

June 19, 2012

Dr. J. Sam Armijo, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: RESPONSE TO THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS LETTER, DATED MAY 17, 2012, CONCERNING DRAFT FINAL NUREG-1921, (EPRI REPORT 1023001), "EPRI/NRC-RES FIRE HUMAN RELIABILITY ANALYSIS GUIDELINES"

Dear Dr. Armijo:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter, dated May 17, 2012, concerning NUREG-1921 (EPRI Report 1023001)¹, "EPRI/NRC-RES Fire Human Reliability Analysis Guidelines." We agree with the Advisory Committee on Reactor Safeguards (ACRS) that the NRC should publish this collaboratively prepared NUREG-series report because it provides valuable information.

As noted in your letter, the NRC's Office of Nuclear Regulatory Research collaborated with the Electric Power Research Institute (EPRI) in developing this fire human reliability analysis (HRA) guidance. NUREG-1921 provides useful guidance for performing (1) HRA in probabilistic fire analyses that support the transition to risk-informed, performance-based fire protection programs, and (2) qualitative analysis for HRA.

The staff generally agrees with the other three ACRS recommendations involving further HRA research performed through ongoing efforts to develop HRA methods in response to staff requirements memorandum (SRM)-M061020. In particular:

- (1) The staff's efforts to respond to SRM-M061020 will integrate the qualitative analysis guidance provided by NUREG-1921 into its work. In addition, the staff is working on generic guidance for the identification of factors that contribute to the uncertainty in timing estimates and for how to reflect the effects of timing on human performance in human error probabilities.
- (2) With respect to the recommendation for improved guidance for evaluating human performance during complex scenarios that involve multiple spurious operations, the staff is addressing such issues by studying the effects of multitasking on various cognitive aspects of human performance.

¹ Hereinafter referred to as NUREG-1921 for brevity

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- (3) With respect to the recommendation to reexamine the NUREG-1921 guidance for scoping analysis and its basis, the staff will compare the technical basis of the NUREG-1921 scoping approach to the method(s) being developed under SRM-M061020 and identify strengths and limitations in the NUREG-1921 scoping approach. The staff will use such insights to develop a screening method as part of the response to SRM-M061020.

In closing, we value the review and comments that the ACRS provided on this report.

Sincerely,

/RA by Michael Weber for/

R. W. Borchardt
Executive Director
for Operations

cc: Chairman Jaczko
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
SECY

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