



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

December 6, 1996

OFFICE OF THE  
SECRETARY

MEMORANDUM FOR: James M. Taylor  
Executive Director for Operations

FROM: *John C. Hoyle*  
John C. Hoyle, Secretary

SUBJECT: STAFF REQUIREMENTS - SECY-96-077 -  
CERTIFICATION OF TWO EVOLUTIONARY DESIGNS  
(APPROVED AT THE DECEMBER 6, 1996  
AFFIRMATION SESSION)

The Commission approved the two rules as contained in SECY-96-077 with revisions recommended by the EDO in memoranda to the Commission dated August 13, 1996 and October 21, 1996 and subject to the following comments:

The Commission disapproves the inclusion of the new applicable regulations as identified in Section 5(c), and instead approves the inclusion of the attached language in the statement of considerations and certification rules. The inclusion of this language is important to ensure that the level of safety embodied in these designs and that the Commission is certifying is not eroded significantly over time.

The Commission does not support the extension of the special backfit provisions of 52.63 to technical specifications and other operational requirements as suggested by the industry, rather the Commission supports the staff's position to create a special category in the design control document (DCD) where technical specifications requirements would be set forth. The Commission approves a revised Section 8(c) of the rule that would apply to technical specifications and other approved operational requirements in the DCD, and that would provide for use of 52.63, only to the extent the design is changed, and use of 2.758 and 50.109 to the extent an NRC safety conclusion is being modified or changed but no design change is required. After the COL is

issued, the set of technical specifications for the COL (the combination of plant-specific and DCD derived) would be subject to 50.92 and the backfit provisions in 50.109 (assuming no Tier 1 and Tier 2 changes are involved).

The Commission will defer consideration of specific design certification renewal procedures until after the Commission has issued the final design certification rulemakings. The renewal review should start with the information base developed in the initial certification rulemaking, and should be directed at determining whether new information (including new operating experience with these and other designs) would materially and substantially affect (per Section 52.59) the Commission's safety determinations in the initial design certification rulemaking with respect to the acceptability of the standard design. The language in Mr. Taylor's memorandum to the Commission dated October 21, 1996 should be included in the Statements of Consideration.

The staff as a matter of priority should conform the final design certification rules to the changes as noted above, and forward them to the Secretary for signature and publication in the Federal Register.

Attachments:

As stated

cc: Chairman Jackson  
Commissioner Rogers  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
OGC  
OCAA  
OCA  
OIG  
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)  
PDR - Advance  
DCS - P1-24

While it is the Commission's intent in 10 CFR Part 52 to promote standardization and design stability of power reactor designs, standardization and design stability are not exclusive goals. The Commission recognized that there may be special circumstances where it would be appropriate for applicants or licensees to depart from the certified designs. However, there is a desire of the Commission to maintain standardization across a group of reactors of a given design. Nevertheless, Part 52 provides for changes to the certified standard designs in carefully defined circumstances, and one of these circumstances is the option provided to applicants and licensees referencing standard designs to request an exemption from one or more elements of the certified design, e.g., 10 CFR 52.63(b)(1). The certified design rules reference this provision for Tier 1 and include a similar provision for Tier 2. The criteria for NRC review of requests for exemption from Tier 1 and Tier 2 in the proposed certification rules are the same as those for NRC review of rule exemption requests under 10 CFR Part 50 directed at non-standard designs, except that Part 52 requires consideration of an additional factor for Tier 1 exemptions - whether special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. It has been the practice of the Commission to require that there be no significant decrease in the level of safety provided by the

regulations when exemptions from the regulations in 10 CFR Part 50 are requested. The Commission believes that a similar practice should be followed when exemptions from one or more elements of the standard design are requested, that is, the grant of an exemption under 10 CFR 50.12 or 52.63(b)(1) should not result in any significant decrease in the level of safety provided by the design (Tier 1 and Tier 2). The exemption standards in sections 8(a)(4) and 8(b)(4) of the design certification rules have been modified from the proposed rules to codify this practice.

In adopting this policy the Commission recognizes that these two standard designs not only meet the Commission's safety goals for internal events, but also offer a substantial overall enhancement in safety as compared, generally, with the current generation of operating power reactors. See, e.g. NUREG-1503 at Section 19.1. The Commission recognizes that the safety enhancement is the result of many elements of the designs, and that much but not all of it is reflected in the results of the PRAs performed and documented for them. In adopting a rule that the safety enhancement should not be eroded significantly by exemption requests, the Commission recognizes and expects that this will require both careful analysis and sound judgment, especially considering uncertainties in probabilistic risk assessment and the lack of a precise, quantified definition of the enhancement which would be used as the standard. Also, in some cases

scientific proof that a safety margin has or has not been eroded may be difficult or even impossible. For this reason it is appropriate to express the Commission's policy preference regarding the grant of exemptions in the form of a qualitative, risk informed standard, in the section of the design certification rules relating to "processes for changes and departures," and inappropriate to express the policy in a quantitative legal standard as part of "additional applicable regulations" in the design certification rules.

There are three other circumstances where the enhanced safety associated with these two designs could be eroded: by design changes introduced by vendors at the certification renewal stage; by operational experience or other new information suggesting that safety margins believed to be achieved are not in fact present; and by applicant or licensee design changes under the "50.59 like" processes for changes to Tier 2 only. In the first two cases 10 CFR Part 52 limits NRC's ability to require that the safety enhancement be restored, unless a question of adequate protection or compliance would be presented or, in the case of renewals, unless the restoration offers cost-justified, substantive additional protection. Thus, unlike the case of exemptions where a policy of maintaining enhanced safety can be enforced consistent with the basic structure of Part 52, in the case of renewals and new information, implementation of such a policy over industry objections would require changes to the

basic structure of the Part. The Commission has been and still is unwilling to make fundamental changes to Part 52 since this would introduce great uncertainty and defeat industry's reasonable expectation of a stable regulatory framework. Nevertheless, the Commission on its part also has a reasonable expectation that vendors and utilities will cooperate with the Commission in assuring that the level of enhanced safety believed to be achieved with these designs will be reasonably maintained for the period they are in effect (including renewals).

This expectation that industry will cooperate with NRC in maintaining the safety level of the standard designs applies to design changes suggested by new information, to renewals, and to "50.59 like" changes. If this reasonable expectation is not realized, the Commission would carefully review the underlying reasons and, if the circumstances were sufficiently persuasive, consider the need to reexamine the backfitting and renewal standards in Part 52 and the "50.59 like" criteria for Tier 2 changes in the certified design rules. At this time there is no reason to believe that cooperation will not be forthcoming and therefore no reason to change the regulations. With this belief and stated Commission policy (and the exemption standard discussed above), there is no need for "additional applicable regulations" to be embedded in the design certification rules since the objective of the "additional applicable regulations" -

maintaining the enhanced level of safety - should be achieved without them.

[New language for Certification Rules]

Add the following sentence at the end of sections 8(a)(4) and 8(b)(4):

"The Commission will deny a request for an exemption from [Tier 1] [Tier 2] if it finds that the design change will result in a significant decrease in the level of safety otherwise provided by the design."