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

May 4, 2009

SECRETARY

COMMISSION VOTING RECORD

DECISION ITEM: SECY-09-0006

TITLE: CRITICAL RESEARCH FACILITIES FOR SEVERE ACCIDENT RESEARCH AT LIGHT WATER AND ADVANCED REACTORS

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of May 4, 2009.

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

Attachments:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Klein
Commissioner Jaczko
Commissioner Lyons
Commissioner Svinicki
OGC
EDO
PDR

VOTING SUMMARY - SECY-09-0006

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. KLEIN	X				X	4/9/09
COMR. JACZKO	X					4/22/09
COMR. LYONS	X				X	1/29/09
COMR. SVINICKI	X				X	4/10/09

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and some provided additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on May 4, 2009.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: CHAIRMAN KLEIN

SUBJECT: SECY-09-0006 – CRITICAL RESEARCH FACILITIES FOR SEVERE ACCIDENT RESEARCH AT LIGHT WATER AND ADVANCED REACTORS

Approved X **Disapproved** _____ **Abstain** _____

Not Participating _____

COMMENTS: **Below** ___ **Attached** X **None** ___

SIGNATURE

4/9/09

DATE

Entered on "STARS" **Yes** ✓ **No** ___

Chairman Klein's Comments on SECY-09-0006, "Critical Research Facilities for Severe Accident Research at Light Water and Advanced Reactors"

I approve the staff's recommendations to continue the negotiation for bilateral and multilateral agreements to maintain access to critical research facilities, both domestic and international, that will be needed for future research on severe accidents at light water and advanced reactors.

Maintaining access to critical research facilities enables NRC to possess expertise in severe accident phenomenology and a predictive capability for simulating the response of nuclear power plants to postulated severe accidents. Thus, I appreciate the staff's continued effort to monitor and evaluate the availability of severe accident research facilities.

Commissioner Lyons raised, in his vote, the issue of funding challenges for long-term research activities. I agree with the Commissioner's assessment that we face an increasing need for sustained research activities to maintain our staff expertise and to encourage safety and security improvements through the use of advanced technologies. I also share his concerns that prolonged instability in funding could derail any long-term research activities to analyze new technical information to support regulatory decision-making.

Aside from the funding issue, I noted that for FY 2011, the staff identified in SECY-09-0021, "Agency Long-Term Research Activities for Fiscal year 2011," seven new potential projects that are long-term in nature, such as advanced fuel and cladding licensing. I was heartened to see that these projects were the product of the staff's renewed effort and a revised process for identifying and pursuing long-term research activities, especially since no new long-term research activity had been identified for FY 2010. Despite this renewed effort, however, the challenge of finding predictable and stable funding remains a constraining factor and this difficulty could prematurely limit the scope of needed research activities, as "leveraging of resources" is considered an evaluation criterion in the staff's "Long-Term Research Identification Process."

Historically, establishing a more stable funding strategy for research activities has been a recurring challenge. For example, in 2000, a seventeen-member panel of various stakeholder experts was formed to provide guidance on the future direction of regulatory research. The panel observed that anticipatory research, in particular, was underfunded and recommended that research funding for new technology and advanced designs should be independent of the fee structure. Today, nine years later, we are still faced with underfunded long-term research program.

In view of this longstanding and difficult challenge, I join Commissioner Lyons in requesting the staff to identify potential funding options for long-term research activities that extend beyond fee-based resources.

Dale E. Klein 4/9/09 Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER JACZKO

SUBJECT: SECY-09-0006 – CRITICAL RESEARCH FACILITIES FOR SEVERE ACCIDENT RESEARCH AT LIGHT WATER AND ADVANCED REACTORS

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached ___ None X

SIGNATURE

9/22/09

DATE

Entered on "STARS" Yes ___ No ___

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER LYONS

SUBJECT: SECY-09-0006 – CRITICAL RESEARCH FACILITIES FOR SEVERE ACCIDENT RESEARCH AT LIGHT WATER AND ADVANCED REACTORS

Approved __X__ Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached _X__ None ___

Peter B. Lyons
SIGNATURE

1/ 29 /09
DATE

Entered on "STARS" Yes _X__ No ___

Commissioner Lyons' Vote on SECY-09-0006
Critical Research Facilities for Severe Accident Research at Light Water and Advanced Reactors

I approve the staff recommendation of continuing to negotiate bilateral and multilateral agreements for light-water reactor and high-temperature gas reactor experimental programs with the following additions and comments.

I appreciate the efforts of the staff to evaluate and prioritize the need for these various facilities. I also appreciate the staff's comments that these facilities represent long lead time items that require multiyear funding. The issue of stability of funding for long lead time research activities continues to be of great interest to me.

Achieving the safety and security mission of the NRC requires the agency's continued readiness and capability to perform licensing reviews of applications for design and construction of new nuclear power plants that use advanced technologies. Historical advances in nuclear power technology have consistently led to safety improvements over the years and I strongly expect such improvements will continue into the future, capable of improving both safety and security. It is integral to the achievement of our safety and security mission that the NRC remains able to conduct effective and efficient future licensing reviews of advanced technologies. Although the long-term schedule for future applications employing advanced reactor technologies is uncertain, I strongly believe there is no uncertainty about the increasing demand for power that will motivate future nuclear power reactor applications. Further, there is no uncertainty about the continuing advance of technology or the possibility of improving safety and security if advanced technology is correctly applied.

The advances in technology and analytical methods are also applied to operating plant license amendment requests. Much of NRC's regulatory research has been focused on supporting such near-term licensing needs. The Advisory Committee for Reactor Safeguards (ACRS) recently noted[i]: "Licensee submittals will grow more complicated and technically sophisticated as licensees continue to utilize the margin that exists between current operations and regulatory limits." However, typically as the demand for such near-term research increases, the resources consequently available for research to support longer-term needs become more limited. This has been the trend at NRC. I fear that continuation of the present situation will severely restrict our future ability to license the use of advanced technologies that can enhance safety and security. My personal experience as a researcher leads me to conclude that such instability in long-term funding can devastate a long-term research program.

Achieving our safety and security mission requires effective and efficient licensing reviews of advanced technologies for both operating plants and future advanced plant designs, which in turn requires maintaining NRC staff technical expertise in advancing technologies. Again quoting the ACRS[ii]: "Research needed to establish expertise for the review of advanced reactor designs cannot be done in parallel with the certification reviews....In the absence of research results, regulatory actions will proceed along lines that may prove unnecessarily conservative or even incorrect." Further, the ACRS noted the remarks of former NRC Chairman Dr. John Ahearne: "There needs to be confidence within the public that the agency has sufficient technical background and expertise to adequately review the safety of the more advanced reactor designs....Without demonstrable expertise, there will be skepticism concerning the NRC's ability to deal with important safety issues."

I believe that as we face a mounting need for stability in long-term sustained research, we must continue to maintain our staff expertise and achieve our mission in a manner that encourages safety and security improvements through the use of advanced technologies. For that reason, in addition to supporting the staff's recommendation, I propose that the staff take actions to provide a more stable long-term funding environment for sustained long-term regulatory research and sustained access to research facilities. Therefore, the staff should submit a paper that addresses funding options, which extend beyond facility-based resources, such as considering this research as one of several activities that do not provide a direct benefit to current licensing in the off-fee-base categories.

1/29/09

Peter B. Lyons Date

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[i] ACRS letter of March 6, 2008, Subject: Review and Evaluation of the NRC Safety Research Program (NUREG-1635 rev 8)

[ii] Ibid

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER SVINICKI

SUBJECT: SECY-09-0006 – CRITICAL RESEARCH FACILITIES FOR SEVERE ACCIDENT RESEARCH AT LIGHT WATER AND ADVANCED REACTORS

Approved __XX__ Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below ___ Attached _XX_ None ___

SIGNATURE

04/10/09

DATE

Entered on "STARS" Yes ✓ No ___

Commissioner Svinicki's Comments on SECY-09-0006
Critical Research Facilities for Severe Accident Research
at Light Water and Advanced Reactors

I approve the staff's recommendations to continue to negotiate bilateral and multilateral agreements for light-water reactor and high-temperature gas reactor experimental programs to meet the agency's needs. For the NRC to possess expertise in severe accident phenomenology and predictive capability for simulating the response of nuclear power systems to postulated severe accidents is essential to the successful execution of the NRC mission and requires that this agency continue some level of severe accident research, as the staff notes, "even absent specific, immediate, regulatory questions."

Participation in international cooperative programs, as described in the paper, is an obvious and effective means of maintaining access to severe accident research facilities – facilities which are increasingly too expensive for single countries to build and operate solely for their own needs. In my, albeit limited, experiences at NRC, I believe the personnel of NRC's Office of Nuclear Regulatory Research (RES) do an outstanding job at leveraging both institutional and researcher-to-researcher relationships in making the most effective use of NRC's limited resources in this area. I had the opportunity to observe some of this collaboration occurring both during and on the margins of the NRC Regulatory Information Conference just last month. I was impressed.

That being said, as a regulatory body, NRC's investment in research will always be more limited than many of our federal government partners. The fact remains, however, that research programs do benefit from funding stability. Therefore, I support Commissioner Lyons' request that the staff provide a paper to the Commission identifying potential funding options for long-term research activities that extend beyond fee-based resources. Although I don't know what the options might be, or any potential drawbacks to them, I look forward to being informed by such a paper, which should include perspectives on the question from RES and program offices such as Nuclear Reactor Regulation, as well as the Office of the Chief Financial Officer.

Kristine L. Svinicki 04/10/09