

October 21, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/  
Executive Director for Operations

SUBJECT: U.S. - RUSSIA JOINT COORDINATING COMMITTEE FOR RADIATION EFFECTS RESEARCH PROJECT 2.3: "DETERMINISTIC EFFECTS OF OCCUPATIONAL EXPOSURE TO RADIATION"

**PURPOSE:**

To obtain Commission approval for the subject project.

**BACKGROUND:**

By memorandum to Commission, dated March 31, 1997, the staff transmitted a report of the Feasibility Study entitled "Deterministic Effects of Occupational Exposure to Radiation." The events that led to NRC participation in the U.S. - Russia Joint Coordinating Committee for Radiation Effects Research (JCCRER) and in direct funding and management of the subject project are described in the March 31, 1997, memorandum (Attachment 1).

In her memorandum of April 10, 1997, the Chairman agreed with the staff assessment that based on the results of the feasibility study the continuation of the project is warranted and indicated that final approval would require Commission review of the research plan and proposed budget.

**DISCUSSION:**

The Commerce Business Daily (CBD), on April 22, 1997, announced that NRC is preparing to solicit a contract proposal from the University of Pittsburgh in conjunction with Branch No. 1 of the Institute of Biophysics (FIB-1) in Ozyorsk, Russia. These institutions performed the Feasibility Study described in Attachment 1.

The University of Pittsburgh was selected to receive the solicitation because its research team has the requisite qualifications and experience to conduct this work in conjunction with the FIB-1 research team. The University of Pittsburgh has been involved with assessing the adverse health effects of internal and external radiation exposure at U.S. and former Soviet nuclear facilities since the 1980s. All the members on this research team have considerable experience working with the FIB-1 physicians and scientists with this and other studies involving workers exposed to radiation. Equally important, the University of Pittsburgh and FIB-1 research teams have developed a collegial relationship.

In response to a Request for Proposal (RFP), the University of Pittsburgh submitted a proposal that was reviewed internally by a source evaluation panel (SEP) composed of Dr. Shlomo Yaniv, RES Chairman; Dr. Vincent Holahan, RES; and Mr. Joel Lubenau, OCM. The proposal was also reviewed by four external reviewers who are experts in the field of deterministic effects of radiation exposure. Attachment 2 contains the Cost Proposal and Attachment 3 contains the Technical and Management Proposal for JCCRER Project 2.3, "Deterministic Effects of Occupational Exposure to Radiation." These proposals incorporate the comments submitted to University of Pittsburgh by the SEP.

The success of this project will depend upon timely availability of dosimetric data. This information is to be provided by JCCRER Project 2.4, "Development of Improved Dosimetry System for Workers at the Mayak Production Association," which will be managed and funded by the DOE. Project 2.4 is currently under review within DOE and we anticipate its initiation in October or November 1997. The first year research plan for Project 2.3 is not dependent upon input from Project 2.4, however, Project 2.4's progress will impact the research plan and progress of Project 2.3 in subsequent years. The NRC staff and the intended investigators had the opportunity to review the proposal for Project 2.4, found it satisfactory, and will continue to maintain close coordination with DOE.

**RESOURCES:**

The duration of the proposed research is 4 years. The total estimated cost is about \$1,300K, which is less than the staff's earlier estimate of \$1,500K. The costs by fiscal year are projected as: \$385K in FY 1998, \$267K in FY 1999, \$346K in FY 2000, and \$318K in FY 2001. Funding to support this project is contained within RES's FY 1998 and FY 1999 budgets. A detailed and definitive research plan and budget are provided only for the first year of the contract -- the plan for years 2 through 4 is tentative and subject to modification based on the research results that will be obtained during the first year and input from a related JCCRER research project sponsored by the Department of Energy (DOE). The contract, therefore, will be for a one year period with options for subsequent years.

**COORDINATION:**

The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objections. There are no information technology implications or impacts in this paper.

**RECOMMENDATION:**

That the Commission:

Note that, unless otherwise directed by the Commission, the staff intends to award the contract for JCCRER Project 2.3, "Deterministic Effects of

Occupational Exposure to Radiation," to the University of Pittsburgh and to provide funding for the first year.

L. Joseph Callan  
Executive Director for Operations

Attachments: As stated (3)