

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

November 20, 2001

**NRC REGULATORY ISSUE SUMMARY 2001-22
ATTRIBUTES OF A PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION**

ADDRESSEES

All holders of operating licenses for nuclear power reactors, including those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to provide addressees with guidance on preparing a no significant hazards consideration (NSHC) analysis for a license amendment request, as required by Title 10 *Code of Federal Regulations* (10 CFR) Sections 50.91 and 50.92. This RIS does not transmit any new requirements or staff positions. No specific action or written response is required.

BACKGROUND INFORMATION

The NRC may issue an amendment to an operating license once it concludes that reasonable assurance has been provided that public health and safety will not be endangered and that the staff's actions will not be inimical to the common defense and security. The issuance of an amendment is governed by Section 189a(2)(A) of the Atomic Energy Act, as amended. The statute permits the NRC to issue and make effective immediately any amendment to an operating license upon determining that the amendment involves no significant hazards, notwithstanding a request for a hearing or a hearing pending before the Commission. The issuance of an amendment is also governed by 10 CFR 50.58, 50.91 and 50.92. In the supplementary information accompanying the final rule (51 FR 7749), the Commission stated that the NSHC standards codified in 10 CFR 50.92 are merely screening devices for deciding whether to hold a hearing before, rather than after, an amendment is issued. **As such, the standards are procedural and do not prejudice the NRC's final public health and safety decision to issue or deny the amendment.**

Licenses are required by 10 CFR 50.91(a)(1) to submit an NSHC analysis using the standards in 10 CFR 50.92 along with each request for a license amendment. 10 CFR 50.91(a)(2) requires the NRC to publish a notice of each proposed amendment and the staff's proposed determination, under the standards in 10 CFR 50.92, in the *Federal Register*.

ML011860215

This notice provides the public an opportunity to comment or request a hearing on the proposed amendment request. Fundamental to an NSHC analysis is a discussion of whether the proposed change would significantly affect the current plant design, operation, or analyses using the standards of 10 CFR 50.92.

The staff has noted inconsistencies in the level of detail in licensees' NSHC analyses. Some licensees have provided inadequate analyses to support a determination that all three of the NSHC standards are satisfied. Other licensees have included safety justifications and evaluations that address the safety basis for the proposed amendment beyond or in lieu of the three NSHC standards. During 1999 and 2000, NRC licensees participated in public workshops to discuss licensing processes. These workshops resulted in suggestions for improving the quality of licensing submittals, including NSHC analyses. This RIS addresses many of these suggestions. The staff expects that these suggestions will reduce licensees' burdens in preparing NSHC analyses, improve the efficiency and effectiveness of NRC staff reviews, and reduce the number of applications returned to licensees for revision.

SUMMARY OF ISSUES

The standards used by the NRC to make its NSHC determination are given in 10 CFR 50.92(c). Specifically, a proposed amendment is considered to involve NSHC if operation of the facility in accordance with the proposed amendment would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated; or
2. create the possibility of a new or different kind of accident from any accident previously evaluated; or
3. involve a significant reduction in a margin of safety.

For an analysis resulting in an NSHC determination, the response to each of the three criteria will be "no," supported by a justification. Additionally, for criteria 1 and 3, the licensee's analysis should justify that the change is not considered significant.

Occasionally, licensees may not be able to adequately support a proposed NSHC finding and thus the amendment request is noticed with opportunity for a hearing prior to issuance of the amendment without making a proposed NSHC determination. This action does not affect staff's efforts in reviewing the application and ultimately making a safety determination based on the safety merits of the requested amendment. If the staff subsequently makes both a proposed and final NSHC determination, the Commission may issue the amendment notwithstanding any ongoing or pending hearing. If a significant hazards consideration is involved and a hearing is requested, the hearing will be completed prior to issuance of the amendment. The staff is required to publish a notice of issuance in the *Federal Register* under 10 CFR 2.106 upon issuance of an amendment.

Licensees should consider the following guidance in preparing an NSHC analysis:

- Briefly describe the change in plain English so that it can be understood by someone without detailed knowledge of nuclear plant design and operation. Keep in mind that the intended audience is the general public.
- State the three criteria in 10 CFR 50.92(c) separately and provide a separate analysis for each criterion.
- Identify previously evaluated accidents that are affected by the proposed change and explain why any change in the probability, consequences, or margins of safety is or is not significant.
- Give only information required to address each criterion, not the information required to demonstrate the acceptability of the proposed amendment. Be clear and concise.
- Typically one or two paragraphs per criterion are sufficient.
- Be specific to the plant, especially if a staff-approved generic change is used as a justification.
- If possible, avoid using specific section numbers from the updated final safety analysis report or the technical specifications or specific values of parameters because, if a supplemental submittal is made that revises the specific information included in the original NSHC discussion, the NRC may be required to publish a revised NSHC determination even if the supplemental revisions do not change the scope of the application.
- Define all abbreviations even if they are defined in other sections of the amendment application.
- Do not include any proprietary information.

The attachment to this RIS provides additional guidance on the types of information that should be included in addressing each of the three criteria.

BACKFIT DISCUSSION

This RIS requires no modifications to plant structures, systems, components, or design or action or written response; therefore, the staff did not perform a backfit analysis, or obtain Office of Management and Budget clearance.

FEDERAL REGISTER NOTIFICATION

A notice of opportunity for public comment was not published in the *Federal Register* because this RIS is informational and pertains to a staff position that does not represent a departure from current regulatory requirements and practice.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not request any information collection.

If you have any question about this matter, please contact the person listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA Frank P. Gillespie Acting for/
David B. Matthews, Director
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Technical contact: Ramin R. Assa, NRR
301-415-1391
E-mail: rra@nrc.gov

Attachments:

1. Additional Guidance for Submitting a Proposed NSHC Analysis
2. List of Recently Issued Regulatory Issue Summaries

FEDERAL REGISTER NOTIFICATION

A notice of opportunity for public comment was not published in the *Federal Register* because this RIS is informational and pertains to a staff position that does not represent a departure from current regulatory requirements and practice.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not request any information collection.

If you have any question about this matter, please contact the person listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA Frank P. Gillespie Acting for/
David B. Matthews, Director
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Technical contact: Ramin R. Assa, NRR
301-415-1391
E-mail: rra@nrc.gov

Attachments:

1. Additional Guidance for Submitting a Proposed NSHC Analysis
2. List of Recently Issued Regulatory Issue Summaries

Distribution:

RIS Reading File
PUBLIC

ADAMS DOCUMENT TITLE: C:\Program Files\Adobe\Acrobat 4.0\PDF
Output\Banerjee-NSHCRIS.wpd

ADAMS ACCESSION NUMBER: Template No.= NRR-052

| OFFICE | TA | Tech Editor | DLPM | OGC | RGEB | C:RGEB |
|------------|-------------|-------------|-------------------|------------|------------|------------|
| NAME | MBanerjee* | PKleene* | RAssa | SUttal* | EMcKenna* | WBeckner* |
| DATE | 07/10/2001 | 06/05/2001 | 11/09/2001 | 10/03/2001 | 10/17/2001 | 10/17/2001 |
| LDP2 | D:DLPM | AC:REXB | D:DRIP | | | |
| HBerkow* | JZwolinski* | EVImbro | Dmatthews/FPG for | | | |
| 07/23/2001 | 11/13/2001 | 11/20/2001 | 11/20/2001 | | | |

Additional Guidance for Submitting a Proposed NSHC Analysis

FIRST STANDARD

“The proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.”

Guidance: Consider the effect of the change on structures, systems, and components (SSCs) of the plant to determine how the proposed change affects plant operations, any design function or an analysis that verifies the capability of an SSC to perform a design function. Determine if the proposed amendment would change any of the previously evaluated accidents in the updated final safety analysis report (UFSAR). The word “accidents” refers to anticipated (or abnormal) operational transients and postulated design basis accidents, including the events with which the plant must be able to cope (e.g., earthquake, flooding, turbine missiles, and fire) as described in the UFSAR. Determine if SSCs, operating procedures, and administrative controls that are affected have the function of preventing or mitigating any of these accidents. If the proposed change increases the likelihood of the malfunction of an SSC, the potential impact on analyzed accidents should be considered (e.g., an increased likelihood of an SSC malfunction may increase the probability or consequences of an accident). If there is no impact on previously evaluated accidents, explain why.

Discuss the differences in the probability and consequences of these accidents (or the bounding scenario) before and after the change and whether the differences are significant. If the change is not considered significant, explain why. Whether an increase is significant should be assessed case-by-case. A qualitative judgment may need to be made. Values of probability or consequence that continue to meet the licensing basis or applicable guidelines in the Standard Review Plan are generally not considered significant changes. If the probability of occurrence remains within the ranges already presented in the UFSAR for initiating events, then the increase is not considered significant. An increase beyond any of these values that is not deemed significant should be justified. The significance determination should include a comparison of the value before the change to that after the change. A large increase might not be considered significant in one situation, but a relatively small increase might be significant in another situation. The licensee should adequately justify the proposed determination.

SECOND STANDARD

“The proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.”

Guidance: Determine whether the proposed amendment will change the design function or operation of the SSCs involved, or whether interim processes (e.g., process of installing a new system component or construction of a new facility, performance of testing or maintenance) will affect the SSCs’ operation or its ability to perform its design function. Then determine whether the proposed change will create the possibility of a new or different kind of accident due to credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases. [This new accident would have been considered a design basis accident in the FSAR had it been previously identified.] A new initiator of the same accident is not a different type of accident. Finally, the accident must be credible within the range of assumptions previously applied (e.g., random single failure, loss of offsite power, no reliance on nonsafety-grade equipment.)

THIRD STANDARD

“The proposed amendment would not involve a significant reduction in a margin of safety.”

Guidance: Safety margins are applied at many levels to the design and licensing basis functions and to the controlling values of parameters to account for various uncertainties and to avoid exceeding regulatory or licensing limits. The specific values that define margin are established in each plant’s licensing basis. Licensees should identify the safety margins that may be affected by the proposed change and review the conservatism in the evaluation and analysis methods that are used to demonstrate compliance with regulatory and licensing requirements. The safety margin before the change should be compared to the margin after the proposed change to determine if the amendment will reduce the margin, and if the change is significant. If a change does not exceed or alter a design basis or safety limit (i.e., the controlling numerical value for a parameter established in the UFSAR or the license) it does not significantly reduce the margin of safety. In other cases, the assessment of significance for this standard should be made on the same basis as discussed in the guidance for the first standard. Uncertainties and errors need to be considered in calculating the margin.

LIST OF RECENTLY ISSUED
NRC REGULATORY ISSUE SUMMARIES

| Regulatory Issue Summary No. | Subject | Date of Issuance | Issued to |
|------------------------------|--|------------------|---|
| 2001-21 | Licensing Action Estimates for Operating Reactors | 11/16/2001 | All power reactor licensees, including those that have elected to permanently cease operations and have submitted certifications pursuant to Title 10, Section 50.82(a)(1), of the Code of Federal Regulations (10 CFR 50.82(a)(1)) |
| 2001-20 | Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion | 11/14/2001 | All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel |
| 2001-19 | Deficiencies in the Documentation of Design Basis Radiological Analyses Submitted in Conjunction with License Amendment Requests | 10/18/2001 | All holders of operating licenses for nuclear power reactors |
| 2001-18 | Requirements for Oath or Affirmation | 08/22/2001 | All holders of construction permits or operating licenses for nuclear power reactors and non-power reactors under Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50), including those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel, holders of licenses issued under 10 CFR Part 72, and holders of certificates issued under 10 CFR Part 76 |