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

January 13, 1994

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner Remick
Commissioner de Planque

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: DESIGN CONTROL DOCUMENT (DCD) CHANGE RESTRICTIONS FOLLOWING ISSUANCE OF A FINAL DESIGN APPROVAL (FDA)

In the enclosed letter dated November 30, 1993, GE Nuclear Energy (GE) asked the staff to reconsider its position stated in SECY-93-097, "Integrated Review Schedules for the Evolutionary and Advanced Light Water Reactor Projects," that it would issue the FDA for certification of the advanced boiling water reactor (ABWR) design only after the staff completed its review of the respective DCD. As discussed in SECY-93-097, an FDA is issued at the end of the technical review of the application by the staff and the Advisory Committee on Reactor Safeguards (ACRS). However, in a staff requirements memorandum (SRM) dated April 21, 1992, the Commission noted that "consistent with the policy of finality reflected in [10 CFR] Parts 50 and 52, once the staff issues an FDA, the staff will be bound by the safety decisions that are rendered in the FDA." The staff interprets this guidance to mean that it can modify the proposed DCD after the FDA is issued only by meeting the change requirements of 10 CFR 52.63. Therefore, the staff will be able to make changes to the DCD after the FDA is issued only by instituting an analogue to the change process that will be approved in the design certification rulemaking.

Although the Director of Nuclear Reactor Regulation can legally issue an FDA without prior approval of the DCD, the DCD must be approved by the staff before a design certification rulemaking can begin. The DCD controls the design of all plants that reference the certification. Therefore, the staff needs to verify that the DCD fully conforms to the SSAR and final safety evaluation report (FSER), as modified by the requirements of the Office of the Federal Register. Although this verification should not affect the staff's review findings, such a review has not been done before, and the staff cannot discount the possibility that design-related or conformance issues could be discovered during the staff's review of the DCD. Such a discovery may require

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that changes be made to the SSAR or DCD. Therefore, in light of the staff's interpretation of the April 21, 1992, SRM guidance, the staff concluded that the DCD review should be performed on the ABWR application before the FDA is issued.

Early estimates of the affect of this process on the schedule indicated that it would add approximately 2 months to the review schedule. In its letter, GE indicates that it believes that this process could take considerably longer than the initial 2 month estimate, because "the creation of the DCD from the SSAR has become far more complex than the 'word processing' exercise first envisioned." GE's concern with the preparation of the DCD is related to the development process, and is not expected to be technical in nature. Therefore, GE requests that the staff issue the FDA before the staff's review and approval of the DCD.

In order for it to issue the FDA before approving the DCD, the staff concludes that relief must be granted from the Commission's restriction stated in the SRM of April 21, 1992, and that modifications to the design certification documents that may be necessitated by the staff's review of the DCD be allowed without any backfit restrictions or analogue rulemaking process. This would allow the staff the flexibility to ensure that the DCD acceptably conforms to the SSAR, FSER, Office of the Federal Register requirements, and Commission guidance, while expediting the issuance of a conditional FDA.

On a related matter, in its SRM dated June 23, 1993, the Commission recommended that the staff consider "entering and maintaining the Design Control Document and other related documents in a retrievable computer system."

Once approved, the DCD will be a reference document that will be used during the design certification rulemaking and, later, during the combined operating license reviews. Although there could be some benefits to having the DCD in electronic form to use as a reference source during these review stages, there is no regulatory basis to require that the applicant submit the DCD in such a format. Some of the information that will be used in the DCDs of evolutionary light water reactors (LWRs) is not available in electronic form and would have to be backfitted into such a format. There are also concerns regarding maintenance of controlled copies of an electronic version of this document. In addition, there are concerns regarding compatibility of the electronic formats used by the NRC and the applicant.

Accordingly, the staff concludes that the review stages of the evolutionary LWRs may be too far along to support implementation of such a proposal for the GE ABWR and Combustion Engineering System 80+ before the design certifications are complete. However, such an endeavor may be feasible following completion of the rulemaking activities on these designs. In addition, the staff is investigating implementation of such an proposal with the passive LWRs during the design certification review because of the preliminary status of these designs, and the potential availability of this information in an electronic format.

The staff asks the Commission to grant relief from its restriction stated in the SRM of April 21, 1992, and allow modifications to the design certification documents that may be necessitated by the staff's review of the DCD following issuance of an FDA without any backfit restrictions or analogue rulemaking process. The staff requests that the Commission's guidance on this matter be provided by the end of March 1994, consistent with the estimated schedule for issuance of the letter by the ACRS that will discuss its review of the ABWR design.

SECY please track.

Original signed by
James L. Blaha

James M. Taylor
Executive Director
for Operations

Enclosure:
Ltr fm J. Quirk to
D. Crutchfield
dtd 11/30/93

cc w/enclosure:
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WITS # 93-101

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GE Nuclear Energy

Joseph F. Quirk
Project Manager
ABWR Certification

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November 30, 1998

MFN No. 219-98
Docket No. 52-001

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Dennis M. Crutchfield
Advanced Reactors and License Renewal
Office of Nuclear Reactor Regulation

Subject: Issuance of FDA Prior to DCD Approval

Dear Mr. Crutchfield,

The NRC Staff has acknowledged that the NRC is not legally required to approve the Design Control Document (DCD) before issuance of the Final Design Approval (FDA) since the DCD is related solely to design certification (DC) rulemaking. As discussed in the industry meeting with the Staff on October 12, 1998, we believe that final resolution of the issues relating to the form and content of the DCD, and NRC approval of the individual DCD's for the initial design certification rulemakings, will take considerable time. It is increasingly apparent that creation of the DCD from the SSAR has become far more complex than the "word processing" exercise first envisioned. In that connection, we expressed special concern that resolution of the so-called "secondary reference" issue is likely to require extensive applicant/Staff interaction and that its ultimate disposition could be dependent on a third party -- the Office of Federal Register (OFR). The time which resolution of this issue is likely to take is an additional, compelling reason for not requiring completion and approval of the DCD before issuance of the FDA.

The roots of the "secondary reference" problem are the following:

- The DCD, which will be incorporated by reference in the design certification rule, contains hundreds (perhaps thousands) of references to other documents. A small fraction of those references are for purposes of establishing Tier 1 design and ITAAC requirements. For the most part, however, secondary references are in Tier 2 as explanatory or source references.

- The Staff's preliminary position is that secondary references which are intended to establish requirements should be designated as primary references in the design certification rule and approved for incorporation then by the OFR. This course would require mutual agreement on those secondary references which the design certification applicant and the Staff deem to be an essential part of a design certification rule's requirements. The designated references and the underlying documents would, in turn, be furnished to and approved by the OFR.

- To achieve the above, it will be necessary for a DC applicant and the Staff to cull through all of the secondary references in the SSAR to determine which ones should be characterized as "requirements" and which others can be regarded as simply explanatory or source references. The logistics of this, as we presently see it, would be formidable and,

Enclosure

even with the best of intentions and the application of intensive efforts on the part of DC applicants and the Staff, such a process carries the potential for lengthy delays.

The industry does not agree with the preliminary secondary reference course proposed by the Staff and will shortly submit a paper setting forth its position on this issue. The Staff has advised that the issue remains open for discussion and we expect an early meeting with the Staff on this matter. Whatever its resolutions, however, the secondary reference issue carries the potential for significant delays and that prospect adds additional incentive to the need for separating the timing of FDA issuance from the timing for completion and approval of the DCD.

Sincerely,

Joseph F. Quirk

cc: