

January 5, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: PROPOSED GUIDANCE FOR UPDATED FINAL SAFETY ANALYSIS REPORTS IN ACCORDANCE WITH 10 CFR 50.71(e)

PURPOSE:

To obtain the Commission's approval to issue the proposed draft regulatory guide ([Attachment 1](#)) for public comment.


SUMMARY:

The staff recommends that the Commission approve issuance of draft regulatory guide (DG) 1083, "Content of the Updated Final Safety Analysis Report in Accordance with [10 CFR 50.71\(e\)](#)," for public comment. DG-1083 endorses the industry guideline document developed by the Nuclear Energy Institute (NEI), NEI 98-03, Revision 0, "Guidelines for Updating Final Safety Analysis Reports," dated October 1998 ([Attachment 2](#)), without exception. The staff believes that NEI 98-03 presents an acceptable method for compliance with 10 CFR 50.71(e), and also gives suitable guidance for modifying the content and format of the updated final safety analysis report (UFSAR⁽¹⁾) giving licensees considerable flexibility and the opportunity to reduce the burden associated with maintaining the UFSAR. In addition, the staff has discussed with NEI the need for a clarification to be added to NEI 98-03, prior to the staff publishing the final regulatory guide, to state that the guideline is not intended to be used to remove information from UFSARs regarding SSCs that are risk-significant. While NEI did not commit to make the clarification until NEI discussed it with the task force that developed NEI 98-03, NEI did convey that the clarification would be consistent with the intent of NEI 98-03.

BACKGROUND:

Section 50.34 ([10 CFR 50.34](#)), "Contents of Applications; Technical Information," contains requirements for the material to be submitted in applications for construction permits and operating licenses for nuclear power reactors. An application for a construction permit must contain a preliminary safety analysis report (PSAR) pursuant to §50.34(a). An application for an operating license must contain an FSAR in accordance with §50.34(b). For holders of operating licenses, §50.71(e) requires the FSAR to be periodically updated (i.e., the updated FSAR or UFSAR).⁽²⁾

Guidance for the organization and content of PSARs and FSARs has existed since June 30, 1966, when the Atomic Energy Commission issued "Guide to the Organization and Contents of Safety Analysis Reports." The most recent guidance document is Regulatory Guide (RG) 1.70, Revision 3, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, LWR Edition," dated November 1978. Limited guidance for the format and content of UFSARs was previously issued in [Generic Letter 80-110](#), "Periodic Updating of Final Safety Analysis Reports (FSARs)," dated December 15, 1980.

As a result of lessons learned from the Millstone experience and from other initiatives related to UFSARs, the NRC determined that additional guidance was needed about compliance with §50.71(e). The staff recommended specific actions in SECY-97-036, "Millstone Lessons Learned Report, Part 2: Policy Issues," dated February 12, 1997. In a staff requirements memorandum (SRM) dated May 20, 1997, the Commission directed the staff, in part, to issue guidance for complying with §50.71(e) to ensure that UFSARs are updated to reflect changes to the design bases and to reflect the effects of other analyses performed since original licensing that should have been included under §50.71(e). The Commission suggested that this guidance should include a risk-informed approach for prioritization and content of the UFSAR, allow removal of certain information from the UFSAR, and consider whether the period of enforcement discretion regarding UFSARs should be extended. In the SRM dated March 24, 1998, concerning [SECY-97-205](#) , "Integration and Evaluation of Results From Recent Lessons-Learned Reviews," dated September 10, 1997, the Commission reemphasized the need for guidance for UFSARs and further requested that guidance be prepared for plants undergoing decommissioning.

The staff responded, in part, to the May 20, 1997, and March 24, 1998, SRMs with [SECY-98-087](#). In that paper, the staff recommended that the Commission approve issuance of the staff's proposed generic letter as interim guidance on the content of UFSARs. The staff further proposed to continue to resolve issues that the staff had with the preliminary version of NEI 98-03, with the goal of endorsing NEI 98-03 as the final guidance in a regulatory guide. The staff's proposed generic letter responded to the Commission's request for guidance on the content of the UFSAR, allowed removal of certain information, made the guidance applicable to plants undergoing decommissioning, and proposed a method for extending the enforcement discretion period for UFSARs that was risk informed (risk-informed prioritization). The staff noted that a risk-informed UFSAR content could not be achieved without rulemaking.

The staff recommended that the proposed generic letter be issued at that time because the staff could not endorse the preliminary version of NEI 98-03 without rulemaking. In particular, the staff had concerns with the industry positions regarding removal of certain historical information required to be in a UFSAR, removal of ill-defined "obsolete" and "less meaningful" information that may not have been allowed by the regulations, and the substitution of simplified schematics for piping and instrumentation diagrams (P&IDs) without ensuring that the UFSAR continued to contain all required information.

In an SRM dated June 30, 1998, the Commission disapproved issuance of the proposed generic letter except under certain circumstances, and directed the staff to continue to resolve differences between the proposed generic letter and NEI 98-03. The Commission also directed the staff to extend the enforcement discretion period for UFSARs for a 6- to 18-month period after the final guidance was issued, dependent on risk significance.⁽³⁾

DISCUSSION:

The purpose of this paper is to obtain Commission approval to issue DG-1083 for public comment. The proposed draft regulatory guide endorses NEI 98-03, Revision 0.

Staff/NEI Activities to Resolve Issues and Develop NEI 98-03, Revision 0

NEI sent the staff a preliminary guidance document on November 14, 1997. As noted above, the staff could not endorse that document without rulemaking unless certain positions in the preliminary document were revised. On June 15, 1998, the staff issued detailed comments on the industry's preliminary guidance document. In general, these comments detailed the staff's specific concerns about the preliminary guidance and noted where the preliminary guidance document differed from the staff's proposed generic letter.

On July 8, 1998, NEI submitted NEI 98-03, Draft Revision 0, "Guidelines for Updating Final Safety Analysis Reports," for staff comments. NEI stated that this document reflected reconciliation of differences between the industry's preliminary guidance and the proposed draft generic letter, as well as consideration of the staff's specific comments provided at a May 27, 1998, public meeting and in the June 15, 1998, letter.

On September 1, 1998, the staff issued its comments on NEI 98-03, Draft Revision 0. These comments included input from all the regional offices, all technical divisions within the Office of Nuclear Reactor Regulation, and the Office of the General Counsel. In general, the staff found that NEI had addressed the majority of the staff's earlier comments. Where differences still existed, the staff elaborated on the justification for its positions, and offered specific recommendations for resolving the differences that remained.

Following a September 9, 1998, public meeting between NEI and the staff, NEI submitted NEI 98-03, Final Draft Revision 0, on September 30, 1998, for additional staff comment. In order to meet NEI's request for comments in time to issue NEI 98-03, Revision 0, at an October 19, 1998, workshop, the staff performed a limited review and provided its comments in an October 8, 1998, letter.

In a letter dated November 2, 1998, NEI submitted NEI 98-03, Revision 0, to the staff for endorsement in a regulatory guide. NEI stated that it had addressed all remaining comments in the staff's October 8, 1998, letter.

Summary of Guidance in NEI 98-03, Revision 0

In general, NEI 98-03, Revision 0 (hereafter just NEI 98-03), contains guidance that is consistent with the guidance in the staff's proposed generic letter, although NEI has substantially reorganized the guidance. NEI has organized its document into two parts: (1) information that is required to be in a UFSAR and (2) an appendix containing optional activities that licensees may undertake to improve and simplify the UFSAR. The specific guidance begins in Section 3 (Sections 1 and 2 provide an introduction and background, respectively, not guidance) as follows:

Section 3, "Definitions"

Definitions are provided (where appropriate, by reproducing the language from [10 CFR Part 50](#)) for Commission requirements, design bases, historical information, obsolete information, original FSAR, safety analyses, UFSAR description, and updated FSAR.

An area of discussion in the development of the guidance has been the definition of descriptive information. NEI 98-03 addresses this issue by defining "UFSAR Description." UFSAR description includes text, tables, diagrams, etc., that provide an understanding of the design bases, safety analyses and facility operation under conditions of normal operation, anticipated operational occurrences, design-basis accidents, external events, and natural phenomena for which the plant is designed to function.

Section 4, "Role of the Updated FSAR"

The updated FSAR is used by the NRC in its regulatory oversight and serves as a reference document for safety analyses performed by licensees, the staff, and others.

Section 5, "Scope of the Updated FSAR"

Using the same approach as in the proposed generic letter, NEI 98-03 recognizes that the scope of an updated FSAR is generally defined by [10 CFR 50.34\(b\)](#), and that this rule can be used to limit the amount of information that otherwise might be incorporated by [10 CFR 50.71\(e\)](#). Essentially, [§50.34\(b\)](#) limits the revised and new information to be incorporated into the UFSAR to the description of the facility, the design bases and limits on operation, and the safety analyses of the structures, systems, and components and of the facility as a whole.

Section 6, "Updating FSARs to Meet 10 CFR 50.71(e)"

Guidance is provided on the requirements of [§50.71\(e\)](#) for information to be incorporated into the UFSAR and the level of detail necessary for updated and new information. Examples are given to illustrate the implementation of some of the guidance. For the requirements of [§50.71\(e\)](#), NEI 98-03 elaborates on the language in the rule, which essentially states that licensees must update the UFSAR to reflect new or modified information that results from Commission requirements, changes to the facility in accordance with [10 CFR 50.59](#) and [10 CFR 50.90](#), and analyses of new safety issues requested by the Commission. For the level of detail, licensees may use the existing level of detail in their UFSAR as guidance, but the primary consideration is to ensure that the description is sufficient to permit understanding of new or modified safety analyses, design bases, and facility operation.

Section 7, "Frequency of Required Updates"

The guidance restates the requirements on the frequency of submitting periodic updates, i.e., annually or within 6 months after each refueling outage, provided that the interval between successive updates does not exceed 24 months. The guidance notes that the NRC has granted exemptions to this requirement that allow some licensees to submit a single, combined periodic update for multiple-unit plants.

Section 8, "Treatment of Long-Term Temporary Modifications"

The staff's position in its proposed generic letter was that temporary modifications should be reflected in the UFSAR under any one of three criteria: (1) there is no schedule for removal of the temporary modification, (2) the temporary modification is not planned for removal until after the next periodic update, or (3) the facility will not be restored to its condition as described in the current version of the UFSAR (i.e., a new design will replace the temporary modification).

NEI agreed that the first two criteria should be included in the UFSAR, but did not wish to incorporate the third criterion into NEI 98-03. The bases for NEI's position were that the number of temporary modifications that would fall under the third criterion were relatively small, and often it was not until late in the process that a decision was made by the licensee as to whether the facility would be restored to its initial condition, the temporary modification would become the permanent condition, or a new design would be installed. Since the staff's principal concern with temporary modifications was the extended period some temporary modifications were left in place, and since this concern was addressed by the first two criteria, the staff agreed that the third criterion was unnecessary.

Section 9, "Treatment of Discrepancies Between the Facility and the Updated FSAR"

The guidance in this section reminds licensees that discrepancies are to be treated in accordance with their corrective action program and, for degraded or nonconforming conditions, in accordance with [Generic Letter 91-18, Revision 1](#).

Appendix A: "Modifying the Updated FSAR"

Appendix A presents guidance for voluntary efforts that licensees may undertake to improve and simplify their UFSARs to reduce the burden associated with maintaining the information in the UFSAR complete and accurate. This appendix contains guidance consistent with guidance in the staff's proposed generic letter on controlling modifications to the UFSAR, reformatting information in the UFSAR, simplifying UFSAR information, removing unnecessary information from the UFSAR, and reporting to the NRC the information removed from the UFSAR.

Section A1, "Introduction"

This section notes that the guidance in the appendix is neither required nor necessary for compliance with 10 CFR 50.71(e).

Section A2, "Controlling Modifications to the Updated FSAR"

This section contains guidance similar to guidance in the proposed generic letter for making modifications to the UFSAR. Licensees should develop a process to control the reformatting, simplification, and removal of information; ensure that information required to be in a UFSAR is not removed; and inform the NRC of the information removed and the basis for its removal.

Section A3, "Reformatting of Updated FSAR Information"

The format of the UFSAR is at the option of the licensee, provided that the content of the UFSAR is maintained consistent with §50.34(b) and 50.71(e), other regulatory guidance committed to by the licensee (e.g., Regulatory Guide 1.70), and the guidance in NEI 98-03. The guidance allows historical information to be annotated as such, or relocated into separate volumes or appendices.

Section A4, "Simplifying Updated FSAR Information"

Guidance is presented for removing excessive detail, replacing detailed drawings with simplified schematics, and referencing other documents in UFSARs (including differentiating between general references and material incorporated by reference).

Section A5, "Removing Unnecessary Information From Updated FSARs"

Guidance is given for removing obsolete information (e.g., information associated with a system that has been removed from the facility), redundant information, and commitments.

Section A6, "Reporting to the NRC Information Removed From the UFSAR"

It is noted that licensees should report to the NRC the information removed from the UFSAR in accordance with Appendix A. This notification should accompany the licensee's periodic update required by 10 CFR 50.71(e).

Proposed Draft Regulatory Guide

The staff has found the guidance in NEI 98-03, Revision 0, to be acceptable and is proposing to endorse NEI 98-03 in DG-1083 as one acceptable method for complying with 10 CFR 50.71(e). As noted above, the guidance in NEI 98-03 is generally consistent with the proposed generic letter, and where the guidance differs, the staff finds the alternative proposed by NEI to be acceptable. None of the differences are considered to be major. Therefore, DG-1083 endorses NEI 98-03, Revision 0, without exception.

The draft regulatory guide has six regulatory positions, as follows:

1. NEI 98-03 provides methods that are acceptable for complying with the provisions of §50.71(e).
2. NEI 98-03 references other documents, but the NRC's endorsement of NEI 98-03 should not be considered an endorsement of the referenced documents.
3. NEI 98-03 includes examples to supplement the guidance. The examples are illustrative only, and the NRC's endorsement of NEI 98-03 should not be considered a determination that the examples are applicable for all licensees. Licensees must ensure that an example is applicable to its particular circumstances before implementing the guidance as described in an example.
4. NEI 98-03 gives guidance in Section A4.3 on how to maintain and update material incorporated by reference into the UFSAR. DG-1083 clarifies this guidance by noting that for information to be incorporated by reference, the information must have been provided to the NRC on the licensee's docket (i.e., publicly available) unless there exists an explicit NRC requirement to maintain the information on site. Furthermore, information incorporated by reference into the UFSAR is subject to the requirements of §50.71(e) and §50.59 unless separate NRC change control requirements apply (e.g., 10 CFR 50.54(a)). This clarification could be removed from DG-1083 if NEI 98-03 were revised to incorporate the clarification before publication of the final regulatory guide.
5. DG-1083 does not supersede prior commitments made by licensees with respect to their FSARs and, by extension, their UFSARs. This includes commitments to the content and format of the FSAR (e.g., Regulatory Guide 1.70). Therefore, licensees that have committed to the format and content of their UFSAR must continue to meet those commitments, or must modify the previous commitments in accordance with the licensees' commitment management process.
6. Licensees may use other methods than those described in NEI 98-03 to meet the requirements of §50.71(e), but the NRC will determine the acceptability of other methods on a case-by-case basis.

Value-Impact Statement

DG-1083 contains a value-impact statement. In general, the guidance in Sections 3 through 9 of NEI 98-03 is consistent with prior practice and staff positions, although those staff positions have not been clearly articulated in all cases. Furthermore, the flexibility allowed licensees by Appendix A to NEI 98-03 represents a relaxation from former staff practice. The benefits that a licensee may gain from the approaches in Appendix A are dependent on the extent to which the licensee chooses to implement each specific provision. It is assumed that a licensee will only implement the voluntary provisions to the extent that the value exceeds any associated cost.

The staff position is that the value to individual licensees, the industry, the NRC, and the public that results from complete and accurate UFSARs outweighs the costs to licensees and the NRC that are presently associated with using UFSARs that are incomplete and inaccurate.

Retention of Information Associated With Risk-Significant Structures, Systems, and Components (SSCs)

During its review of NEI 98-03, the staff identified that the voluntary guidance in Appendix A could be interpreted to allow the removal of all information that is not required to be incorporated into a UFSAR, regardless of whether that information is associated with risk-significant SSCs. The conditions under which this could occur would be for those SSCs that are not: (1) addressed by technical specifications, (2) necessary for the facility to meet its design basis or safety analyses, (3) part of the UFSAR Description, as defined in Section 3.7 of NEI 98-03, or (4) otherwise required to be incorporated into the UFSAR in accordance with §50.34(b), §50.71(e), or other NRC requirements including license conditions and orders.

The staff's concern is that the removal of this information was not intended by either the staff's proposed generic letter nor NEI 98-03. The staff discussed this concern with NEI in a conference call on December 22, 1998. Language such as the following was discussed as a clarification to NEI 98-03, most likely as a fourth bullet in Section A2, "Controlling Modifications to the Updated FSAR: "

It is the intent of this guideline to help licensees remove unimportant information from UFSARs such as excessive detail, obsolete, or redundant information. This guideline is not intended to be used to remove information from UFSARs regarding SSCs that insights from operating experience or probabilistic risk assessments would indicate are risk significant.

While NEI did not commit to make this change until NEI had the opportunity to discuss the clarification with the task force that developed NEI 98-03, NEI did convey that a clarification consistent with the above language would be considered since it appeared to be consistent with the intent of NEI 98-03. However, it should be understood that this limitation is voluntary; i.e., a licensee that chose to take out information regarding risk-significant SSCs would be free to do so, absent an order or other legally binding requirement (e.g., a rule) by the Commission to the licensee directing the licensee not to remove the information. Such an order or other legally binding requirement would have to be based on a finding that removal of such information (and by implication the SSCs described) would bear on reasonable assurance of adequate protection.

The staff believes that this concern can be resolved prior to publication of the final regulatory guide. In order to ensure the public is given the full opportunity to comment on the proposed clarification, the staff will specifically request comments on the above language and the appropriateness of retaining information associated with risk-significant SSCs in UFSARs in the Federal Register Notice for DG-1083.

CONCLUSIONS:

The staff has addressed all issues with respect to the guidance in NEI 98-03. Licensees that implement NEI 98-03 can comply with 10 CFR 50.71(e). Appendix A to NEI 98-03 contains provisions that allow licensees to improve and simplify the content and format of their UFSAR in a manner that is acceptable to the staff. The staff has developed a draft regulatory guide, DG-1083, that endorses NEI 98-03, without exception, as one acceptable method for complying with 10 CFR 50.71(e).

RESOURCES:

The resources necessary to complete these activities related to issuing the regulatory guide are currently budgeted (approximately 2 FTE over two years). No additional staff resources are necessary to issue the draft regulatory guide, address public comments, issue the final regulatory guide, and train the appropriate staff beyond those resources previously identified in SECY-97-205 and SECY-98-087.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper and to publication of the proposed draft regulatory guide for public comment. The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections. The Committee to Review Generic Requirements (CRGR) has endorsed the proposed draft regulatory guide. The Advisory Committee on Reactor Safeguards (ACRS) has deferred its review until after the staff addresses the public comments.

RECOMMENDATIONS:

The staff recommends that the Commission approve

1. publication of the draft regulatory guide, DG-1083, for public comment.
2. release of this Commission paper and its attachments to the public document room within five days of its date of issuance. This will provide the NEI task force the opportunity to review the proposed clarification concerning the retention of information associated with risk-significant SSCs at the earliest possible date.

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Attachments: 1. Draft Regulatory Guide DG-1083
2. Revision 0 of NEI 98-03

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1. The terminology for updated final safety analysis reports varies throughout industry. The terms updated FSAR, UFSAR, and USAR (updated safety analysis report) are equivalent.
 2. Paragraph 50.71(f) extends the requirements of §50.71(e) to decommissioning facilities, i.e., those nuclear power reactor licensees that have submitted the certification of permanent cessation of operations required under §50.82(a)(1)(i).
 3. The staff addressed this item with Enforcement Guidance Memorandum 98-007, "Extension of Exercise of Discretion for FSAR Discrepancies Identified While the Licensee Has a Defined Program for Identifying Such Discrepancies," dated September 15, 1998.