



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

October 20, 2017

Mr. Victor M. McCree
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REVISION 3 TO REGULATORY GUIDE 1.174

Dear Mr. McCree:

During the 647th meeting of the Advisory Committee on Reactor Safeguards, October 5-6, 2017, we reviewed draft Revision 3 to Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." Our Reliability and PRA Subcommittee also reviewed this matter during meetings held on May 18, August 15, and September 7, 2016, and August 24, 2017. During these meetings, we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the referenced documents.

RECOMMENDATION

Revision 3 of Regulatory Guide 1.174 should be issued.

BACKGROUND

Regulatory Guide 1.174 describes the key principles and guidance for the use of risk information in regulatory decisions. One of the principles indicates that a proposed licensing basis change should be "consistent with the defense-in-depth philosophy." Balanced treatment of risk information and traditional defense-in-depth considerations has been a source of extensive discussions during staff reviews of risk-informed licensing submittals.

In the Staff Requirements Memorandum (SRM) for SECY-11-0014, the Commission directed the staff to revise Regulatory Guide 1.174 to clarify interpretation and implementation of the guidance for considering defense-in-depth. In the SRM for SECY-13-0132, as part of the decisions to close Recommendation 1 from the Fukushima Near-Term Task Force Report, the Commission directed the staff to document the history of defense-in-depth as an agency knowledge management resource. NUREG/KM-0009, "Historical Review and Observations of Defense-in-Depth," provides a comprehensive summary of the evolution and interpretation of the defense-in-depth philosophy in NRC regulatory activities.

The SRM for SECY-15-0168 contains the Commission's conclusions regarding the recommendations in NUREG-2150, "A Proposed Risk Management Regulatory Framework." In that SRM, the Commission directed the staff to complete expeditiously the revision to the defense-in-depth guidance in Regulatory Guide 1.174.

DISCUSSION

Draft Revision 3 of Regulatory Guide 1.174 substantially expands and clarifies the guidance for consideration of defense-in-depth and its integration with the other risk-informed decision-making principles. Revision 3 also clarifies the staff's intent for determining the acceptability of a probabilistic risk assessment for use in risk-informed decisions, and it enhances the guidance on evaluation and treatment of uncertainties. These updates will improve the consistency and quality of risk-informed licensing submittals and staff reviews of those submittals. Revision 3 of Regulatory Guide 1.174 should be issued.

We understand that the staff plans to further revise Regulatory Guide 1.174 to expand the guidance on integrated decision-making and the use of uncertainty as an input to the decision process. We encourage the staff to also consider extending the guidance to address applications of risk information for new reactors, which may have much different risk profiles and lower overall levels of risk than currently operating reactors. We look forward to working with the staff as they continue to revise this guidance.

Sincerely,

/RA/

Dennis C. Bley
Chairman

REFERENCES

1. U.S. Nuclear Regulatory Commission, Draft Regulatory Guide DG-1285, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," September 2017 (ML17261A619).
2. U.S. Nuclear Regulatory Commission, SECY-11-0014, "Use of Containment Accident Pressure in Analyzing Emergency Core Cooling System and Containment Heat Removal System Pump Performance in Postulated Accidents," January 31, 2011 (ML102780586).
3. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum – SECY-11-0014, "Use of Containment Accident Pressure in Analyzing Emergency Core Cooling System and Containment Heat Removal System Pump Performance in Postulated Accidents," March 15, 2011 (ML110740254).
4. U.S. Nuclear Regulatory Commission, SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," July 12, 2011 (ML11186A950).
5. U.S. Nuclear Regulatory Commission, SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," December 6, 2013 (ML13277A413).

6. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum – SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," May 19, 2014 (ML14139A104).
7. U.S. Nuclear Regulatory Commission, NUREG/KM-0009, "Historical Review and Observations of Defense-in-Depth," April 2016 (ML16104A071).
8. U.S. Nuclear Regulatory Commission, NUREG-2150, "A Proposed Risk Management Regulatory Framework," April 2012 (ML12109A277).
9. U.S. Nuclear Regulatory Commission, SECY-15-0168, "Recommendations on Issues Related to Implementation of a Risk Management Regulatory Framework," December 18, 2015 (ML15302A135).
10. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum – SECY-15-0168, "Recommendations on Issues Related to Implementation of a Risk Management Regulatory Framework," March 9, 2016 (ML16069A370).

6. U.S. Nuclear Regulatory Commission, Staff Requirements Memorandum – SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," May 19, 2014 (ML14139A104).
7. U.S. Nuclear Regulatory Commission, NUREG/KM-0009, "Historical Review and Observations of Defense-in-Depth," April 2016 (ML16104A071).
8. U.S. Nuclear Regulatory Commission, NUREG-2150, "A Proposed Risk Management Regulatory Framework," April 2012 (ML12109A277).
9. U.S. Nuclear Regulatory Commission, SECY-15-0168, "Recommendations on Issues Related to Implementation of a Risk Management Regulatory Framework," December 18, 2015 (ML15302A135).
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