POLICY ISSUE
INFORMATION

August 24, 2001 SECY-01-0163

FOR: The Commissioners

FROM: William D. Travers
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SUBJECT: RESEARCH EFFECTIVENESS REVIEW BOARD

PURPOSE:

In response to Commission direction in Staff Requirements Memorandum (SRM) to SECY-97-224, "Creation of a Research Effectiveness Review Board," dated November 4, 1997, this paper informs the Commission of (1) the efforts of the Research Effectiveness Review Board (RERB) to address the effectiveness of the research programs in meeting the needs of the offices of Nuclear Reactor Regulation (NRR) and Nuclear Material Safety and Safeguards (NMSS), and on the effectiveness of the program offices in supporting and in articulating their needs and priorities to the research office, and (2) the staff's future plans on this matter based on the usefulness and advisability of RERB's continuation.

DISCUSSION:

Background

On May 3, 1996, the NRC issued Strategic Assessment Issue Paper, "DSI-22, Research," which examined the state of the research program and identified options concerning its future. In a series of decisions, the Commission provided guidance on the role, responsibilities and future direction of the research program. Largely as a result of that effort and the dissolution of the Nuclear Safety Research Review Committee in 1997, the Commission, in SRM - COMSECY-96-066, asked the staff to consider the creation of the RERB to focus on the overall effectiveness of the research program. In SECY-97-224, "Creation of a Research

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Effectiveness Review Board," dated October 1, 1997, the staff proposed, and the Commission subsequently approved in SRM - SECY-97-224, creation of the RERB.

In SECY-97-224, the staff informed the Commission of the RERB's proposed structure and approach for addressing the effectiveness issue. Board membership would be at the Deputy Division Director level and would consist of representatives from RES, NMSS, NRR, and AEOD. The RERB would meet semi-annually. The first semi-annual meeting would assess RES products and user-need requests issued over the past year, and at the second semi-annual meeting, it would review proposed RES operating plans. The early meetings of the Board held in 1998 and 1999 generally conformed to this approach. RERB membership was modified when AEOD was dissolved and a regional representative was added for a broader perspective. Having examined the scope of the effort, the RERB concluded that a sampling approach met the intent of SECY-97-224. Samples of user-need letters, research products, and RES operating plans were examined. Insights were gleaned concerning the effectiveness of the conduct of research and the interaction between the principal offices. For example, the RERB found that the user need development process was important in establishing common expectations between the licensing office and RES, which led to the recommendation that a standard format for user need letters be developed. Consistent with Commission direction to keep the office directors informed of RERB's activities, in March 1999, the RERB issued a report to the office directors that summarized its observations and recommendations based on the initial three meetings of the Board. That report identified the RERB's main recommendation to be the development of a standard user need format to be used by the offices in requesting research.

Following the issuance of that report, the office directors recognized the benefit in considering a wider range of issues and sources of information in order to successfully evaluate the effectiveness of the research program and the support of the licensing offices. The RERB decided that it should also focus on broader office interface issues that could benefit from higher management dialogue. As a result, it was decided that the RERB would be reconstituted at the Deputy Office Director/Associate Director level in order to address a more complete set of issues. The RERB continued to be chaired by RES with representation from NRR, NMSS and Region I. In addition, the RERB invited the ACRS, OCIO, and OCFO to attend selected meetings to keep them abreast and solicit their views concerning this activity. Meetings of the reconstituted RERB occurred on a more frequent basis- about twice a month.

During deliberations, the RERB was fully aware that other concurrent reviews of the research program were on-going. These included reviews by a 17-member expert panel chaired by former NRC Commissioner Kenneth Rogers, and the ACRS. It is noted that, independently, the RERB identified several overarching issues concerning the research program that were largely congruent with issues identified and presented to the Commission by the Rogers' panel. In general, although there are areas of overlap, these reviews tended to have a broader or somewhat different focus than does the RERB. Nevertheless, these activities were of considerable importance to the RERB, and the RERB kept abreast of their activities. When opportunities presented themselves, the Chair of RERB provided information to each review group to assure that awareness of RERB activities was maintained. The RERB intends to consider the recommendations and insights from such reviews for their applicability to the RERB's mission and will incorporate them as appropriate in formulating its own future plans.

Progress Made by RERB

The reconstituted RERB initially focused on the identification of issues that were perceived to have a direct bearing on the effectiveness of the research process. In order to establish a manageable approach to assess the issues initially identified, categories of issues were identified, with each issue falling into one of three broad groupings: (a) effectiveness issues; (b) user need issues; and (c) roles and responsibilities.

In evaluating the effectiveness issues, the RERB decided that it needed to explore in depth how these issues were currently being handled, and what, if any, kinds of problems were prevalent. It was determined that observations from actual research projects would be useful for the RERB to evaluate the effectiveness of the process as well as provide a basis for identifying root causes of issues identified. Thus, systematic "vertical slice" reviews of three research projects were undertaken to obtain data and insights on the effectiveness of the existing processes supporting the initiation and conduct of research. The first vertical slice review was associated with research on decommissioning and decontamination. The second focused on research support provided within the context of the Reactor Oversight Program. The third involved the computer program CONTAIN which is used to aid licensing decisions involving the source term within containment. The RERB selected these particular research endeavors because of its intent to examine a diverse representation of mature research projects. For example, the projects that were selected represented participation of the program offices, and each of the research activities was markedly different in terms of the scope and nature of the research effort. For each vertical slice review, the staff and managers, from the requesting office and RES, who participated in the project were asked to address a series of questions. These questions concerned issues such as up-front coordination, setting of priorities, setting of schedules and milestones, monitoring, and assessing the quality or benefits of the research products produced. Their findings, which were presented and discussed with the RERB, helped to clarify the role of the user need process and to evaluate the effectiveness of the interfaces between the requesting office and RES.

In order to evaluate user need issues, the RERB established a User Need Working Group that was comprised of one branch chief from each of the program offices. Based on guidance from the RERB and results from the vertical slice review, the working group was able to define the central elements of a new user need process designed to improve the coordination between the offices and overall effectiveness of the research process. The RERB has met with line management in the offices and agreed to a path forward to implement the principles from the working group recommendations. These principles are consistent with the PBPM process. For example, consistent with the goals of the improved framework, it is expected that there will be a common understanding of how best to accommodate changing user needs and unexpected research results. It is the RERB's view that establishing a documented user need process that is consistent across the offices will improve the efficiency of this process and will help to ensure that agency resources are optimally applied in resolving technical and programmatic issues identified by the program offices. In conjunction with this effort, it is recognized that the development of a common prioritization scheme would enhance the effectiveness of the user need process.

In the process of conducting the vertical slice reviews and overseeing the work of the User Need Working Group, the RERB identified certain overarching issues concerning the roles and responsibilities of the respective offices. The independence of the RES program, the allocation of resources between confirmatory and anticipatory research, and the value added by RES activities were identified as such issues. The board believes that a more common understanding of these issues on the part of each of the offices will promote a more efficient and effective working relationship between the offices. The RERB met with the office directors to discuss how these issues are relevant to the research process.

On-Going Activities and Future Plans

Implementation of New User Need Process

Responsibility for the development of a new user need process will reside with the line management of the affected program offices. The RERB will monitor progress made in its development based on the work of the User Need Working Group. When the implementation plan and process are complete, the RERB will periodically assess the operation of the standardized process.

Enhanced Interfaces

Initiatives to improve communications and alignment of activities across program offices have been proceeding. The concept of Leadership Teams or similar teams of managers at the Division Director level has been adopted within each office. Meetings between these Division level managers from NRR and RES, occur approximately monthly, with NMSS participating when the discussion involves issues of mutual interest. Additionally, NMSS, RES and NRR staff at the working level coordinate technical activities, facilitate communication between offices and advise management of issues that need management attention. For example, Technical Advisory Groups (TAGs) have been set up on a trial basis for three research areas of mutual interest to NRR and RES.

Prioritization Approach

The value of a common prioritization approach is being assessed with consideration being given to the need for flexibility to accommodate specific needs within each of the three major NRC arenas (reactors, materials, and waste).

Overarching Issues

The office directors have initiated a dialogue to develop a common understanding of issues such as the roles and responsibilities of their respective offices relative to independence of research and allocation of research resources.

RERB's Future Role

The RERB will continue to meet periodically and function in a role that assures progress on the initiatives described in this paper. Programmatic issues may arise that have not been resolved by Leadership Teams, line management, or TAGs within a reasonable period of time. Examples of such issues could include implementation difficulties that might affect a new user need

process or the development of a common prioritization process., The RERB will become engaged to resolve such difficulties.

COORDINATION:

The Office of the Chief Financial Officer does not need to concur on this Commission paper because there are no resource implications. This paper was not sent to the Office of the General Counsel for review because it does not involve rulemaking, interpretation of regulations, policy matters or other actions with legal or regulatory implications.

RESOURCES:

The resources needed for continued functioning of the RERB have been included in the operating plans of the program offices. Any additional resources needed will be considered through the PBPM process as the need arises.

/RA by William F. Kane Acting For/

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