



OFFICE OF THE SECRETARY

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

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MEMORANDUM FOR: James M. Taylor, Acting Executive Director for Operations FROM: Samuel J. Chilk, Secretary SUBJECT: SECY-89-228 - DRAFT SAFETY EVALUATION REPORT ON CHAPTER 5 OF THE ADVANCED LIGHT WATER REACTOR REQUIREMENTS DOCUMENT

This is to advise you that the Commission (with all Commissioners agreeing) has approved the proposed issuance of the draft SER for Chapter 5 of the ALWR Requirements Document so that EPRI may have the benefit of the results of the review that the staff has conducted to date, subject to:

- 1. There are a number of instances in the draft SER where the staff is proposing approaches that go beyond what the current regulations require (e.g., diverse scram systems, mid-loop operation, feed and bleed capability). Because these various issues involve departures from current regulatory requirements, they need to be high-lighted in a more explicit manner, for the benefit of the Commission and EPRI, as well as for the general public. Such an approach would also be in keeping with the guidance already provided by the Commission on this matter (see, Statement of Considerations on 10 CFR 52, 54 FR 15376, and the accompanying Staff Requirements Memorandum, dated April 21, 1989). Accordingly, prior to issuance of the draft SER for Chapter 5, the staff should identify those instances where the staff is proposing to depart from current regulations or where the staff is substantially supplementing or revising interpretive guidance applied to currently-licensed LWRs. In each case, the staff should discuss the nature of the current regulatory requirement or interpretation, the departure that the staff is proposing, and the basis for the proposed departure. The analysis should be provided to the Commission and, in addition, should be attached to the draft SER on Chapter 5 as an appendix. Furthermore, the draft SER should be revised to state that for those instances where the staff is proposing departures from current regulatory requirements, the Commission has not yet reviewed the basis for the approach that the staff is proposing and, accordingly, may at some future point determine that such issues involve policy questions that the Commission may wish to consider.

2. In Section 2.1 of the draft SER, wherein the staff discusses the acceptability of the ALWR Public Safety Goal and the concept of defense in depth, the staff proposes to establish a containment performance criterion for evolutionary reactors. As was discussed at the Commission meeting on August 1, the staff's proposal in the draft SER appears to be directly at odds with the staff's earlier recommendation for implementing the Safety Goal (SECY-89-102), wherein the staff specifically rejected the notion of establishing a separate criterion for containment performance. In the Staff Requirements Memorandum from the recent Commission meeting on the GE Advanced Boiling Water Reactor, dated July 31, 1989, the Commission has asked the staff to explain the basis for establishing a separate criterion for containment performance. The Commission does not object to staff providing its current position on a containment performance criterion for evolutionary reactors; however, the draft SER should clearly state that the Commission has not yet reached a conclusion on the approach that the staff is proposing and Commission guidance will be required before a final decision on the issue is made.

You may issue the draft SER for Chapter 5 of the ALWR Requirements Document upon incorporating the above mentioned modifications.

(EDO) (SECY Suspende: 10/2/89)

The staff should provide the Commission with proposed schedules and estimated resource requirements for modifying the Commission's regulations and guidance documents in those areas where staff is proposing to depart from current requirements. Staff should not assume an all inclusive rule change but should provide its estimates based on a number of individual rule changes.

(EDO) (SECY SUSPENSE: 10/2/89)

The staff should approach each future draft SER in a similar manner, i.e., attach an analysis detailing where staff is proposing to depart from current requirements. Likewise, staff should review the draft SERs which it has already issued and provide a similar analysis. In all cases, staff should provide the Commission a proposed schedule and resource estimates for modifying the necessary regulations and guidance documents.

In addition, there are four areas in Chapter 5 that the Commission believes deserve particular attention from a policy perspective.

- Definition of the design basis or severe accident source term - both the timing of fission product release to the containment after a loss of cooling event and the fractional

release of radionuclides as a function of time, particularly the chemical form of the volatile halogens (Sections 6.4 and 6.6.4).

- In vessel and ex-vessel hydrogen generation and ex-vessel control as a result of a severe accident (Sections 2.5, 6.5.1 and 6.5.2).
- Containment performance criteria (expressed either in a probabilistic or deterministic form) to permit quantification of the  $10^{-6}$  large release frequency guideline of the Commission's Safety Goal Policy (Sections 2.1, 6.6.1, 6.6.2, and 6.6.5).
- Decay heat removal with partial reactor coolant system inventory during shutdowns (Section 5.2).

Owing to their importance, the staff's proposed resolution of these key policy issues with an explanation of the basis for the staff's position should be submitted to the Commission for approval before a final position is communicated to EPRI/Industry on Chapter 5 of the Requirements Document.

The staff outlined the following schedule for its review of Part II of the EPRI Requirements Document:

1. Draft SERs will be completed and issued for the remaining Chapters on the following schedule:

Chapter 5	August 1989
Chapters 7 and 12	November 1989
Chapters 6, 8, and 9	December 1989
Chapters 11 and 13	February 1990
Chapters 10	May 1990

2. Resolution of all open issues and issuance of the final version of Part II of the requirements document (the roll-up document) will occur approximately 10 to 12 months after all draft SERs are completed (March - May 1991).

cc: Chairman Carr  
Commissioner Roberts  
Commissioner Rogers  
Commissioner Curtiss  
OGC  
ACRS