

Developing a Framework for Incorporating Risk Information in the NMSS Regulatory Process

NMSS/SFPO/TRD

In the SRM for SECY-99-100, dated June 28, 1999, the Commission approved the staff's proposed framework for risk-informed regulation in NMSS. The NMSS Risk Task Group (RTG) implemented this framework in three phases. Phase 1 established a systematic method to identify and prioritize candidate regulatory applications that are amenable to expanded use of risk assessment information. In Phase 2, RTG applied this systematic approach to identify regulatory applications amenable to being risk-informed.

Also as part of Phase 2 NMSS, in cooperation with RES/DRA and its contractor, Brookhaven National Laboratory, developed material and waste risk guidelines and a decision-making process for risk-informing regulatory activities in NMSS. The risk guidelines are one factor considered in this systematic decision-making process, which also addresses other factors, including defense-in-depth and value-impact analysis. An initial version of a guidance document describing this systematic process, and the risk guidelines, was completed in September 2004.

In FY 2005, NMSS initiated Phase 3, the implementation and trial use phase, where the applicability of proposed risk-informed decision-making guidance will be tested in the course of selected ongoing NMSS activities. Due to resource limitations, the Risk Task Group has been disbanded, and no funding specifically for risk-informing is budgeted. Instead risk-informing will be carried out as a part of normal budgeted activities and as part of the NMSS continuous improvement process.

The guidance document on risk-informed decision-making was modified during 2005 to reflect direction in the Staff Requirements Memorandum to SECY-04-0182, and to remove sensitive information. This completed document was then made available for trial use by staff. In January 2006 a presentation was made to the Advisory Committee on Nuclear Waste (ACNW) on this document. On May 2, 2006, the ACNW provided a letter to the Commission recommending use of the guidance. A workshop on the guidance was held for NMSS staff in June 2006.

The guidance document, "Risk-Informed Decision-Making for Nuclear Material and Waste Applications" (RIDM), was revised and re-published in February 2008. Two of the six risk guidelines were converted from units of probability of latent cancer fatality, to expectation value of dose per year, in accordance with a recommendation of the ACNW. The text was also revised to incorporate lessons from experience with trial applications, and comments from staff reviewers.

Selected Major Milestones and Schedules

Major Milestones	Original Target Date	Revised Date	Completion Date	NRC Responsibility
Develop revised draft Risk Guidelines Report	June 2004		September 2004	NMSS/RTG
Develop revised draft systematic decision-making process guidance document	June 2004		September 2004	NMSS/RTG
Present revised risk-informed decision-making guidance to ACNW	January 2006		January 2006	NMSS/SFPO/TRD
Hold workshop for NMSS staff on risk-informed decision-making	June 2006		June 2006	NMSS/SFPO/TRD
Produce Synopsis of Risk-Informed Decision-Making guidance document	June 2007	March 2008	February 2008	NMSS/FCSS/SPTSD
Revise guidance document based on comments and experience	December 2007	March 2008	February 2008	NMSS/FCSS/SPTSD