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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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PDR

June 16, 1999

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FROM: James L. Blaha
Assistant for Operations, OEDO

SUBJECT: STAFF RESPONSE TO JUNE 10, 1999 NEI 10 CFR 50.59 LETTER

In anticipation of staff receipt of the subject letter, the attachment provides initial staff views on this matter.

Attachment: As stated

cc: W. Travers, EDO (w/o attachment)
M. Knapp, DEDE (w/o attachment)
F. Miraglia, DEDR (w/attachment)
P. Norry, DEDM (w/o attachment)
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STAFF COMMENTS CONCERNING JUNE 10, 1999, NEI LETTER ON 10 CFR 50.59 FINAL RULE STATEMENT OF CONSIDERATIONS

NOTE: Comments are summarized below -- refer to June 10 letter (attached) for complete text.

Item 1: NEI recommends inclusion of "as described in FSAR (as updated)" in criterion (vii) for consistency.

Comment: Staff does not object to this proposal.

Item 2: NEI recommends revision of §50.59(c)(4) to state: "The provisions of this section do not apply to changes to the facility or the procedures when the applicable regulations establish more specific criteria for accomplishing such changes."

Comments:

- Emergency response facilities and procedures are included as part of the emergency plans subject to §50.54(q); however, to the extent that such facilities are also described in the FSAR, there is overlap of requirements. The intent of the rule revision was to eliminate duplicative requirements, such that if a 50.54(q) evaluation sufficiently addresses a change, a 50.59 evaluation is not also required just because there is a description in the FSAR. However, there may be certain changes where a licensee would need to address both the requirements of 50.54(q) and 50.59 based upon the potential interrelationships between the emergency response facilities and the SSC described in the FSAR. Such cases may need to be reviewed as two changes, one under 50.59 and one under 50.54(q).

- Safeguard plans are controlled by §50.54(p). The staff believes it unlikely that security barriers are described in the FSAR, because the plans are not part of the FSAR, and because such information may be Safeguards Information, but if such descriptions are part of the FSAR, this is another area of possible overlap.

- The staff agrees that the §50.46(a)(3)(iii) change process applies to changes to "an acceptable evaluation model or in the application of such a model," however, physical changes in the ECCS system, as described in the FSAR, continue to require a §50.59 evaluation.

- With respect to changes to the facility that affect parameters governed by TS, the staff does not understand the concern. The purpose of the §50.59 process is to determine whether NRC prior approval is required for a change, test, or experiment (and to document the basis if such approval is not sought). Part of the process is a determination as to whether a TS change is involved. If a facility change involves a TS, prior NRC approval of the change is required pursuant to (existing) §50.59(a)(1). A rule change is not needed to state that when a TS change is needed, a licensee does not need to perform an evaluation against the criteria in (newly numbered) §50.59(c)(2). (Existing inspection guidance in IP37001 already discusses this point.)

- In summary, the staff did not find that it was necessary to include this rule change. However, the staff would not object to inclusion of the suggested rule language provided clarification as noted above is included in the implementing guidance.

Item 3: NEI states that methods of evaluation for time-limited aging analyses and aging management programs pursuant to Part 54 should not be subject to criterion (viii) because they do not establish new design bases or constitute new safety analyses. NEI also disagrees that there is a need for supplemental 50.59 implementation guidance for Part 54.

Comments:

- The final rule on license renewal requires that a summary description of the programs and activities for managing the effects of aging or evaluation of time-limited aging analyses for SSC be placed in a FSAR supplement. As stated in the SoC, this revision was made to reflect such that existing regulatory processes are sufficient to ensure that changes to programs or TLAA will receive appropriate review by the licensee. The SoC further stated that "subsequent changes are controlled by §50.59."

- As part of the rule change, a definition of "facility" was provided. The major point of the discussion about license renewal is that these programs and analyses in the FSAR supplement fall within the definition and therefore, changes are subject to the evaluation criteria. If there are no evaluation methods involved, the other 7 evaluation criteria would apply to changes to the analyses or programs.

- The final rule package notes that evaluation methods are subject to criterion (viii) to the extent that they are described in the FSAR supplement. The staff views the TLAA or aging management programs as falling within the definition of "design bases or safety analyses" in that they provide the basis for ensuring that SSC remain functional when considering the period of extended operation. Thus, if there are evaluation methods described, evaluation against criterion (viii) would be required. If there is no particular methodology associated with the FSAR supplement description for a TLAA or an aging management program, criterion (viii) would not apply.

- With respect to guidance, the staff would accept that specific guidance may not be needed for Part 54 for §50.59 purposes (so this specific statement could be deleted if desired), but also thinks that guidance might well be necessary for purposes of establishing what information is needed in the FSAR supplement. Also, the 50.59 implementation guidance development process would benefit from the inclusion in the CoC of a specific example related to a change involving Part 54.

- In summary, the staff believes that this information is subject to §50.59 rule requirements, including criterion (viii), as noted above. Therefore, the staff recommends that the SoC continue to discuss license renewal as currently drafted.

Item 4: NEI states that the example which attempts to illustrate that Class 2 piping is part of RCS pressure boundary is incorrect. Further the ECCS alignments can be isolated from the RCS pressure boundary and are not fission product barriers. Finally, Code Class 2/3 requirements are covered by QA plan commitments and would be subject to §50.54(a).

Comments:

- The staff's intent is to ensure that Class 2/3 piping is maintained within the Code levels (unless there is staff review of any proposed exception). NEI agrees with this position.

- The staff agrees that the example (if retained) should be clarified to note that Class 2 piping is not part of the RCS pressure boundary as it is defined. Class 2 piping in systems such as the ECCS can be the fission product barrier for coolant under post-accident conditions, and as such is within the scope of criterion (vii). The staff disagrees with the comment that some Class 2 piping is not a fission product barrier to the extent that, for accident situations, it may not be feasible to isolate such piping from the RCS and the piping would contain contaminated coolant.

- If commitments to ASME code requirements are included in QA plans, then the §50.54(a) process would govern any changes to those commitments.

- In the April 30, 1999, NEI letter, NEI proposed guidance for minimal increases in probability that would state that exceeding Code levels is beyond "minimal." The staff agrees with this position.

- In summary, based on these factors, the staff supports a revision to the SoC to remove the criterion (vii) example about Class 2/3 piping and to provide alternative discussion concerning treatment of Class 2/3 piping as an example of a more than minimal increase in likelihood of malfunction along the lines noted above.

Item 5: NEI states that the example on NPSH as representing a departure from a method of evaluation is irrelevant because ECCS performance is addressed by §50.46. Also, containment overpressure would seem to be an input rather than part of the method. Finally, NPSH is part of the detailed design, not "design bases or safety analyses" and thus is not within scope of criterion (viii). Therefore, this example should be deleted.

Comments:

- The point of the example was to illustrate the types of elements of evaluation methods that the staff views as falling within this criterion. While the staff agrees that containment pressure is a physical parameter, the calculated amount under accident conditions, and the suitability of taking credit for it as part of the NPSH calculation, and is one of the fundamental assumptions of the methodology that is described in the FSAR. This was the staff position discussed at the March 10 meeting. Crediting more overpressure than previously evaluated is a nonconservative change.

- Further, the analyses of adequacy of NPSH with respect to demonstrating that ECCS pumps are capable of delivering specific flows under accident conditions are not covered by the evaluation methods reviewed by NRC as part of §50.46 and Appendix K. This example would not have been offered had the issue been within the scope of §50.46. Until the licensee determines that the pump flow is degraded as a result of insufficient NPSH, the §50.46 analysis would be unaffected by the NPSH analysis.

- The staff views demonstration of pump capability under the set of conditions that for which it is required to function as part of the design bases, and therefore that NPSH falls within the definition of criterion (viii). As noted during the March 10 meeting, if there is potential for pump cavitation as a result of insufficient NPSH, this could also satisfy the more than minimal increase in likelihood of malfunction criterion.

- In summary, the staff believes that this is a representative example of a change that illustrates the relationship between input parameters and methods, where there is a departure from the method described, and therefore, of a change that would not satisfy criterion (viii). The staff therefore recommends its retention in the SoC.

Item 6: Text on page 77 - NEI notes that a sentence was omitted from the rule text in the discussion on this page.

Comment: This is an editorial correction to the Statement of Consideration discussion that *- the staff agrees with (the rule language on p.136 is correct).

Write up on Tuesday to Blaha

NEI

NUCLEAR ENERGY INSTITUTE

Ralph E. Beedle

June 10, 1999

The Honorable Shirley Ann Jackson
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: 10 CFR 50.59 - Final Rule and Statements of Consideration

Dear Chairman Jackson:

In SECY-99-130, the NRC staff requested Commission approval to publish a final rule that will revise 10 CFR 50.59 and related requirements. We commend the staff for the thorough, comprehensive, and fair treatment of all comments and issues discussed in the final rule package. We believe the proposed final rule will significantly improve the clarity and stability of the regulation as well as the conduct of licensee evaluations.

In our communications with the staff during development of the final rule package, we stressed the importance of the clarity of the rule language and Statements of Consideration (SOC) to assure that the new rule is properly interpreted. In reviewing the SOC, we have found some statements that are misleading or beyond the intent of the rule. To avoid implementation difficulties, these statements should be omitted from the final rule. These statements and our recommendations are discussed in the enclosure. We also recommend two minor clarifications to the proposed rule language.

The development of implementation guidance is also important to the overall effort. Our task force on 10 CFR 50.59 has already begun drafting a revision to NEI 96-07 to comport with the new rule. We look forward to discussing the draft with the staff, ACRS and Commission in seeking NRC endorsement in a regulatory guide.

Please call me if you have any questions regarding the suggested modifications in the enclosure.

Sincerely,

Ralph E. Beedle

Enclosure

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c: The Honorable Greta Joy Dicus, Commissioner, NRC
The Honorable Nils J. Diaz, Commissioner, NRC
The Honorable Edward McGaffigan, Jr., Commissioner, NRC
The Honorable Jeffrey S. Merrifield, Commissioner, NRC
Dr. William D. Travers, NRC/EDO
Mr. Samuel L. Collins, NRC/NRR

Suggested Modifications to 10 CFR 50.59 Final Rule and Statements of Consideration

Rule language clarifications

1. At the NEI workshop on June 3-4, a licensee questioned why the scope modifier "as described in the FSAR (as updated)" (or equivalent) is included in all of the proposed evaluation criteria except 10 CFR 50.59 (c)(2)(vii). It appeared to the questioner that the staff intended a different, perhaps broader, scope of review concerning design basis limits for fission product barriers. The staff responded that no different scope of review was intended; that the missing modifier was implicit in the criterion and not needed. Because including the modifier in this criterion would make it consistent with the other seven, is consistent with the NRC staff intent, and may avoid future confusion, we recommend that 10 CFR 50.59 (c)(2)(vii) be rewritten as follows:

   (c)(2)(vii) Result in a design basis limit for a fission product barrier as described in the FSAR (as updated) being exceeded or altered.

2. We do not understand the staff reluctance to clearly state in the rule that changes to the facility—as well as procedures—that are governed by other requirements and criteria may be excluded from evaluation under 10 CFR 50.59. In justifying why changes to the facility were not included in 10 CFR 50.59(c)(4) as recommended in Item I.7 of our December 21, 1998, comments on the proposed rule, the staff said that they could not identify any types of changes to the facility that were controlled by other regulations. However, we believe changes to security barriers or emergency response facilities described or depicted in the UFSAR fit this category. Such changes would be controlled under 10 CFR 50.54(p) or (q), and duplicative evaluation under 10 CFR 50.59 is not required.

   Moreover, absent the recommended clarification, the rule would not make clear that changes to the facility (which includes SSCs, design and performance requirements and associated evaluations) that affect parameters governed by the technical specifications, 10 CFR 50.46, or other requirement do not also require evaluation under 10 CFR 50.59.

   We are not aware of any disagreement that changes—whether to the facility or procedures—that are controlled by other, more specific regulations are governed by the more specific regulation, not 10 CFR 50.59. Accordingly, paragraph (c)(4) of the final rule should be modified as follows:

(c)(4) The provisions of this section do not apply to changes to the facility or procedures when the applicable regulations establish more specific criteria for accomplishing such changes.

Comments and recommendations on the Statements of Consideration

3. Pg. 68 - In discussing the applicability of new criterion (viii) on methods of evaluation, the SOC included the following statement:

   In addition, the Commission notes that changes to time-limited aging analyses and evaluations of aging management programs required by 54.21(d) and 54.37(b), require evaluation with respect to criterion (viii) to the extent that evaluation methods for these analyses are described in the FSAR supplement.

   This statement should be deleted from the SOC.

   We agree that supplemental UFSAR information required by 54.21(d) and 54.37(b) may include "evaluations that demonstrate that intended functions will be accomplished" that are within the meaning of "facility" and therefore would be subject to 10 CFR 50.59.

   However, changes to evaluations of aging management programs would not be subject to 10 CFR 50.59 (c)(2)(viii) because the required supplemental FSAR information does not establish new design bases or constitute new safety analyses. We are especially concerned by the staff proposal (which was not discussed in the proposed rule or subsequent interactions on the applicability of the new criteria) because it constitutes, at best, a lack of understanding of the new criterion. At worst, the proposal is an eleventh-hour attempt to misuse the new criterion to address the separate generic concern of the NRC staff—unrelated to 10 CFR 50.59—about control of aging management processes and activities. At a time when the NRC is attempting to impose the first new 10 CFR 50.59 criteria in over 30 years, we must work together to communicate effectively about the focus and intent of the changes.

   We also disagree with the NRC staff statement on page 23 of the SOC that special 10 CFR 50.59 implementation guidance is necessary with respect to Part 54. The nature of supplemental UFSAR information added for license renewal is no different than pre-existing UFSAR information, therefore no Part 54-specific guidance is necessary.

4a. Pg. 64 - Example 4 - This example attempts to illustrate the application of criterion 10 CFR 50.59 (c)(2)(vii) on changes affecting a design basis limit of a fission product barrier (in this case, the RCS pressure boundary). However, ASME Code Class 2 piping is not part of the RCS pressure boundary. This example is incorrect and should be deleted from the SOC.

In a public meeting with the NRC staff on March 10, we discussed that (c)(2)(vii) would not apply in this case. Rather, the determinant criterion would more likely be that for likelihood of malfunction, (c)(2)(ii). Because applicable design and quality standards were not followed, the change involves more than a minimal increase in the likelihood of malfunction, and prior NRC approval would be required, as discussed on page 37 of the SOC.

Subsequent to the March 10 meeting, we learned that for plants where ASME Code Class 2/3 rules are not requirements, licensees have QA Plan commitments to follow the Code requirements. A reduction in this commitment would require prior NRC approval under 10 CFR 50.54(a) and would not be subject to 10 CFR 50.59.

Whether a licensee determines that this type of change requires prior NRC approval based on 10 CFR 50.59 (c)(2)(ii) or 10 CFR 50.54(a), it is clear that 10 CFR 50.59 (c)(2)(vii) does not apply.

4b. Consistent with elimination of Example 4, the parenthetical statements below on page 10 CFR 50.59 of the SOC are inappropriate and should also be deleted as indicated.

> *For power reactors, these barriers are generally limited to the fuel cladding, the RCS pressure boundary ~~(including piping and ECCS alignments)~~, and containment. ~~(The ECCS alignments are those configurations of engineered safety features equipment that form the RCS pressure boundary under design basis accident mitigation scenarios.)~~*

The ECCS alignments referred to are generally ASME Code Class 2 and 3 piping, can be isolated from the RCS pressure boundary, and are not part of the fission product barrier.

5. Pg. 71 - Example 4 - This example attempts to illustrate a departure from a method of evaluation based on the results of the analysis being nonconservative. This example is not clear cut and is therefore not a good illustration of how 10 CFR 50.59(c)(2)(viii) would be applied. As such, it should be deleted from the SOC and discussion of this example deferred to the implementation guidance.

NPSH
Removal
Class 2/3

We say method

As discussed with the NRC staff in a meeting on March 10, containment overpressure would seem, on its face, to be an input to NPSH analyses—not a method of evaluation subject to control under 10 CFR 50.59 (c)(2)(viii).

Secondly, changes in analyses of ECCS performance could be viewed as governed by the acceptance criteria in 10 CFR 50.46, which takes precedence over 10 CFR 50.59 based on paragraph (c)(4) of the proposed rule (see Comment 2 above).

Third, the example prejudges the outcome of ongoing interactions on the interpretation of 10 CFR 50.2 design bases. We do not believe that required NPSH is a design basis limit for the ECCS such that changes would be subject to criterion (c)(2)(viii). As we have discussed with the staff, minimum NPSH is part of the detailed design—i.e., how design requirements are met—not part of the ECCS design bases.

Lastly, it appeared at the March 10 meeting that the NRC staff has a technical concern with one or more licensees' ECCS analyses that it was seeking to resolve through this rulemaking.

These factors indicate that this example should not be included in the SOC. If, in fact, the NRC staff has a specific concern with credit for containment overpressure in ECCS analyses, the staff should address the concern directly with licensees—not through changes to 10 CFR 50.59.

6. Page 77. The second sentence of 10 CFR 50.71(e) is missing from the indented paragraph.