPPs.

Comment PS-1G:

A risk-informed 10CFR50.59 change process could also encompass change processes for Emergency Operating Procedures, Severe Accident Management Guidelines, FLEX and B.5.b large scale damage mitigating procedures, and other beyond design basis events. (PS-1G)

NRC Response:

This comment is outside of the scope of the petition. The NRC is denying the PRM, so it is not necessary to address the issues raised in this comment regarding 10 CFR 50.59.

Comments 4FC-2A and IEEE-3F:

Rather than a direct revision to the regulation, this seems like an area where a standard would be more useful and applicable. One that clearly defines these terms, provides examples of SSCs in each category and what is expected in terms of QA, and other actions related to the appropriate regulation. (4FC-2A)

Guidance on classification of systems and components would be better captured in a standards document rather than through regulation. The standard could provide a vehicle for NRC endorsement. There is already precedent for NRC Regulatory Guide endorsement of industry standards in other areas. The standard provides opportunity for more expansive discussion and examples than does regulation. In addition, standards/RGs are simpler to revise than regulation to account for nuances in new plants, advanced reactor designs, etc. (IEEE-3F)

NRC Response:

The NRC agrees with the comment that rather than a rulemaking effort, guidance that endorses a technical standard might be useful if the NRC determines that additional guidance on the scope of SSCs that are "important to safety" at NPPs is needed. If consensus standards committees develop such a standard on the definition of "important to safety," the NRC may consider its endorsement in a regulatory guidance document.

Comment IEEE-3H

As a representation of industry utilities, vendors, and other providers, the working group requests delay of any rulemaking decision until such time as the standard can be completed and issued, which would provide the opportunity for regulatory endorsement. (IEEE-3H)

NRC Response:

The NRC does not agree with the request in the comment to delay a rulemaking decision until such time as a standard on the safety classification of SSCs in NPPs is completed and issued. The NRC will consider the endorsement of a standard on this topic when one is available for review. The NRC's current regulations continue to provide for the adequate protection of public health and safety, environmental protection, and to promote the common defense and security. The NRC's current regulatory framework is supported by the well-established understanding of terminology such as "important to safety," as documented in regulatory guidance, policy, and licensee and applicant documentation.

Comment GE-7A:

It is not clear that the lack of more definition for the term "important to safety" has been problematic. While defining more terms may be useful if a new regulatory regime is to be developed, the proposed action could be more problematic than beneficial. For the existing NRC regulatory regime, rulemaking to define "important to safety" as proposed may not be necessary for the reasons discussed below in responses to NRC specific items. Even if a definition were to be considered, it could be more appropriate to define the term in regulatory guidance specific to the particular use of the term (as in current regulatory guidance for a number of areas), rather than attempt to define the term in a broad, general context. (GE-7A)

NRC Response:

The NRC agrees that a rulemaking effort to define SSCs that are "important to safety" in 10 CFR 50.2 at all NPPs could be more problematic than beneficial. The NRC agrees that regulatory guidance might be more efficient and effective to address this topic if the agency determines a need at a future time.

Comment GE-7B:

If a proposed rulemaking activity is undertaken, it may be more appropriate to broaden the activity (within the context of 10 CFR Parts 50 and 52) to a fresh look at the classification in light of both the risk-informed approach and considering different categories of structures, systems, and components (SSCs). (GE-7B)

NRC Response:

The NRC agrees that a rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs would need to address a wide range of aspects, including risk-informed approaches and different categories of SSCs. The NRC does not believe that such a rulemaking is necessary for NPPs licensed under 10 CFR Part 50 or 10 CFR Part 52.

Comments GE-7O, GE-7P, GE-7Q, GE-7R, and GE-7S:

Rather than defining "important to safety," which has been understood as a broader set of SSCs, of which "safety-related" is a subset, the NRC could consider amending its regulations to bring the NRC safety classification framework into alignment with other modern and global nuclear regulatory frameworks, which generally include multi-tiered classifications. (GE-7O)

These examples of modern and global nuclear regulatory frameworks with multi-tiered safety classification frameworks cover all aspects of nuclear power plant structures, systems, and components in a cross-disciplinary manner. They are not limited or specific to the Instrumentation and Control (I&C) discipline; although it may be appropriate to consider different classification schemes for certain categories of SSCs. According to the World Nuclear Association in its September 2015 report, "Safety Classification for I&C Systems in Nuclear Power Plants", the countries of Canada, France, India, Japan, Korea, Russia, Switzerland and Germany all use similar multi-tiered safety classification frameworks (Reference 1). (GE-7P)

It is interesting to note that these changes to the nuclear safety classification frameworks were and are being undertaken concurrent with on-going new nuclear power plant activities covering standard plant design assessments and site-specific licensing, engineering, procurement and construction. In the case of Finland's STUK, it has explicitly addressed that there may be differences in the application of new regulations to operating plants. This is done in YVL B.2, Section titled "Rules for application", 2nd Paragraph, 1st sentence which states…(GE-7Q)

Current observations may indicate that a combination of deterministic and risk-informed approaches is used to assess applicability of the new YVLs to operating plants. Therefore, a global precedent has been set that it is possible for a nuclear regulator responsible for an operating fleet to change (i.e., modernize) their safety classification framework.
Most global nuclear regulatory frameworks include at least three unique safety classification levels used to categorize all plant structures, systems, and components as well as system functions and equipment. The NRC is encouraged to consider if the regulatory change to develop a new multi-tiered safety classification framework would be appropriate as an alternative approach to defining "important to safety." The formal adoption by the NRC of a three- or four-tiered nuclear safety classification framework would not be inconsistent with other NRC concepts which have developed over time and which may imply the need for additional explicit safety classifications. (GE-7R)

The petitioner's alphabetic list of functions and systems included in the petition for rulemaking is a reasonable definition of a "middle" nuclear safety classification with the exception of item a) covering safety-related structures, systems and components. This approach identifies that this is essentially a new category and that it would no longer support the concept of "safety-related" being a subset of "important to safety." Moving away from the use of "important to safety" and identifying a new class (e.g., nonsafety-related SSCs that are significant contributors to plant safety) could be less confusing. (GE-7S)

NRC Response:

The NRC agrees that a rulemaking effort to define "important to safety" in 10 CFR 50.2 for SSCs and their functions at all NPPs would need to consider various groupings of SSCs with different levels of importance to safety, as well as the various safety classification approaches used on a global basis by other regulatory bodies. However, as described in the *Federal Register* notice, the NRC does not consider that such a rulemaking effort is necessary for NPPs licensed under 10 CFR Part 50 or 10 CFR Part 52 and therefore, is not further considering this issue.

Comment GJ-8G:

I do not, however, agree that the detailed definition proposed by the petitioner should be ossified in regulations. The specifics are likely to change with the new generations of plants now being developed and deployed. Therefore, I suggest that it is more appropriate to locate the details in industrial standards and reg. guides. (GJ-8G)

NRC Response:

The NRC agrees that the use of standards or RGs might be more appropriate to provide additional guidance on the safety classification of SSCs in NPPs under 10 CFR Part 50 and 10 CFR Part 52 than a rulemaking effort if the agency determines a need for such guidance at a future time.

Comment KS-12E and KS-10D:

The implementation and use of the new definition by existing licensees should be voluntary. (KS-12E)

Multiple comments requested that guidance should be issued before a regulation is issued. This approach is be "putting the cart before the horse," and has already failed for over 40 years. The NRC and industry have unsuccessfully tried to have ITS guidance documents since the early 1980s, without ever achieving a clear understanding of what SSCs are ITS. The only possible success path is to first determine the ITS criteria, and followed by a regulatory guidance. However, the guidance can be generated in parallel with the regulation. (KS-10D)

NRC Response:

The NRC does not agree that a rulemaking effort to define “important to safety” in 10 CFR 50.2 for SSCs at all NPPs under 10 CFR Part 50 or 10 CFR Part 52 should be developed as voluntary for implementation and use by existing licensees, as proposed in this comment. If consensus standards committees develop a standard on the definition of “important to safety,” the NRC may consider its endorsement in a regulatory guidance document. The NRC is not engaging in rulemaking in response to this PRM for the reasons described in the accompanying *Federal Register* notice issuing the denial of this PRM.

Comment KS-12N and KS-12Q:

Comment (3) recommends the NRC follow the future output of IEEE Working Group (WG) 6.2. Comment (3): Item 1 basically requests that any regulation change should be based on a future IEEE, and be risk informed. An IEEE is only applicable to electric portions of a plant, and only if endorsed by the NRC, thus an IEEE based definition of important to safety would be inadequate. A new IEEE would not be part of the current plants’ licensing bases, thus applying the IEEE could place a new burden on the existing plants. The proposed set of deterministic important to safety criteria could be modified in the future, if the NRC chooses to make more regulations risk informed. (KS-12N)

Comment 3 Item 4 just repeats that the NRC should wait for IEEE WG 6.2 results. (KS-12Q)

NRC Response:

The NRC finds that current guidance is adequate for operating reactors. The NRC agrees with the comment that an IEEE standard, if endorsed or incorporated by reference, would be applicable to electrical systems at NPPs. The NRC may review any new related IEEE standard for potential endorsement for applicable plant equipment if it provides additional related guidance through NRC guidance documents.

Comment KS-12Y:

Comment (8) correctly states "Systems important to safety that are not also classified as safety related systems play a vital role in the safety of nuclear power plants. They act to prevent deviations to plant operations that, if unchecked, can challenge safety systems. They also provide backups to mitigate the consequences of accidents that are not fully controlled by safety systems." However, Comment (8) errors in that it states "NRC regulations (10CFR50) provide requirements for many systems important to safety and make it clear that quality assurance requirements apply to all systems important to safety." 10 CFR 50, Appendix B regulates the quality assurance requirements, and it states "*The pertinent requirements of this appendix apply to all activities affecting the safety-related functions of those structures, systems, and components; these activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying.*" Therefore, 10 CFR 50, Appendix B does not apply to functions and SSCs that are not safety-related, and only perform non-safety-related functions (e.g., radwaste management) addressed in the GCD. Comment (8) recommends that a general definition of important to safety be added to the regulation with detailed criteria defined in a regulatory guide, because a guideline could be can more readily be updated as new plant designs evolve. This position could be a workable approach, if the guideline had a specific set of criteria, and is issued with the regulation change. (KS-12Y)

NRC Response:

The NRC agrees that Appendix B to 10 CFR Part 50 applies to the quality assurance program for safety-related SSCs in NPPs and does not apply to SSCs that are not safety-related. The NRC does not agree that a rulemaking effort to add a definition of "important to safety" in 10 CFR 50.2 is needed to provide a safety benefit for NPPs under 10 CFR Part 50 and 10 CFR Part 52. The NRC may address the safety classification of SSCs for new plant designs in the 10 CFR Part 53 rulemaking effort.

Category 10. Cost on Industry

Comments NEI-6G, NEI-6I, GE-7H, NUGEQ-9C, and NUGEQ-9D:

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. (NEI-6G)

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. (NEI-6I)

No information is provided for this item. However, defining "important to safety" could have an impact on the current status of a number of existing regulatory approvals, including licensing basis documents, design certifications, programs, and guidance documents that may not be completely consistent (or may need to be confirmed to be consistent) with a definition. If the NRC elects to define "important to safety," it could be important to determine if the subset of safety-related SSCs is properly defined, or if it is too broad, in light of the years of experience in implementing nuclear regulatory processes. These efforts could have negative costs and benefits to external stakeholders that might not be offset by positive benefits. (GE-7H)

In fact, were such a definition to be altered, as is highly likely given the scope and nature of the petitioner's request, the cost impacts on individual licensees would be substantial. Because of the fundamental need to re-assess the entire EQ program if its scope is altered, costs would be associated with changes to virtually every aspect of those programs (including procedures, program scope definitions in related programs, harsh environment changes, and accident and qualification re-analyses), further equipment purchases and qualification testing, and overall records revisions. (NUGEQ-9C)

We concur, based on member experience in program implementation, that such costs could total in the tens of millions of dollars, per site. In addition, the costs of unintended consequences from such a change cannot be predicted. Certainly, for example, there would be implications for other regulatory arenas in which EQ is addressed, such as license renewal. At bottom, such changes would have a substantial cost associated with them, and yet there has been no demonstrated safety benefit nor is it shown that such a safety benefit would be expected. (NUGEQ-9D)

NRC Response:

The NRC agrees with Comments NEI-6G, NEI-6I, GE-7H, NUGEQ-9C, and NUGEQ-9D that the development and implementation of a new definition of "important to safety" in 10 CFR 50.2 for SSCs at all NPPs through the rulemaking process may have significant cost implications and would not provide a safety benefit for NPPs under 10 CFR Part 50 or 10 CFR Part 52. In addition, such a rulemaking would likely involve backfit considerations, as mentioned in these comments. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment KS-12V:

Comment (6) Item (2) states "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." It is not the intent of the proposed rulemaking to backfit the definition on to current licensees, as explained above in this review. Therefore, if the intent of the proposed rulemaking (as stated above) is maintained, then the Item (2) concerns would not be an issue. (KS-12V)

NRC Response:

The NRC disagrees with the comment that backfit considerations could be avoided in a rulemaking defining "important to safety" in 10 CFR 50.2. The NRC believes implementing a new definition of "important to safety" in 10 CFR 50.2 may raise backfit concerns regardless of the specific language of a proposed definition of "important to safety" for licensed NPPs.

Category 11. Miscellaneous

Comment GJ-8A:

Systems important to safety that are not also classified as safety-related systems play a vital role in the safety of nuclear power plants. They act to prevent deviations to plant operations that, if unchecked, can challenge safety systems. They also provide backups to mitigate the consequences of accidents that are not fully controlled by safety systems. (GJ-8A)

NRC Response:

The NRC agrees that some SSCs that are considered "important to safety" but not classified as safety related have significant importance to safety at NPPs. For example, the NRC regulations in 10 CFR 50.69 consider SSCs that are not safety related but that perform safety-significant functions. In addition, the NRC regulations in 10 CFR 50.65 apply requirements for the maintenance of SSCs at NPPs, including both safety-related and non-safety-related SSCs. With respect to new reactors with passive core cooling systems (such as the AP1000 reactor design, as certified in Appendix D to 10 CFR Part 52—Design Certification Rule for the AP1000 Design), the NRC requires that licensees assess the operational readiness of pumps, valves, and dynamic restraints within the scope of the regulatory treatment of non-safety systems, in accordance with 10 CFR 50.55a(b)(3)(iii)(D). In those reactors, such equipment includes non-safety-related systems that provide defense in depth for the safety-related passive core cooling systems. Any proposed definition of "important to safety" in 10 CFR 50.2 would need to address these various SSCs. However, as the NRC is denying the petition for rulemaking, it is not necessary to address this issue.

Comment KS-10A:

I have read the comments, and do not think they understand the regulatory bases of how the proposed important to safety (ITS) criteria were generated. Criteria (a) through (h) are directly linked to existing regulations. (KS-10A)

NRC Response:

The NRC does not take a position on commenters' understanding of the issues raised in the petition.

Comment KS-10B and KS-10C:

Therefore, there is no conflict between existing regulations and the proposed ITS criteria. Criteria (i) and (j), although may not be directly linked to specific regulations, are linked to existing regulatory guidance and requests, as committed to in plants' licensing bases. (KS-10B)

However, with respect to the comments to delete criteria (i) and (j), these criteria could be combined to just read "Beyond design basis event mitigation manual and equipment functions (including associated functional capabilities), as described in the current plant licensing basis," and severe accident and Fukushima Dai-ichi accident mitigation addressed in a follow-on regulatory guide. (KS-10C)

NRC Response:

The NRC understands the nexus between the proposed criteria and existing regulations and guidance. However, as the NRC is denying the petition for rulemaking, it is not necessary to consider this issue.

Comment KS-10F:

I would be happy to help (at no cost) NRC with the development of the regulation and any guidance. (KS-10F)

NRC Response:

The NRC appreciates feedback from all stakeholders. Since the NRC is not proposing to move forward with this rulemaking, the staff considers additional efforts to not be necessary.

Comment KS-12B:

The SECY-86-164 proposed definitions are more like guidelines than definitions. They are general statements that would likely have been interpreted differently by each reader. Those definitions are similar to in level of detail to the current 10 CFR 50 Appendix A statement: "*The principal design criteria establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety; that is, structures, systems, and components that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public*." Note: the above statement is in the "Introduction" and not in the "Definitions" of Appendix, and, like the SECY proposed definitions, does not provide a specific set of criteria for determining which SSCs are "important to safety." However, the 10 CFR 50, Appendix A does associate important to safety with the General Design Criteria (GDC), which was missed in the SECY definitions. The inadequacy of SECY-86-164 resulted in it being withdrawn on June 24, 1991. (KS-12B)

NRC Response:

The proposed definition of "important to safety" in SECY-86-164 represents the NRC staff's best effort at that time and was not further implemented in rulemaking.

Comment KS-12D:

A current licensee should not be required to provide a response (e.g., review the definition against their current licensing basis), nor require any change to their current licensing basis, plant procedure, or processes. For example, the important to safety criteria, which could create the possibility of a new regulatory burden on a plant or its licensing basis, includes the qualifying statement "in the Final Safety Analysis Report (as updated) or Design Control Document Tier 2." Equivalent qualification statements may be added to the other criteria, if they would help ensure that new regulatory burdens would be prevented. (KS-12D)

NRC Response:

The NRC does not believe it would be possible to develop a specific definition of “important to safety” in 10 CFR 50.2 for SSCs at all NPPs without potential implications for the licensing basis of specific NPPs that could cause unnecessary regulatory burden.

Comment KS-12G:

The above positions should be so stated within the articles of consideration in the federal register, when the regulation change is implemented. (KS-12G)

NRC Response:

The NRC has determined that a rulemaking effort to define “important to safety” in 10 CFR 50.2 for SSCs in all NPPs under 10 CFR Part 50 and 10 CFR Part 52 is not necessary at this time. Therefore, the NRC will not write any statements of consideration for a proposed or final rule on this matter. Rather, the basis for the denial of this PRM explains the widespread understanding of “important to safety” within the NRC’s regulatory framework.

Comment KS-12K and KS-12S:

“FLEX equipment for Beyond Design Basis Events (e.g., post-Fukushima accident mitigation actions) and Severe Accident Mitigation equipment should not be considered "Important to Safety".” SSCs for those types of events were included in the proposed definition criteria, because responses to these events have been addressed in plant licensing bases. The important to safety criteria for those events are limited to “as described in the current plant licensing basis,” thus the current plant licensing bases would not be affected. The deletion of criteria (i) and (j), or any changes to the criteria should be an NRC decision. (KS-12K)

Comment (5) basically endorses the proposed rulemaking. All of the concerns listed and addressed in Comment (5) are already addressed in the proposed important to safety criteria. For example, Comment (5) addresses “anticipated transients without scram (ATWS) or some severe accidents that are drawn from the Fukushima experience.” ATWS, Station Blackout and similar events beyond the single failure criterion are covered by Criterion (c), severe accidents are addressed in Criterion (j), and Fukushima is addressed in Criterion (i). Comment (5) equates anticipated operational occurrences with accidents, however, this position is incorrect as it is inconsistent with the 10 CFR 50, Appendix A definition of an anticipated operational occurrence and GDC 10 and 15, and SRP 15.0. (KS-12S)

NRC Response:

The NRC has determined that a rulemaking effort to define “important to safety” in 10 CFR 50.2 for SSCs in all NPPs under 10 CFR Part 50 and 10 CFR Part 52 is not necessary at this time. As the NRC is denying the petition for rulemaking, it is not necessary to consider the issues raised in these comments.

Comment KS-12W:

The Comment (6) Item (3) concerns are not valid, as describe above in this review. The Comment (6) Item (4) concerns are not valid, as describe above in this review. (KS-12W)

NRC Response:

The NRC does not take a position on commenters' understanding of the issues raised in the petition.

Comment KS-12AA:

Comment (10) is from myself, and generally responds to some of the comments. This review bounds and is far more detailed than Comment (10). (KS-12AA)

NRC Response:

The NRC has reviewed and responded to the comments from this public commenter in this comment response document.

Comment KS-12AB:

Comment (11) "supports the comments submitted by the Nuclear Energy Institute (NEI)," and those comments have been addressed above. (KS-12AB)

NRC Response:

The NRC has reviewed and responded to all of the comments provided by the public commenters in this comment response document.

Comment GE-7F:

The move toward greater use of risk insights is based on the 1995 Commission Policy Statement, Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities. This policy statement recognized that a probabilistic approach could enhance and extend the traditional, deterministic approach by (1) allowing consideration of a broader set of potential challenges to safety, (2) providing a logical means for prioritizing these challenges based on risk significance, and (3) allowing consideration of a broader set of resources to defend against these challenges. (GE-7F)

NRC Response:

The NRC agrees with the comment that the increased application of probabilistic approaches enhances and extends the traditional deterministic approach for the reasons noted by the commenter. This comment does not alter NRC's denial of the petition.