

## **POLICY ISSUE NOTATION VOTE**

January 9, 2006

SECY-06-0007

FOR: The Commissioners

FROM: Luis A. Reyes  
Executive Director for Operations

SUBJECT: STAFF PLAN TO MAKE A RISK-INFORMED AND PERFORMANCE-BASED REVISION TO 10 CFR PART 50

### PURPOSE:

To request Commission approval to (1) issue an Advance Notice of Proposed Rulemaking (ANPR) soliciting stakeholder feedback on rulemaking approaches related to making technical requirements for power reactors risk-informed and performance-based, and (2) allow the staff to supplement the ANPR, with additional information as needed, to solicit stakeholder input.

To provide to the Commission, as part of the ANPR, the program plan to make a risk-informed and performance-based revision to 10 CFR Part 50, including revisions to the applicable Regulatory Guides, Standard Review Plans, and other guidance documents.

### BACKGROUND:

On April 5, 2005, the Office of Nuclear Regulatory Research (RES) briefed the Commission on its programs, performance, and plans. In response to this briefing on May 9, 2005, the Commission, in a staff requirements memorandum (SRM), directed the staff "to develop a formal program plan to make a risk-informed and performance-based revision to 10 CFR Part 50, including revisions to the applicable Regulatory Guides, Standard Review Plans, or other guidance documents" (ML051290351).

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In a September 14, 2005 SRM (ML052570437), in response to SECY-05-0130, "Policy Issues Related to New Plant Licensing and Status of the Technology-Neutral Framework for New Plant Licensing," the Commission subsequently directed the staff to develop in an expeditious fashion an ANPR to consider the spectrum of issues relating to risk-informing the reactor regulations. The Commission further directed the staff to incorporate into the ANPR the formal program to risk-inform Part 50, as well as other related risk-informed efforts, and to integrate safety, security, and preparedness throughout the effort.

In September 21, 2005 SRM (ML052640492), in response to SECY-05-0138, "Risk-Informed and Performance-Based Alternatives to the Single-Failure Criterion," the Commission again directed the staff to develop expeditiously an ANPR, to include the effort to develop risk-informed and performance-based alternatives to the single failure criterion, and to integrate safety, security, and preparedness throughout the effort. This is consistent with the Commission direction provided in the SRM to SECY-05-0130.

#### DISCUSSION:

The staff proposes to achieve the Commission's direction to make a risk-informed and performance-based revision to 10 CFR Part 50 by creating a completely new risk-informed and performance-based Part 50 (to be called Part 53) that is applicable to all reactor technologies. The development of this new Part 53 will integrate safety, security, and preparedness. This approach will ensure that the reactor regulations, and staff processes and programs, are built on a unified safety concept and are properly integrated so that they complement one another.<sup>1</sup> The plan for this effort is incorporated into the enclosed ANPR (see Enclosure).

The first task in this effort is the issuance of an ANPR on revision of the requirements of 10 CFR Part 50 to be risk-informed and performance-based. The ANPR will initiate the rulemaking process by notifying stakeholders and requesting feedback on the Commission's interest in developing a new Part 53. Creating a new risk-informed and performance-based Part 53 is a continuation and advancement of the work described in SECY-05-0006, "Second Status Paper on the Staff's Proposed Regulatory Structure for New Plant Licensing and Update on Policy Issues Related to New Plant Licensing" (ML043560093). The technical basis to support a new Part 53 involves numerous policy and technical issues. However, not all of the issues associated with a new Part 53 have necessarily been identified at this time. The staff anticipates that as the technical basis is further developed, additional issues may be identified. Also, as staff efforts proceed with revising the current 10 CFR Part 50, more policy issues may be identified.

The staff plans to supplement the ANPR with additional information over time so that stakeholders have the opportunity to provide input on all the significant issues early in the rulemaking process. Consequently, the ANPR process will remain open until the technical basis is complete. With completion of the technical basis and closure of the ANPR stage, the

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<sup>1</sup>As noted in SECY-05-0199, "Updated of the Risk-Informed Regulation Implementation Plan," dated October 28, 2005 (ML052620538), the staff concluded that it would be more appropriate to discontinue a separate Coherence Plan and include this effort as part of the risk-informed and performance-based revision to 10 CFR Part 50.

staff will request Commission direction and approval regarding initiating formal rulemaking (including development of actual rulemaking language).

Two of the policy issues to be addressed are the level of safety and the integrated risk for future reactors, as discussed in SECY-05-0130 (ML051670388). The Advisory Committee on Reactor Safeguards (the Committee) sent the Commission the Committee's views of these two issues in a letter on September 21, 2005 (ML052640580). In the SRM for SECY-05-0130, the Commission directed the staff to consider the Committee's comments and develop a subsequent notation vote paper. The Committee's letter is attached to the ANPR and the staff is soliciting stakeholder comments on their views. The staff will consider stakeholder feedback and the Committee's views on these issues in preparing a recommendation for the Commission.

Two other policy issues are discussed in SECY-05-0130: containment functional performance requirements and definition of defense-in-depth. With regard to containment functional performance requirements, the staff did not provide recommendations and stated that final options and recommendations would be submitted for Commission approval in coordination with completing the draft work on the technology-neutral framework. With regard to defense-in-depth, the staff stated that it would provide a definition for Commission approval in coordination with completing the draft technology-neutral framework and subsequently incorporate the definition into the Commission's Probabilistic Risk Assessment (PRA) policy statement. These two issues have now been included in the ANPR to solicit stakeholder feedback. The staff will take into account stakeholder feedback and will provide a recommendation on a path forward for Commission approval.

In addition, in SECY-05-0138 (ML051950619), the staff recommended including any followup activities to risk-inform the single failure criterion as part of the formal program plan to risk-inform 10 CFR Part 50. The staff is proposing to address this issue in developing a new Part 53. This issue is also included in the ANPR to solicit stakeholder feedback as directed by the Commission in their SRM to SECY-05-0138.

The staff also plans to continue the ongoing efforts to revise specific regulations in 10 CFR Part 50 as described in SECY-98-300, "Options for Risk-Informed Revisions to 10 CFR Part 50, "Domestic Licensing of Productions and Utilization Facilities" (ML992870048). The staff proposes to focus resources in the near-term on completion and subsequent implementation of the ongoing risk-informed rulemaking efforts for current operating reactors and not to initiate new efforts to risk-inform and performance-base other regulations at this time, unless specific regulations or guidance documents are identified that could enhance the efficiency and effectiveness of staff reviews of near-term applications. However, the staff is requesting public comment in the ANPR on whether there are additional regulations in 10 CFR Part 50 that should be risk-informed. Based on public comments received, the staff will request Commission direction and approval regarding initiating any new revisions to the regulations in 10 CFR Part 50.

The staff will keep the Commission informed on the status of this rulemaking effort through the annual Rulemaking Activity Plan. The staff will also keep the Commission informed on the status of risk-informing activities through the semi-annual updates of the Risk-Informed Regulation Implementation Plan.

#### COMMITMENTS:

Listed below are the actions or activities committed to by the staff in this paper.

- (1) The staff will
  - provide recommendations for Commission direction and approval on the two policy issues regarding the level of safety and integrated risk;
  - provide a path forward for Commission approval on the resolution of containment functional performance standards and on incorporation of a definition of defense-in-depth into the Commission’s PRA policy statement; and
  - inform the Commission of stakeholders views on the ANPR.  
(NRR/RES/NSIR, October 2006)
- (2) The staff will supplement the ANPR with additional issues as needed. (NRR/RES/NSIR)
- (3) The staff will request Commission direction and approval on additional policy and technical issues, if identified. (NRR/RES/NSIR)
- (4) The staff will provide the Commission, for information, the technology-neutral framework after considering stakeholders comments from the ANPR and incorporating any additional guidance received from the Commission on the issues identified in (1) above. (RES/NRR/NSIR, June 2007)
- (5) The staff will request Commission direction and approval to initiate formal rulemaking on a new Part 53 and to initiate efforts to revise other regulations in Part 50, if any are identified. (NRR/RES/NSIR).

RECOMMENDATION:

The staff recommends that the Commission approve

- issuance of the enclosed ANPR on a risk-informed and performance-based revision to 10 CFR Part 50, and
- allow the staff to supplement the ANPR, as needed, with additional information to solicit stakeholder input.

RESOURCE:

To implement the activities listed above, the staff has made preliminary resource estimates as shown in the table below for creating a new Part 53. These estimates address the first part of the rulemaking process (the ANPR and the technical basis as described in the ANPR) and involve the expertise of a board portion of the agency’s technical staff.

FY 2006		FY 2007		FY 2008
Proposed	Current	Proposed	Current	

	FTE	\$K	FTE	\$K	FTE	\$K	FTE	\$K	FTE	\$K
RES	3.6	550	3.6**	550	3.6	550	1.6	550	3	550
NRR	3.5	50	3**	*	5	50	*	*	6	50
NSIR	0.5	25	0.5**	25**	1	25	*	*	1	25
<p>*The current Office of Nuclear Reactor Regulation (NRR) and Office of Nuclear Security and Incident Response (NSIR) budgets only included sufficient resources for development of the technical basis to provide a minimal level of effort to support RES.</p> <p>**In the August 23, 2005, memo from the EDO and the CFO to the Commission, "Allocation of Additional FY 2006 Funding for New Reactor Licensing and Security," NRR and RES were allocated an additional 5 FTE (2 for RES and 3 for NRR) for risk-informing Part 50 for new reactors. In addition, NSIR was allocated sufficient resources to cover all new reactor licensing requirements.</p>										

Implementing this work would necessitate requesting additional resources beyond those currently allocated within NRR, RES, and NSIR. For FY 2006, the budget includes sufficient resources for RES and NSIR. For NRR, an additional 0.5 FTE and \$50K is needed. NRR plans to reallocate \$50K from topical reports - financial assurance reviews, and 0.5 FTE from the lowest priority licensing actions. The impact of the reallocation would be a slight delay in contractual efforts for financial reviews, and a delay of approximately eight licensing actions.

Consistent with our common prioritization process, the likely areas from which FY2007 and FY2008 resources would be drawn are lower priority licensing actions, topical report reviews, and lower priority rulemakings. In addition, resources associated with research programs for providing technical support for risk-informed and performance-based changes to Part 50 would be realigned. The additional resources needed in FY 2007 and FY 2008 will be addressed during the FY 2008 Planning, Budgeting, and Performance Management (PBPM) process.

The task, Rule Development, if approved by the Commission following completion of the ANPR and development of the technical basis, is scheduled in the plan to start after 2008. The staff will request Commission direction and approval before implementing this task, as well as provide resource estimates for this task.

The information on resources and schedule reflects the current environment. If a significant amount of time (greater than 30 days) passes or the Commission provides the staff direction that differs from or adds to the staff's recommended action(s), this section of the paper would need to be revisited after issuance of the draft SRM.

COORDINATION:

The Office of the General Counsel has no legal objection concerning this paper. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections. The staff provided Advisory Committee on Reactor Safeguards (ACRS) with a draft copy of this paper on November 18, 2005, and briefed the ACRS on December 8, 2005. The staff will continue to interface with the ACRS on these efforts.

*/RA/*

Luis A. Reyes  
Executive Director  
for Operations

Enclosure:  
Advance Notice of Proposed Rulemaking  
“Approaches to Risk-Inform and Performance-  
Base the Requirements for Nuclear Power  
Reactors”

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Enclosure:  
Advance Notice of Proposed Rulemaking  
“Approaches to Risk-Inform and Performance-Base the Requirements for Nuclear Power Reactors”

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\*See previous concurrence

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