

August 25, 2010

Dr. Said Abdel-Khalik, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: RISK-INFORMED REGULATORY GUIDANCE FOR NEW REACTORS

Dear Dr. Abdel-Khalik:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter dated July 27, 2010, regarding the recommendations of the Advisory Committee on Reactor Safeguards (ACRS) on the draft Commission paper, "Modifying the Risk-Informed Regulatory Guidance for New Reactors." The ACRS received the draft Commission paper, sent by memorandum dated May 12, 2010, (ML101090355). The NRC staff discussed the draft paper with the ACRS on June 10, 2010. The NRC staff's response to the recommendations in your letter is discussed below.

ACRS Recommendation 1

We agree with the staff's position in the draft Commission Paper that the proposed framework should prevent significant decreases in the level of safety of the new reactor designs. The staff should continue to interact with internal and external stakeholders to develop guidance for an integrated risk-informed decision-making framework that consistently applies the principles of Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," for currently operating plants and new reactors. Pilot applications should be used to assess and refine details of the proposed framework.

NRC Response

The NRC staff agrees with the ACRS recommendation. If the Commission directs the staff to implement Option 2, the staff will continue to interact with internal and external stakeholders to develop guidance for an integrated risk-informed decision-making framework that consistently applies the principles of Regulatory Guide 1.174 for currently operating plants and new reactors. The staff will also consider conducting one or more public workshops to evaluate the Part 52 change processes for a wide spectrum of potential plant changes, as well as some aspects of the current Reactor Oversight Process (ROP), and identify potential "gaps" in the existing risk-informed framework.

ACRS Recommendation 2

The bases for risk significance determinations in the ROP should be consistent with the guidance for changes to the licensing basis.

NRC Response

The NRC staff agrees with the ACRS recommendation. The staff recognizes that the bases for risk significance determinations in the ROP would follow from, and would need to be consistent with, the guidance for changes to the licensing basis for new reactors. As such, if the Commission directs the staff to implement Option 2, the staff would evaluate potential changes to the ROP to ensure that the ROP remains consistent with any changes to the risk-informed licensing guidance, just as the current ROP is consistent with the risk-informed licensing guidance currently contained in Regulatory Guide 1.174. The staff would continue to interact with internal and external stakeholders to identify appropriate changes to the risk-informed elements of the ROP to reflect the enhanced level of severe-accident safety performance of new reactors while providing for meaningful regulatory oversight.

ACRS Recommendation 3

The guidance should anticipate and account for plant-specific risk profiles that may be influenced significantly by external events such as severe earthquakes.

NRC Response

The NRC staff agrees with the ACRS recommendation. The staff recognizes that, for some new reactors, site-specific hazards such as severe earthquakes could be significant contributors to the overall risk profile. In modifying any risk-informed guidance, the staff will be mindful of the ACRS recommendation regarding site-specific plant-to-plant variability and consideration of external hazards.

ACRS Recommendation 4

The staff should expedite the development of interim guidance for the use of numerical risk significance measures for selection of candidate structures, systems, and components (SSCs) in design certification and Combined License (COL) reliability assurance programs.

NRC Response

The NRC staff understands the ACRS concerns and believes that it would be prudent to await Commission direction before proceeding with the development of guidance for the use of numerical risk significance measures for the selection of candidate SSCs. The NRC staff will take the ACRS concerns into consideration when the staff modifies the risk-informed regulatory guidance as necessary.

S. Abdel-Khalik

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We appreciate the comments and recommendations provided by ACRS and look forward to continuing to work with the Committee as we begin to draft detailed guidance as directed by the Commission.

Sincerely,

/RA by Martin J. Virgilio for/

R. W. Borchardt
Executive Director
for Operations

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

We appreciate the comments and recommendations provided by ACRS and look forward to continuing to work with the Committee as we begin to draft detailed guidance as directed by the Commission.

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