UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SECRETARY

March 9, 2016

COMMISSION VOTING RECORD

DECISION ITEM: SECY-15-0168

TITLE: RECOMMENDATIONS ON ISSUES RELATED TO IMPLEMENTATION OF A RISK MANAGEMENT REGULATORY FRAMEWORK

The Commission acted on the subject paper as recorded in the Staff Requirements Memorandum (SRM) of March 9, 2016.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook
Secretary of the Commission

Enclosures:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Burns
Commissioner Svinicki
Commissioner Ostendorff
Commissioner Baran
OGC
EDO
PDR

VOTING SUMMARY – SECY-15-0168

RECORDED VOTES

	APPROVED	DISAPPROVED	ABSTAIN	NOT PARTICIPATING	COMMENTS	DATE
Chrm. Burns	X				X	02/25/16
Cmr. Svinicki	X				X	02/11/16
Cmr. Ostendorff	X				X	01/28/16
Cmr. Baran	X				X	02/02/16

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

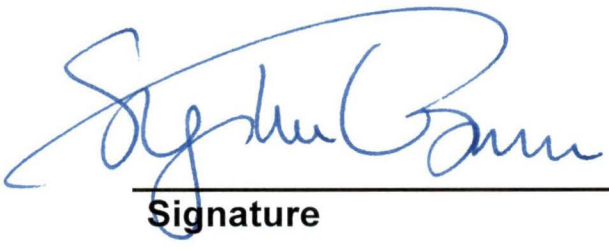
FROM: Chairman Burns

SUBJECT: SECY-15-0168: RECOMMENDATIONS ON ISSUES RELATED TO IMPLEMENTATION OF A RISK MANAGEMENT REGULATORY FRAMEWORK

Approved X Disapproved ____ Abstain ____ Not Participating ____

COMMENTS: Below ____ Attached X None ____

Entered in STARS
Yes x
No ____



Signature

25 February 2016
Date

Chairman Burns Comments on SECY-15-0168
Recommendations on Issues Related to Implementation of a
Risk Management Regulatory Framework

In this paper, the staff presents its recommendations regarding the Risk Management Regulatory Framework outlined in NUREG-2150, as well as associated consideration of a risk management policy statement. The staff also discusses its actions based on direction from the Commission in the staff requirements memorandum (SRM) associated with SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report." Finally, the staff provides information on the interrelationships between various risk-informed nuclear power reactor safety initiatives.

I appreciate the effort that went into developing this paper and the associated documents. I have carefully reviewed the staff's recommendations and discussed this subject with the non-concurring individual, whom I commend for the clear presentation of her views. I strongly support risk-informed, performance-based regulation as an agency philosophy, and we should continue to pursue means to risk-inform our regulatory approach within the existing framework. In the current fiscal environment, however, we must make tough decisions about the activities we pursue and focus on those with tangible benefits to our safety and security mission. Therefore, I support the staff's recommendations to maintain the existing regulatory framework for the nuclear power reactor safety program area and refrain from developing an overarching, agency-wide risk management policy statement. The staff stated that its ongoing activities to implement specific risk-informed approaches will continue regardless of the decision on an agency-wide risk management policy statement, and I wholeheartedly agree that they should.

More specifically, I approve the staff's recommendation to use the existing risk-informed framework to continue to make regulatory improvements where appropriate, without creating a formal mandatory or voluntary risk-informed licensing basis for operating reactors at this time. The staff stated that it believes that the adoption of a risk-informed regulatory framework, similar in concept to an RMRF, would provide the greatest benefits for new reactor designs that employ non-traditional technologies and that it would continue to engage stakeholders interested in pursuing such a risk-informed framework. In developing the licensing process for advanced reactor designs, the staff should evaluate options for establishing a risk-informed, performance-based framework and present them for Commission consideration when appropriate.

I also approve the staff's recommendation not to adopt a new "design-basis extension" category of events. I support the staff's plans to revise internal rulemaking guidance, addressing the regulatory attributes, such as documentation and treatment of equipment associated with beyond-design-basis requirements. The staff should inform the Commission when this revision is complete.

In addition, I approve the staff's recommendation not to prepare a formal agency-wide definition and criteria for defense in depth. I appreciate the staff's effort to collect historical perspectives in a knowledge-management report on the defense-in-depth philosophy. Moving forward, I support the staff's activities to enhance the defense-in-depth guidance for risk-informed licensing basis changes at nuclear power plants in Regulatory Guide 1.174. I believe that this approach will provide flexibility for various applications while clarifying the staff's expectations for licensing-basis change requests.

Finally, I approve the staff's recommendation not to develop an agency-wide risk management policy statement. I note that many previous Commission documents articulate support for risk-informed regulation, from the SRM on SECY-98-144, "White Paper on Risk-Informed and Performance-Based Regulation," to the Principles of Good Regulation and the NRC Strategic Plan. The Commission recently echoed and strengthened these ideas in the SRM on SECY-15-0015, "Project AIM 2020 Report and Recommendations," stating that the NRC should identify and consider additional opportunities to apply more broadly risk insights to enhance our decision-making beyond traditional technical issues. While a Commission policy statement may focus attention on our risk-informed activities, it is more likely that success in implementing specific existing initiatives will invite further interest and innovation. The staff should continue its active engagement with the industry to further pursue means to risk-inform our regulatory approaches.

Stephen G. Burns
25 February 2016

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER SVINICKI

SUBJECT: SECY-15-0168: RECOMMENDATIONS ON ISSUES RELATED TO IMPLEMENTATION OF A RISK MANAGEMENT REGULATORY FRAMEWORK

Approved XX Disapproved ____ Abstain ____ Not Participating ____

COMMENTS: Below ____ Attached XX None ____

SIGNATURE

02/11/16
DATE

Entered on "STARS" Yes ✓ No ___

Commissioner Svinicki's Comments on SECY-15-0168
Recommendations on Issues Related to Implementation of a
Risk Management Regulatory Framework

I approve the staff's recommendations that the Commission direct the staff to do the following: 1) Maintain the existing regulatory framework for the nuclear power reactor safety program area and 2) Refrain from developing an overarching, agency-wide risk management policy statement. I appreciate the work undertaken by the staff in arriving at these recommendations. I also considered carefully the written non-concurrence, the supplemental information provided by the non-concurring individual, and insights arising from the thoughtful discussion we had during a meeting with the individual. On balance, the staff's recommendations are rooted in a careful review of activities currently underway to implement risk-informed approaches within NRC program areas and the potential benefits of undertaking further generic exploration and definition of risk policies. The staff's assessment was both broad and deep. Based on my deliberation, I conclude that the staff's recommendations are well-reasoned and approve them on the bases given by the staff in the paper.

At bottom, the staff recommends that the NRC maintain its existing regulatory framework for nuclear power reactor safety and continue to make risk-informed regulatory improvements on an incremental basis. The staff notes that regulatory improvements in response to the Fukushima Dai-Ichi accident are being successfully implemented under the existing regulatory framework and that maintaining the existing regulatory framework and processes would maintain the approach to regulation that has been successful and is well-understood. I agree. As I noted in my vote on SECY-13-0132, "When looked at as a whole, our history demonstrates a tremendous coherency in approaching defense-in-depth. Better still, because we do not embrace one rote and regimented approach to this foundational concept, the NRC preserves flexibility in tailoring applications of defense-in-depth, a flexibility that has served us well and can continue to do so."

Among the staff's specific conclusions is that a new category of events for beyond the design basis should not be established within our regulatory framework. I agree and approve the staff's approach that all future nuclear power reactor regulations (especially those proposing to impose beyond-design-basis requirements) should include consistent and comprehensive rule language addressing all necessary regulatory attributes. This is more efficient and transparent, as well as providing ease in Commission review of such proposals in deciding whether such beyond-design-basis requirements are sufficiently justified for inclusion in proposed and final rules before the Commission for approval.

The staff also recommends against developing a definition of and criteria for determining adequacy of defense-in-depth. Appropriate consideration of defense-in-depth has been given historically through the regulations, policy statements, guidance documents, and nuclear power plant design without a formal definition or specific criteria. As noted by Commissioners Ostendorff and Baran, in their votes, defense-in-depth can be likened to a "philosophy" rather than a "formula," with parallels to the application of expert judgment needed in arriving at determinations of the legal standard of "adequate protection." Their comments bring to mind the Circuit Court for the District of Columbia's view in *Union of Concerned Scientists v. NRC*:

> [T]he "adequate protection" standard may be given content through case-by-case applications of [the Commission's] technical judgment rather than by a mechanical verbal formula or set of objective standards[.] "Congress did not define 'adequate protection,' nor did it command the Commission to define it." . . . We elect not to second-

guess the Commission's discretion in "mak[ing] sound judgments about what 'adequate protection' requires, by relying on expert engineering and scientific judgment, acting in light of all relevant and material information."[1]

The work of nuclear safety regulation will always be complex and application of risk-management principles in resolving these issues will not in many instances lend itself to generic approaches. I am confident – given the quality of the work we do – that we will continue to elevate the sophistication of our use of risk-insights throughout all of our program areas as we move into the future, including our approach to enterprise risk management for our own NRC organization. I agree that the activities that the staff recommends not pursuing here are not central to this task.

Kristine L. Svinicki 11 February 2016

[1] 880 F.2d 552, 558 (1989) (quoting Revision of Backfitting Process for Power Reactors, 53 Fed. Reg. 20,603, 20,605-06 (June 6, 1988)) (fifth alteration in original).

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSSIONER OSTENDORFF

SUBJECT: SECY-15-0168: RECOMMENDATIONS ON ISSUES RELATED TO IMPLEMENTATION OF A RISK MANAGEMENT REGULATORY FRAMEWORK

Approved X Disapproved ____ Abstain ____ Not Participating ____

COMMENTS: Below ____ Attached X None ____

Entered in STARS
Yes X
No ____

Signature

1/28/16
Date

Commissioner Ostendorff's Comments on SECY-15-0168:
"Recommendations on Issues Related To Implementation of a Risk Management Regulatory Framework"

I approve the staff's recommendations to: 1) maintain the existing regulatory framework for nuclear power reactor safety and continue to make risk-informed regulatory improvements on an incremental basis and 2) not pursue an agencywide risk management policy statement.

I appreciate the holistic review of these matters as presented by the staff in SECY-15-0168 and the discussion of differing views that was provided. Evaluation of these issues has benefited greatly from additional in-depth staff consideration, stakeholder input, and review by the Advisory Committee on Reactor Safeguards. Several recent Commission decisions also have a bearing on this vote. These include COMWDM-14-0002, "Improving Safety and Regulatory Effectiveness by Enhancing the NRC's Framework for Risk-Informed Decision Making," wherein the Commission disapproved a proposal to require operating reactor licensees to submit probabilistic risk assessment (PRA) information to the NRC and maintain and update these PRAs. Additionally, other ongoing NRC initiatives to enhance the NRC's regulatory processes, some of which were directed by the Commission post-Fukushima relate to this issue. These include: (1) updates to staff guidance on regulatory analysis, cost-benefit analysis, and the consideration of qualitative factors; (2) development of a NUREG to consolidate and document the history and associated general observations on defense-in-depth; and (3) improved staff guidance for evaluating defense-in-depth issues in Regulatory Guide (RG) 1.174. These incremental enhancements to our existing regulatory framework represent a pragmatic approach to enhancing regulatory clarity and transparency in regulatory decision-making.

During my deliberations on this SECY paper, I benefited from a constructive meeting with a non-concurring individual. As a result of this discussion, I took a closer look at the issue of defense-in-depth. I carefully reviewed the 2011 draft revision to RG 1.174. I am pleased with the staff's efforts to clarify how licensee-proposed, risk-informed changes should be evaluated to ensure that they are consistent with the defense-in-depth philosophy. I note that the revision to this RG is on hold pending Commission direction on SECY-15-0168 and I encourage the staff to complete this revision expeditiously upon issuance of the staff requirements memorandum for this SECY. I also reviewed a preliminary draft NUREG on defense-in-depth that is being developed in response to SRM-SECY-13-0132. I appreciate the effort that has gone into preparing this draft NUREG. When completed, this document will represent a thorough and comprehensive review of defense-in-depth that will serve as an effective knowledge management tool. I note that this draft NUREG makes numerous references to the July 12, 2011, Near-Term Task Force (NTTF) report "Recommendations for Enhancing Reactor Safety in the 21st Century." The NTTF stated in this report that "[t]he Task Force has found that the defense-in-depth philosophy is a useful and broadly applied concept. It is not, however, susceptible to a rigid definition because it is a philosophy." This statement resonated with me, and I agree that defense-in-depth is a philosophy. I also see a close parallel with the standard of adequate protection. The NRC is afforded significant discretion in determining whether the adequate protection standard has been met and the NRC makes case-by-case determinations on adequate protection. The NRC also makes case-by-case determinations on defense-in-depth as demonstrated by the Commission's post-Fukushima decision-making. Based on this experience, I do not support additional efforts to develop a specific definition of and criteria for determining the adequacy of defense-in-depth.

I support the staff's commitments to develop internal rulemaking guidance to ensure that all new nuclear power reactor regulations include consistent and comprehensive rule language

addressing all necessary regulatory attributes, and the staff's plan to engage stakeholders on the path forward for 10 CFR 50.46(a). The staff should inform the Commission of the outcome of stakeholder interactions before expending additional resources on the 50.46(a) rulemaking effort.

In my votes on SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," and SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near Term-Task Force Report," I reiterated my statement at a July 19, 2011, public meeting that, "While I support thoughtful consideration of any potential safety enhancements in a systematic and holistic manner, I do not believe that our existing regulatory framework is broken." I further stated that "the current regulatory approach has served the Commission and the public well." Experience has borne this out during the NRC's post-Fukushima regulatory decision-making and I am even more convinced today of the continuing adequacy of the NRC's regulatory framework.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: Commissioner Baran

SUBJECT: SECY-15-0168: RECOMMENDATIONS ON ISSUES RELATED TO IMPLEMENTATION OF A RISK MANAGEMENT REGULATORY FRAMEWORK

Approved X **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** ____ **Attached** X **None** ____

Entered in STARS
Yes XX
No ____

Signature

2/2/16
Date

Commissioner Baran's Comments on SECY-15-0168, "Recommendations on Issues Related to Implementation of a Risk Management Regulatory Framework"

In this policy paper, the NRC staff recommends (1) maintaining the existing regulatory framework for the nuclear power reactor safety program and (2) refraining from developing an overarching, agencywide risk management policy statement. I appreciate the staff's work on the paper, as well as the high-quality non-concurrence, which I found very helpful in my consideration of these issues.

The first staff recommendation to "maintain the existing regulatory framework for the nuclear power reactor safety program area" is very broadly framed. Rather than opine on this broad statement, I will focus on the two specific elements of this item: (1) a recommendation not to establish a formal design basis extension category of requirements and (2) a recommendation not to develop a definition of and criteria for determining adequacy of defense in depth.

I agree with the staff that it is not necessary to establish a formal design basis extension category at this time. In my view, it is better for the agency to focus its resources on implementing the tangible safety enhancements identified in response to the Fukushima accident.

I also agree with the staff that it is not necessary to develop a Commission policy statement on defense in depth or other formal definition of and criteria for determining the adequacy of defense in depth. I concur with the staff's statement that "NRC will continue its long-held commitment to the defense-in-depth concept; to the regulation of nuclear reactor issues beyond the traditional design-basis events, where appropriate; and to the inclusion of the defense-in-depth concept as an essential component of risk-informed regulation." However, I think there is significant value in taking a flexible approach to defense in depth, particularly across different program areas, such as nuclear reactors, fuel cycle facilities, waste, and materials licensees. As the staff paper explains, "[a] high-level defense in depth policy is unlikely to be specific enough to be useful to all agency programs." Like a determination of what constitutes "adequate protection," decisions about the adequacy of defense in depth may not be amenable to fixed, precise definitions. Defense in depth is a philosophy rather than a formula. Nevertheless, I support the staff's effort to update Regulatory Guide 1.174 on defense in depth in order to improve the clarity of the guidance.

In its discussion of initiatives to advance risk-informed decisionmaking, the staff states that "[i]n the area of oversight, the staff is looking at options for risk-informing the response to operability issues of low safety significance." An approach that would permit licensees to avoid timely compliance with NRC's regulatory requirements raises significant policy issues. The staff should provide a notation vote paper to the Commission prior to taking steps to "risk inform the response to operability issues of low safety significance."

I agree with the staff that it is not necessary to develop a Commission policy statement on risk management. The non-concurrence is correct that probabilistic risk assessment is only one tool for analyzing risk and that the existing probabilistic risk assessment policy statement is not equivalent to a risk management policy statement. But, in my view, the agency's resources should be focused on higher priority activities with clearer benefits.

In the paper, the staff states that it will prepare a COMSECY to inform the Commission of the results of the stakeholder interactions on the draft final 10 CFR 50.46a Risk-Informed Emergency Core Cooling System rule and the staff's plans and schedule for addressing the rule. I support this approach.