



NUCLEAR ENERGY INSTITUTE

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VICE PRESIDENT AND
CHIEF NUCLEAR OFFICER
CLEAR DEVELOPMENT

Docket 52-001 & 52-002
and
PDR: per J.N. Wilson

September 23, 1996

Mr. William T. Russell, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

PROJECT NUMBER: 689

Dear Mr. Russell:

Enclosed is a copy of the proposed rule language for three of the design certification issues discussed at the August 27, 1996, Commission briefing. We believe this language would provide NRC flexibility in later licensing proceedings, while giving an appropriate measure of finality to matters resolved in the design certification rulemakings.

We hope this additional information is useful to the Senior Review Group and Commission in considering options for resolving these issues. If you have any questions or wish to discuss the enclosed information, please contact Ron Simard at (202) 739-8128.

Sincerely,

Ralph E. Beedle

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Enclosure

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Finality for Standardized Technical Specifications in the Design Control Document

Background

In the August 13, 1996, "options paper," the NRC Senior Review Group recommended that the standardized technical specifications in the DCD not be included in Tier 2 of the design certification rules. The basis for this recommendation was the NRC staff concern that the Tier 2 change process would excessively limit the NRC's ability to impose changes to the technical specifications, e.g., to reflect operating experience. We believe the staff's concerns may be accommodated while providing appropriate finality to the standardized technical specifications reviewed and approved as part of the design certification process.

Industry Recommendation

Finality under Section 52.63 can be accorded to the standardized technical specifications, while addressing the NRC staff concerns, as follows:

- The standardized technical specifications in Chapter 16 of the DCDs would remain part of Tier 2 of the design certification rules. This ensures that the standardized technical specifications are considered resolved (i.e., have finality) within the meaning of Section 52.63(a)(4).
- Change process provisions appropriate to the special nature of the DCD technical specifications would be established in Section 8 of the design certification rules to accommodate the NRC staff concerns. Specifically,
 - ⇒ Consistent with the Senior Review Group recommendation and fundamental principles of Part 52, any change to the standard design, including those incidental to a generic or plant-specific change to the standardized technical specifications, would have to satisfy Section 52.63.
 - ⇒ Generic changes to the standardized technical specifications that do not impact the standard design would be accomplished by rulemaking meeting the criteria of 10 CFR 50.109.
 - ⇒ A COL applicant may propose a departure from the standardized technical specifications in accordance with Section 8(b)(4) of the design certification rules.
 - ⇒ Consistent with the Senior Review Group recommendation, the NRC may impose a plant-specific departure from the standardized technical

specifications under a "Section 2.758-like" process, provided, however, that changes that would impact the standard design would be governed by Section 52.63.

- ⇒ Consistent with the Senior Review Group recommendation, a party to an adjudicatory COL proceeding may contest the plant-specific technical specifications only in accordance with Section 2.758.

The industry also agrees with the Senior Review Group's recommendation that after the COL is issued, the standardized technical specifications in the DCD would have no further effect as to that licensee. The standardized technical specifications would be integrated with the licensee's plant-specific requirements as part of the COL application, review and approval process, and the resulting COL would contain the approved technical specifications for that plant. After COL issuance, any changes imposed by the NRC on a COL holder would have to satisfy the provisions of Section 50.109. Licensee changes to the plant-specific technical specifications would be processed in accordance with Section 50.90.

The following is suggested design certification rule language on the finality of technical specifications:

Revised Section 2(d)(1)

Information required by 10 CFR 52.47, with the exception of ~~technical specifications and~~ conceptual design information;

Revised Section 3(e)

Conceptual design information ~~and generic technical specifications~~, as set forth in the generic DCD, ~~are~~ is not part of this appendix.

(New) Section 8(d)

Changes to the technical specifications in Chapter 16 of Tier 2 shall be governed by the following provisions. The NRC, whether on its own motion or in response to a petition from any person, may not make a generic change in these technical specifications except by rulemaking meeting the criteria of 10 CFR 50.109, provided, however, that proposed technical specification changes that would directly or indirectly require a change to a requirement specified in the Design Control Document must meet the criteria of Section 52.63. The standard technical specifications applicable to a combined license applicant shall be those in the referenced design certification in effect six months prior to the

submittal of a combined license application. These technical specifications are not subject to modification by the NRC in a combined license proceeding referencing this rule, absent a determination by the Commission that special circumstances exist with respect to a particular technical specification such that application of the technical specification would not serve the purpose for which it was adopted; provided, however, that the NRC may not impose a modification that would directly or indirectly require a change to a requirement specified in the Design Control Document unless the criteria of Section 52.63 are met. A party to a combined license adjudicatory proceeding referencing this rule may not contest these technical specifications except in accordance with 10 CFR 2.758. An applicant for a combined license may propose a departure from these technical specifications in accordance with Section 8(b)(4) of this Appendix. After issuance of the combined license, the technical specifications in Chapter 16 of Tier 2 no longer have any effect with respect to the license, and the technical specifications in the license become effective. Changes to plant-specific technical specifications after combined license issuance will be processed in accordance with 10 CFR 50.90.

Finality of Requirements in the Design Control Document (DCD)

Background

The DCD contains requirements specifying the standard design as well as a substantial number of requirements that are closely related to the design. The August 13 "options paper" recommends that design, i.e., hardware, requirements in the DCD should have finality under Section 52.63. However, under the NRC staff recommendation, operational-related requirements in the DCD - - which are closely coupled to the design - - would not have Section 52.63 finality.

On the basis on Part 52 itself, experience in implementing design certification for the ABWR and System 80+, and explicit Commission guidance, our conclusion is that Section 52.63 finality should be accorded to all DCD requirements, including operational-related and other non-hardware requirements. In particular,

- Section 52.47 (*Contents of applications*) requires that design certifications contain "a level of design information sufficient to enable the Commission to judge the applicant's proposed means of assuring that construction conforms to the design and to reach a final conclusion on all safety questions associated with design...." Moreover, Section 52.47 provides that "the staff shall advise the applicant on whether any technical information beyond that required by this section must be submitted." Thus, Section 52.47 contemplates that information beyond that specifying hardware requirements would be required for design certification.
- Section 52.63(a)(4) states that the Commission shall treat as resolved those matters resolved in connection with issuance or renewal of a design certification." The February 15, 1991, Staff Requirements Memorandum on SECY-90-377 states, "the Commission agrees with the staff that the process provides issue finality on all information provided in the application that is reviewed and approved in the design certification rulemaking."
- To support their safety reviews on the designs, the NRC requested and received from applicants substantial technical information associated with the designs that goes beyond specification of hardware requirements. This additional technical information includes the following:
 - ⇒ numerous analyses, assumptions and bases supporting the selection and design of systems and features

- ⇒ requirements for periodic testing and inspection of systems and components
- ⇒ system operating limits
- ⇒ actions to minimize risk during shutdown
- ⇒ standard technical specifications
- ⇒ requirements for the composition of the Human Factors Engineering Design Team and Human-System Interface Program Plan
- ⇒ quality assurance and reliability assurance requirements for design of plant systems, structures and components
- ⇒ requirements for preoperational and start-up testing
- ⇒ system valve line-up requirements during normal operation
- ⇒ requirements on control room staffing
- ⇒ Emergency Procedure Guidelines
- ⇒ numerous other requirements (such as performance of a seismic walkdown, fuel assembly acceptance, inerted containment (ABWR only), maximum reactor thermal output rating, containment leak rate, ECCS test and surveillance intervals, etc.)

These and similar requirements are interwoven throughout both tiers of the DCD and were integral to the NRC safety review and approval of the designs. Presumably, the NRC would not have granted final design approval to the ABWR and System 80+ designs without this information. Accordingly, and because this additional technical information associated with the design has also been subject to thorough NRC and public scrutiny in the design certification rulemakings, these requirements should have finality under Section 52.63, like all other requirements in the DCD.

Industry Recommendation

The following alternative language is suggested for Section 4(c) of the design certification rules:

The Commission reserves the right to impose additional requirements for facility operation on license applicants or holders of licenses

referencing this Appendix by rule, regulation, order, or license condition. If the additional requirements directly or indirectly require a change to a requirement specified in the Design Control Document referenced by this Appendix, then Section 8 (*Processes for changes and departures*) of this Appendix applies.

Although we consider Part 52 and existing Commission guidance to be clear concerning the finality of design certification information, the above alternative rule language could be used by the Commission to clarify this issue. Including such language in the final design certification rules would make clear that the NRC is not restricted by Section 52.63 from imposing operational or other additional requirements on COL applicants or licensees, provided that the additional requirements do not directly or indirectly require a change to requirements specified in the DCD. We believe this would be an appropriate and workable resolution to this issue for the following reasons:

- provides finality to all information reviewed and approved as part of the DCD, consistent with clear Commission guidance
- reflects the acknowledged principle that operational and other requirements that have not been reviewed would not have 52.63 backfit protection
- recognizes that, under Part 52, Subpart C, operational requirements beyond those specified in the DCDs, which will constitute the bulk of operational requirements for the plant, will be established through NRC review and approval of a COL application.

The operational information submitted with COL applications will be consistent with that required by 10 CFR 50.34 for operating license applicants and include, (1) program and process information beyond the scope of the design certification, such as personnel training, physical security, emergency planning, operational quality assurance, and (2) additional information concerning implementation of operational-related requirements specified in the DCDs. For example, Appendix 18A of the ABWR DCD and Volumes 23 and 24 of the System 80+ DCD specify Emergency Procedure Guidelines (EPGs) for the plant because the NRC staff determined that this information was necessary to facilitate their safety conclusions on the design. The EPGs would therefore be protected from backfits by Section 52.63. However, Emergency Operating Procedures, which are based on the EPGs, are not specified in the DCD and therefore will not be subject to Section 52.63. This more detailed information will be submitted by the COL applicant for NRC review and approval.

In sum, the information contained in the design certification rules is that which is necessary and sufficient to enable the NRC to reach final safety and compliance conclusions on the standard designs. This information, including any changes made in accordance with the design certification change process, is required for a COL application. Plant-specific COL information requirements will be established, consistent with the requirements of 10 CFR 50.34, through NRC review and approval in the COL proceeding.

Principles for NRC Review of Design Certification Renewal Applications

Background

In the August 13 options paper, the NRC staff stated that it is premature to address the scope of renewal reviews in the design certification rules. We believe strongly that based on the considerable convergence of industry and NRC staff views in this area, principles for renewal reviews can and should be established in the design certification rules. This paper outlines the acknowledged principles of NRC renewal reviews and provides suggested language for reflecting these principles in the final rules.

Acknowledged Principles of NRC Renewal Reviews

- The certification renewal applicant may propose changes to the original design certification, which will be reviewed based on NRC regulations in effect at the time of renewal.
- If the NRC determines that relevant operating experience or other material new information since the original certification undermines the previous safety or compliance findings, the NRC may impose design changes at renewal as necessary to assure adequate protection of the public health and safety or compliance with regulations in effect at the time of original design certification. Section 52.63 is, of course, available to NRC throughout the life of the certification to impose such design changes.
- In addition, based on such intervening experience or material new information, the NRC may impose design changes at renewal that are determined to provide a substantial increase in overall safety protection and are cost-justified.
- Further, per Section 52.59(a), if amendments requested by a renewal applicant entail such an extensive change to the original design certification that an essentially new standard design is being proposed, an application for a new design certification must be filed. Such an application would be subject to a de novo (wholly new) review.
- As clarified at the August 27 Commission briefing, there is agreement that the NRC would not be precluded from considering new information which could have altered the Commission's consideration and approval of the design had it been known at the time of the original certification review. Moreover, the industry agrees that the scope and content of the updated information to be submitted by a renewal applicant will be as prescribed by the NRC. These clarifications

eliminate the basis for the two primary concerns stated by the staff in its August 13 options paper.

Industry Recommendation

The industry believes that the final design certification rules should codify principles that provide the focus for renewal review and rulemaking determination. That focus should be on relevant experience or other material new information since certification, and on changes proposed by the applicant or NRC. It is unnecessary for the NRC staff to re-review design certification information that is unaffected by either of the foregoing. Only in the case where there have been such extensive design changes proposed by a renewal applicant that a new certification application is required by Section 52.59(a) is a de novo (wholly new) review appropriate.

In short, we agree with the view expressed by Mr. Russell concerning NRC renewal review at the August 27 Commission briefing (tr. p. 88):

We don't believe it is a review from scratch, obviously. It would be a review from an experience base with whatever new information has been developed . . .

Including basic renewal principles in the design certification rules would be analogous to the resolution of the ITAAC verification issue. In each case, rule language provides the policy focus for subsequent implementation. In both cases, there is common recognition that further industry-NRC interaction and subsequent NRC implementation guidance are needed.

Proposed language reflecting renewal review principles is provided below for Sections 6(b) and 6(e) of the rules. If the Commission decides not to incorporate these principles in the final rules, we believe they should appear in the Statements of Consideration.

Revised Section 6(b)

The Commission considers the following matters resolved within the meaning of 10 CFR 52.63(a)(4) in subsequent proceedings for issuance of a combined license, amendment of a combined license, renewal of a combined license, design certification renewal proceedings (as consistent with 10 CFR Section 52.59 and with Section 6(e) herein), proceedings held pursuant to 10 CFR 52.103, and enforcement proceedings involving plants that reference this appendix: ...

New Section 6(e)

An applicant for design certification renewal shall update the information and data contained in the previous application for design certification to identify and evaluate, in accordance with application content requirements prescribed by NRC, relevant operating experience and other material new information between the time of certification and renewal application. NRC will determine, based on its review and renewal rulemaking, whether the new information requires a change in the previously certified design in order to (1) provide adequate protection of the public health and safety or the common defense and security, (2) ensure compliance with NRC regulations in effect at the time of the original certification, or (3) provide the substantial, cost-justified increase in overall protection of the public health and safety or common defense and security specified in 10 CFR 52.59(a). NRC review of the renewal application and rulemaking thereon will also include review of any modification proposed by the renewal applicant consistent with 10 CFR 52.59(a).