EDO Principal Correspondence Control

FROM: DUE: 04/22/05 EDO CONTROL: G20050198
DOC DT: 03/14/05
FINAL REPLY:

Graham B. Wallis, ACRS

TO:

Chairman Diaz

FOR SIGNATURE OF : ** GRN ** CRC NO: 05-0143

Reyes, EDO

DESC:

Proposed Rulemaking to Modify 10 CFR 50.46, "Risk-Informed Changes to Loss-of-Coolant Accident Technical Requirements"

DATE: 03/22/05

ASSIGNED TO: CONTACT:

NRR Dyer

ROUTING:

Reyes
Virgilio
Kane
Merschoff
Silber
Dean
Burns/Cyr
Paperiello,RES
Dixon-Herrity, OEDO
ACRS File

SPECIAL INSTRUCTIONS OR REMARKS:

Prepare response to ACRS For EDO signature. Add Commissioners and SECY as cc's.

USE SUBJECT LINE IN RESPONSE.

Template: SECY-017 E-RIDS: SECY-01

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

Date Printed: Mar 21, 2005 09:18

PAPER NUMBER:	LTR-05-0143	**LOGGING DATE:**	03/17/2005
ACTION OFFICE:	EDO		
AUTHOR:	Graham Wallis		
AFFILIATION:	ACRS		
ADDRESSEE:	Nils Diaz		
SUBJECT:	Proposed rulemaking to modify 10 CFR 50.46, risk-informed changes to loss of coolant accident technical requirements		
ACTION:	Appropriate		
DISTRIBUTION:	RF		
LETTER DATE:	03/14/2005		
ACKNOWLEDGED	No		
SPECIAL HANDLING:			
NOTES:			
FILE LOCATION:	ADAMS		
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EDO --G20050198

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

March 14, 2005

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: PROPOSED RULEMAKING TO MODIFY 10 CFR 50.46, "RISK-INFORMED CHANGES TO LOSS-OF-COOLANT ACCIDENT TECHNICAL REQUIREMENTS"

Dear Chairman Diaz:

During the 520th meeting of the Advisory Committee on Reactor Safeguards on March 3-5, 2005, we reviewed the proposed rule for a voluntary alternative to 10 CFR 50.46, "Risk-Informed Changes to Loss-of-Coolant Accident Technical Requirements," (Reference 1). We also reviewed a draft version of a proposed rule (Reference 2) during the 518th meeting on December 2-4, 2004 and issued a letter on December 17, 2004 (Reference 3). During these reviews, we had the benefit of discussions with the NRC staff, the Nuclear Energy Institute, Westinghouse Owners Group and members of the public. We also had the benefit of the documents referenced.

RECOMMENDATION

The proposed rule for risk-informing 10 CFR 50.46 should be released for public comment.

DISCUSSION

The current proposed rule is consistent with the first two recommendations of our December 17, 2004 letter (Reference 3). It contains requirements intended to provide reasonable assurance of a coolable core geometry for breaks up to the double-ended guillotine break of the largest pipe in the reactor coolant system and permits operation only in configurations for which such capability has been demonstrated. The transition break size in the current version of the rule is equivalent to a single-ended rupture of the largest pipe attached to the reactor coolant system rather than the double-ended rupture in the earlier version.

The staff agrees with our recommendation that a better quantitative understanding of the possible risk benefits of a smaller transition break size is needed before finalizing the selection of the transition break size. The staff is attempting to identify areas where quantification of potential benefits might be meaningful. We have also heard a presentation from the industry on efforts to develop quantified estimates of the safety benefits associated with a smaller transition break size. These estimates are expected to be available during the rule comment period.

One of the changes in the proposed rule from the one that we reviewed in December is the omission of a quantitative criterion for the likelihood of late containment failure. We continue to believe that this should be considered in determining changes in risk due to changes in the licensing basis. We accept, however, that this is not an issue unique to changes in the licensing basis made possible by a risk-informed 10 CFR 50.46, and should be dealt with in the more general context of a revision to Regulatory Guide (RG) 1.174.

The proposed rule is an enabling rule. A licensee who wishes to make changes to its facility, technical specifications, or procedures based on the new rule will need to submit an application for a license amendment to allow such changes. The process of evaluating the risk due to such changes is critical to risk-informing 10 CFR 50.46. Since 1998, the NRC has been evaluating the acceptability of risk-informed changes to the licensing basis using RG 1.174. The guidance and acceptance criteria in RG 1.174 are intended to ensure that any increases in risk associated with changes to the licensing basis are small and that sufficient defense in depth and safety margins are maintained to address uncertainties.

The staff argues that it is necessary to include some of the high-level guidance of RG 1.174 in the proposed rule, and a new regulatory guide would be developed to provide additional guidance. The language in the draft proposed rule and in the statement of considerations is consistent with RG 1.174 (including the bundling of changes in risk due to unrelated changes in the licensing basis). It is not clear why the process of accepting the changes to the licensing basis that will be possible due to changes in 10 CFR 50.46 should be specified in the rule itself when it is already in RG 1.174, which is currently in use for evaluating risk-informed changes to the licensing basis. As part of the public comment process, input should be sought on the need to incorporate in the rule requirements for the acceptability of changes to the licensing basis and to develop a new regulatory guide for evaluating such changes.

The proposed rule contains provisions intended to ensure that plants that adopt a risk-informed 10 CFR 50.46 will still have a capability to mitigate loss-of-coolant accidents beyond the transition break size and permits operation only in configurations for which such capability has been demonstrated. However, the rule provides only high-level

requirements for the analytical methods needed to demonstrate such capability and the statement of considerations just outlines a possible approach. The staff is developing a regulatory guide to provide more detailed guidance on acceptable methods for such analyses. The development of this regulatory guide is critical to the success of a risk-informed 10 CFR 50.46. We look forward to interacting with the staff on the development of this guide and discussing the draft final rule after resolution of public comments.

Sincerely,

Graham B. Wallis

Graham B. Wallis
Chairman

References:

1. Memorandum dated December 2, 2004, from Catherine Haney, Program Director, Policy and Rulemaking Program, NRR, to various members NRR, Subject: Office Concurrence on Proposed Rule - Risk Informed Changes to Loss-of-Coolant Accident Technical Requirements (Pre-Decisional).

2. Letter dated February 14, 2005, from Catherine Haney, Program Director, NRR, to multiple addresses, NRR, Subject: Office Concurrence on Proposed Rule - Risk Informed Changes to Loss-of-Coolant Accident Technical Requirements (TAC #MB8397) 2004 (Pre-Decisional).

3. Letter dated December 17, 2004, from, Mario V. Bonaca, Chairman, ACRS, to Luis A. Reyes, EDO, NRC, Subject: Risk-Informing 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors."