



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D. C. 20555

June 16, 1998

The Honorable Shirley Ann Jackson  
Chairman  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Chairman Jackson:

**SUBJECT: REVIEW OF SECY-98-076, "CORE RESEARCH CAPABILITIES"**

During the 453rd meeting of the Advisory Committee on Reactor Safeguards, June 3-5, 1998, we reviewed the subject document. Our Subcommittee on Safety Research Program met on June 1, 1998, to review this matter. During these reviews, we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the documents referenced.

CONCLUSIONS

- 1) The twenty-nine areas of core capabilities identified in SECY-98-076 are clearly too many to be supported, either philosophically or considering budget constraints.
- 2) There is a need for a better definition of core research capabilities which incorporates the dimension of "essentiality" for NRC to effectively carry out its mission.

BACKGROUND

SECY-97-075, "Methodology and Criteria for Evaluating Core Research Capabilities," was prepared by the Office of Nuclear Regulatory Research (RES) in response to the Commission's Direction Setting Issue (DSI) 22, "Research." This, along with other guidance, stated that "the NRC will maintain a core research capability now and in the future to support NRC's regulatory function." The Commission approved SECY-97-075 and provided additional guidance which resulted in an intensive, year-long review of the RES programs and the development of a systematic process described in SECY-98-076 for the identification of "expertise driven" core research capabilities. This required that the staff make an evaluation of the expertise deemed to be vital to NRC's ability to regulate nuclear facilities and programs. In response to this requirement, the staff formulated a list of existing core competencies and then used an extensive but subjective evaluation process to rate each candidate competency. Twenty-nine areas of core research capabilities were identified by this process, and associated core levels of resources within the NRC and its contractors were specified.

The expertise-driven programs are those areas of technology deemed essential to the long-term (over several years) effectiveness of the regulatory process. Facilities (e.g., hot cells capable of handling examinations of full-length spent fuel assemblies) and expertise (e.g., nuclear materials technologies) are to be maintained regardless of immediate need. Work under these programs would also involve anticipatory research to address issues that NRC expects to face in the future.

## DISCUSSION

The designation of "core research capabilities" essential for the NRC to effectively fulfill its regulatory mission is an important exercise that could have the ancillary benefit of providing the rationale and justification for maintaining a viable and robust research component within NRC. Given the importance of doing this, we feel that the effort (and the SECY-98-076 results) falls short of providing a useful departure point for achieving this desirable objective. The staff concluded that there are twenty-nine areas of core capabilities. This conclusion was neither supported by the information provided nor can it be justified based on the budgetary levels.

What is needed is a better definition of core research capabilities which incorporates a dimension of "essentiality" for NRC to effectively carry out its mission. "Effectively" here implies ensuring acceptable risk, providing timely response to incidents and emerging issues, and controlling excessive burden on the industry. The identification of such core capabilities must involve an awareness of the uniqueness of the informational needs associated with safe and efficient utilization of nuclear technology. Moreover, the "selection criteria" used for selecting among the range of candidate competencies must provide a clear discrimination based on the elements of risk and benefit addressed in each candidate competency. The appropriate process should be to identify the activities required to meet the NRC mission, and then select only the associated capabilities that are unique in their application to nuclear technology or for which independence in technical assessment is essential.

Although prioritization was not part of the Commission's request, we believe that the evaluation process should provide a basis for discriminating among research areas within the core research capabilities. Differentiation among the selected core research capabilities with respect to importance is essential when prioritization of resources is required in the budgetary process.

Dr. William Shack did not participate in the Committee's deliberation regarding this matter.

Sincerely,



R. L. Seale  
Chairman

### References:

1. SECY-98-076, Memorandum dated April 9, 1998, from L. Joseph Callan, Executive Director for Operations, NRC, for the Commissioners, Subject: Core Research Capabilities.
2. SECY-97-075, Memorandum dated April 2, 1997, from L. Joseph Callan, Executive Director for Operations, NRC, for the Commissioners, Subject: Methodology and Criteria for Evaluating Core Research Capabilities.
3. Staff Requirements Memorandum dated June 6, 1997, from John C. Hoyle, Secretary, to L. Joseph Callan, Executive Director for Operations, NRC, Subject: SECY-97-075 - Methodology and Criteria for Evaluating Core Research Capabilities.