

POLICY ISSUE INFORMATION

October 31, 2012

SECY-12-0149

FOR: The Commissioners

FROM: Brian W. Sheron, Director
Office of Nuclear Regulatory Research

SUBJECT: ANNUAL UPDATE OF THE RISK-INFORMED AND
PERFORMANCE-BASED PLAN

PURPOSE:

This paper provides the Commission with an annual update on activities contained in the Risk-Informed and Performance-Based Plan (RPP), including a summary of the recent accomplishments and near-term anticipated accomplishments. This paper does not address any new commitments or associated resource implications.

BACKGROUND:

On June 1, 2006, the Commission issued a staff requirements memorandum (SRM) (Agencywide Documents Access and Management System [ADAMS] under Accession No. ML061520304) that directed the U.S. Nuclear Regulatory Commission (NRC) staff to improve upon the Risk-Informed Regulation Implementation Plan (RIRIP) by developing an integrated master plan for activities designed to help NRC achieve its goal of a holistic, risk-informed, and performance-based regulatory structure. The Commission also directed the staff to seek ways to communicate more transparently to the public and stakeholders on the purpose and use of Probabilistic Risk Assessment (PRA) in the agency's reactor, materials, and waste regulatory programs. SECY-07-0074, "Update on the Improvements to the Risk-Informed Regulation Implementation Plan," dated April 26, 2007 (ADAMS Accession No. ML070890396), conveyed that plan, which the staff retitled as the "Risk-Informed and Performance-Based Plan."

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To meet the Commission's expectations for both a risk-informed and a performance-based regulatory structure, Enclosure 1 to SECY-07-0074 included explicit criteria for the staff's review and consideration of performance-based approaches to determine which initiatives should be both risk-informed and performance based. SECY-07-0191, "Implementation and Update of the Risk-Informed and Performance-Based Plan," dated October 31, 2007 (ADAMS Accession No. ML072700587), discussed the staff's progress in implementing the RPP and included an updated set of objectives, bases, and goals for the reactor, materials, and waste regulatory arenas. In November 2007, the staff completed its commitment to make all aspects of the RPP available to the general public via the agency's public web site. The most recent version of the plan was provided as SECY-11-0151, "Annual Update of the Risk-Informed and Performance-Based Plan," dated October 27, 2011 (ADAMS Accession No. ML112620701).

DISCUSSION:

This Commission paper contains summary information on risk-informed and performance based activities. More comprehensive and detailed information appears on the NRC's public Web site at <http://www.nrc.gov/about-nrc/regulatory/risk-informed/rpp.html>. The Web site provides a readily accessible overview and current status of the agency's risk-informed and performance-based regulatory activities.

The full list of risk-informed initiatives is assembled on the Web site. This paper continues to report on the regulatory initiatives listed below, which are expected to be of Commission interest, with more details in the enclosure:

- Fire Protection for Nuclear Power Plants
- Risk-Informed Technical Specifications
- Develop an Alternative Risk-Informed Approach to Special Treatment Requirements
- NRC Risk Network
- Risk-Informed Rulemaking and Related Activities Currently in Progress
- Risk-Informed Regulatory Guidance for New Reactors
- Human Reliability Analysis
- Human Reliability Analysis Development for Fire PRA
- Standardized Plant Analysis Risk (SPAR) Model Development Program and Systems Analysis Program for Hands-On Integrated Reliability Evaluations (SAPHIRE)
- Risk-Related Generic Issues
- Use of Risk Insights to Enhance Safety Focus of Small Modular Reactor Reviews
- Revised Fuel Cycle Oversight Process
- Extended Storage and Transportation of Spent Nuclear Fuel
- Draft Regulatory Basis to Support Rulemaking for Potential Reprocessing Facilities
- Risk-Informed Emergency Action Levels

In addition, the staff has added the following initiatives to the enclosure:

- Glossary of Risk-Related Terms. The NRC is developing a glossary of risk-related terms to identify and define terms used in risk-informed activities related to commercial nuclear power plants. By providing a single source of the terms, the glossary is intended to reduce ambiguity and facilitate communication on risk-informed activities. In June 2012, a preliminary draft of the glossary was made publicly available in draft NUREG-2122,

“Glossary of Risk-Related Terms in Support of Risk-Informed Decisionmaking” (ADAMS Accession No. ML121570620). The final glossary is expected to be published by the end of calendar year 2012, following resolution of public comments.

- Risk-Informed Construction Significance Determination Process Pilot. The NRC is conducting a Construction Reactor Oversight Process (cROP) assessment and enforcement pilot to apply the proposed new construction assessment and enforcement programs described in SECY-10-0140, “Options for Revising the Construction Reactor Oversight Process Assessment Program,” dated October 26, 2010.
- Level 3 Probabilistic Risk Assessment Project. In the Staff Requirements Memorandum related to SECY-11-0089 (ADAMS Accession No. ML112640419), the Commission directed the staff to conduct a full-scope site Level 3 PRA. The full-scope site Level 3 PRA will address all internal and external hazards, all plant operating modes, and all reactor units, spent fuel pools, and dry cask storage. The staff provided the Commission current information on the Level 3 PRA project in SECY-12-0123, “Update on Staff Plans to Apply the Full-Scope Site Level 3 PRA Project Results to the NRC’s Regulatory Framework,” (ADAMS Accession No. ML 12202B170). The Level 3 PRA project is currently scheduled to be completed in March 2016.

The staff has added the following initiatives to the Web site:

- Spent Fuel Transportation Risk Assessment. NMSS staff initiated the Spent Fuel Transportation Risk Assessment (SFTRA) project to produce an updated and refined assessment of the spent fuel shipment risks. This assessment considers new or additional factors and produces explanatory materials to enhance the NRC’s related outreach efforts on public health and safety. Staff plans to complete the project and issue a final NUREG report in the first half of 2013.
- Risk Informing Security Workshop. The staff plans to conduct a workshop on risk-informing security. This workshop would be a followup to the September 2010 workshop conducted at Sandia National Laboratories. It will focus on the recommendations of the Sandia workshop and provide additional insights into the areas of security that might benefit from developing and implementing risk-informed approaches.

Two important and related staff efforts are currently underway. In SRM-SECY-11-0093, “Near-Term Report and Recommendations for Agency Actions Following the Events in Japan,” dated August 19, 2011 (ADAMS Accession No. ML112310021), the Commission directed staff to provide a notation vote paper on the disposition of Near-Term Task Force (NTTF) Recommendation 1 by February 2013. This effort is being prepared by the NTTF Recommendation 1 Task Force. Additionally, the Chairman’s Memorandum, “Evaluating Options Proposed for a More Holistic Risk-Informed, Performance-Based Regulatory Approach,” dated June 14, 2012, clarified the SRM-SECY-11-0093 staff direction to include consideration of the regulatory framework recommendations for power reactors provided in NUREG-2150, “A Proposed Risk Management Framework.”

In addition, the Chairman’s Memorandum directed the staff to provide a paper to the Commission that would identify options and make recommendations for the Commission’s

consideration regarding the potential development of a policy statement. The staff has initiated actions to address the second task in the Chairman's memorandum. As directed, the staff will produce a Commission paper six months after the SRM that follows the February 2013 notation vote paper. The rapidly evolving work of these staff efforts will be reported via their separate Commission papers, rather than in this RPP paper.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.

/RA/

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Enclosure:
As stated

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