

POLICY ISSUE (Information)

October 31, 2007

SECY-07-0191

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations /RA/

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

PURPOSE:

To provide the Commission with an update regarding (1) the staff's progress in implementing the Risk-Informed and Performance-Based Plan (RPP), formerly known as the Risk-Informed Regulation Implementation Plan (RIRIP); and (2) a summary of the significant accomplishments achieved over the past 6 months and anticipated for the next 6 months. This paper does not address any new commitments or resource implications.

BACKGROUND:

In Staff Requirements Memorandum (SRM) M060503B, "Briefing on Status of Risk-Informed and Performance-Based Reactor Regulation", dated June 1, 2006, which is available in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML061520304, the Commission directed the staff to improve the RIRIP by developing an integrated master plan for activities designed to help the U.S. Nuclear Regulatory Commission (NRC) achieve its goal of a holistic, risk-informed and performance-based regulatory structure. The Commission also directed the staff to seek ways to more transparently communicate, to the public and stakeholders, the purpose and use of probabilistic risk assessments (PRAs) in the agency's reactor, materials, and waste regulatory programs.

In response to that SRM, on October 25, 2006, the staff provided the Commission with the broad outline of a proposal to improve the RIRIP. In addition to providing the traditional, semiannual

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RIRIP update, SECY-06-0217, "Improvement to and Update of the Risk-Informed Regulation Implementation Plan" dated October 25, 2006 (ML062830222), expressed the staff's commitment to share with the Commission information regarding ongoing progress in implementing the proposed RIRIP improvements, and to provide an update on the development of an integrated master plan.

SECY-07-0074, "Update on the Improvements to the Risk-Informed Regulation Implementation Plan," dated April 26, 2007 (ML070890396), conveyed that plan, which the staff re-titled as the "Risk-Informed and Performance-Based Plan." The new RPP differs significantly from its predecessors, the RIRIP and PRA Implementation Plan. In addition to allowing for the inclusion of performance-based elements for the first time, the RPP restructures the agency's planning process by focusing on the three primary regulatory arenas of reactors, materials, and waste.

The RPP focuses on both the "up-front" planning process as well as project completion. In the planning process, formalized objectives, bases, and goals for each arena help determine which initiatives the NRC should continue, which initiatives the agency should sunset, and which new initiatives the agency should consider. To foster the Commission's expectations for both a risk-informed and a performance-based regulatory structure, RPP includes explicit criteria for the staff's review and consideration of performance-based approaches to help determine which initiatives in the database should be both risk-informed and performance-based. In addition, following the completion of selected projects, the RPP provides for the performance and documentation of an effectiveness review to assess success in achieving their stated objectives. Although no effectiveness reviews are currently scheduled, as part of its periodic RPP updates, the staff will inform the Commission of plans to conduct such reviews and convey their findings.

SECY-07-0074 also expressed the staff's commitment to (1) complete the development of the RPP database, (2) complete the RPP-related public Web pages, (3) inform the Commission of any potential policy issues associated with achieving a holistic, risk-informed, and performance-based regulatory structure, and (4) finalize the objectives and supporting bases for each regulatory arena.

On August 2, 2007, the staff and industry stakeholders briefed the Commission on the status of Risk-Informed and Performance-Based Regulation. That briefing included discussion regarding the status of RPP implementation, as well as improvements to the RPP-related Web pages designed to enhance communication with the public and other agency stakeholders. Following that briefing, the Commission directed in the SRM M070802B, dated August 31, 2007, the staff to ensure that the RPP-related Web pages provide useful information regarding risk and probability — in plain language — that explains the value and use of PRA to the general public.

DISCUSSION

This paper discusses the staff's progress in implementing the RPP in terms of (1) the resolution of commitments made in SECY-07-0074 (including the RPP objectives and supporting bases, the RPP-related public Web pages and the RPP database); (2) significant risk-informed and performance-based accomplishments achieved by the staff over the past 6 months, and those planned for the near-term; and (3) potential policy issues associated with a risk-informed and performance-based regulatory structure.

Resolution of SECY-07-0074 Commitments

RPP Objectives and Supporting Bases

Enclosure 1, entitled “Arena and Subarena Objectives, Bases and Goals,” provides guidance which the staff intends to use in assessing ongoing RPP activities to confirm which initiatives the NRC should continue, which initiatives the agency should sunset, and which new initiatives the agency should consider. The staff has finalized these arena and subarena objectives, bases, and goals, which were initially presented to the Commission in draft form in Attachment 1 to SECY-07-0074. These objectives, bases, and goals were developed by an inter-office task group, which incorporated Commission guidance and input from stakeholders. As with the draft, differences exist between the goals established for the various arenas and subarenas, owing to factors such as (1) inherent differences in the complexities and risks associated with regulated, licensed activities, (2) the current state-of-the-art in PRA technology and methods in each arena, (3) the level of stakeholder commitment to risk-informed initiatives, and (4) the potential costs and benefits associated with adopting risk-informed and performance-based approaches.

RPP-Related Public Web Pages and RPP Database

The revised RPP-related public Web pages are currently being finalized (expected to be completed in November, 2007) and will include new information — in plain language— regarding risk and probability to explain the purpose and use of PRA in the nuclear industry to the general public. The various content pages will answer inquiries such as “what is risk,” “what is PRA,” and “what is risk-informed and performance-based regulation.” As part of this Web update, the RPP now provides a readily accessible, comprehensive explanation and overview of the agency’s risk-informed and performance-based regulatory activities (i.e., the RPP database) with related links to more detailed information for the activities identified in the database.

In this context, the staff has completed its periodic update and tabulation of RPP projects, which will soon be available through the revised RPP-related public Web pages. The database is organized according to arenas, and each arena is further subdivided into subarenas. The related projects are then displayed according to their contributions to the three primary functional areas of oversight, licensing, or rulemaking. Each detailed activity plan will be maintained and updated by the responsible program office.

Significant Accomplishments

Enclosure 2, “Recent Accomplishments and Near-Term Anticipated Accomplishments,” summarizes the major risk-informed and performance-based initiatives that the staff has completed over the past 6 months as well as those activities that are planned for the next 6 months. For example, in the area of byproduct materials handling, the Commission approved, on October 16, 2007, final rulemaking regarding exemptions from the licensing and reporting requirements specified in 10 CFR Parts 30, 31, 32, and 150 for general licenses and distribution of byproduct material. This rulemaking was risk-informed, in part, by NUREG-1717, “Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials.” Regarding the phased approach to PRA quality, in the coming months the staff plans to initiate work on Revision 2 of RG 1.200, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities.” That revision will endorse the level 1 and

large early release frequency PRA Standard (ASME/ANS RA-S-2007), promulgated by the American Society of Mechanical Engineers and the American Nuclear Society, which applies to at-power internal events, internal fire events, and external events.

Policy Issues

In the process of implementing the first iteration of RPP, including the finalized database, the staff did not identify any policy issues that might inhibit or preclude the achievement of a holistic, risk-informed and performance-based regulatory structure. To the contrary, the staff expects that the Web-based presentation of the agency's activities, focused as it is along the major arena, subarena, and functional distinctions, will provide a more holistic explanation than previous iterations of the RIRIP or its predecessor, the PRA Implementation Plan (circa 1994 – 1999). Those earlier approaches delineated projects according to other important, but somewhat higher-level agency-wide performance goals, such as safety and efficiency. By contrast, the staff believes the RPP will be more cohesive, in that it facilitates a clearer understanding of how the various activities contribute — individually and collectively — toward achievement of the agency's vision in regard to risk-informed and performance-based regulation.

COORDINATION:

The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections. The Office of the General Counsel has also reviewed this paper and has no legal objection.

/RA/

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Enclosures:

1. Arena and Subarena Objectives, Bases, and Goals
2. Recent Accomplishments and Near-Term Anticipated Accomplishments

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WITS: 199500047
Package: ML072700587
SECY Paper: ML072690619
Enclosure1: ML072700357
Enclosure2: ML072700481

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