

September 20, 2002

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: William D. Travers */RA by Carl J. Paperiello Acting For/*
Executive Director for Operations

SUBJECT: STATUS OF REGULATORY GUIDANCE FOR THE USE OF
PROBABILISTIC RISK ASSESSMENT IN PLANT-SPECIFIC, RISK-
INFORMED DECISIONMAKING

The Commission requested in a staff requirements memorandum dated May 20, 1998 that the staff perform annual reviews of Regulatory Guide (RG) 1.174 and Standard Review Plan (SRP) Chapter 19 and that the periodic review and update of the RG and SRP should be tracked in the PRA Implementation Plan (now the Risk-Informed Regulation Implementation Plan). In SECY-02-0070, dated April 24, 2002, the staff informed the Commission of its intent to publish Revision 1 to RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decision on Plant-Specific Changes to the Licensing Basis," and SRP Chapter 19, "Use of Probabilistic Risk Assessment in Plant-Specific, Risk-Informed Decisionmaking: General Guidance." The changes, as noted in SECY-02-0070, from Revision 0 to Revision 1 include:

- The staff has postulated that issues may arise in relation to a licensing basis change request which cause plant risk to increase, perhaps substantially and beyond an acceptable level. In response to such an eventuality, the Nuclear Regulatory Commission would be required to exercise its statutory authority to request additional information from licensees and require them to take action. The revision states that risk-related information may be requested by the staff if new, unforeseen hazards or substantially greater prospects for a known hazard emerge as a result of a licensee change request, even if the licensee did not originally submit risk information in the request.¹

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¹This staff guidance was the subject of SECY-99-246, dated October 12, 1999. Commission approval was provided in an SRM dated January 5, 2000.

- The staff became aware that underlying assumptions which form a basis for the current Large Early Release Frequency (LERF) guidelines, and which include assumptions of nuclear plant fuel, power levels, and fuel burnup rates in effect over the past few years, may be affected by increases in these parameters. The revision includes a cautionary note until the staff investigation is complete and a staff position is formulated. The revision states that "Current LERF guidelines are based upon assumptions of reactor power level, fuel burnup rates, and extent of use of mixed oxide fuel. The staff is undertaking an evaluation of the impact, if any, of increases in these parameters on LERF."

No additional changes are proposed by the staff to RG 1.174 and SRP Chapter 19 at this time, as also indicated in the recent update to the Risk-Informed Regulation Implementation Plan (SECY-02-0131, dated July 12, 2002).

The Advisory Committee on Reactor Safeguards (ACRS) provided comments on Revision 1 for RG 1.174 and SRP Chapter 19 in a letter dated July 23, 2002, which recommended that:

1. Revision 1 to RG 1.174 and SRP Chapter 19 should not be issued until more substantive changes are made.
2. Both RG 1.174 and SRP Chapter 19 should emphasize that all sources of risk from internal and external initiators during low-power and shutdown (LPSD), as well as full-power, operations must be included in the risk assessment. If bounding estimates of the risk contribution from plant modes not rigorously analyzed are used, justification of the estimates should be provided.
3. RG 1.174 and SRP Chapter 19 should state that changes to the licensing basis will, in general, require probabilistic risk assessments (PRAs) that conform at least to Category 2 of the American Society of Mechanical Engineers (ASME) standard [and the comparable category of the future American Nuclear Society (ANS) standards for external events and LPSD operations] and a Grade 3 of the industry peer review process.

My August 22, 2002, response to the ACRS letter (ADAMS ML022260699) notes that the staff does not agree with the Committee's first recommendation not to issue RG 1.174 and SRP Chapter 19 at this time. The changes in Revision 1 are improvements to these documents and, since these documents are being used in licensing actions, both staff and licensees would benefit from these changes. Further, the changes in Revision 1 are not related to the second and third recommendations the Committee proposes and would not impede their future resolution and implementation.

Regarding the Committee's second and third recommendations, these changes to RG 1.174 and SRP Chapter 19 would require detailed interaction with all stakeholders to determine their

resolution and implementation. These recommendations, if implemented, should be addressed in a later revision to RG 1.174. The staff met with the Committee on September 9, 2002, to discuss in detail their concerns and indicated its intention to publish Revision 1 to RG 1.174 and SRP Chapter 19. The staff and Committee identified a number of topics for a follow up subcommittee meeting, which will be scheduled in the near future.

The next annual review for the Commission on RG 1.174 and SRP Chapter 19 will be June 2003.

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