

memorandum

DATE: FEB 10 1995

REPLY TO
ATTN OF: IG-34

SUBJECT: Management Advisory Report on Universities Research
Association's Documentation and Technical Closeout Activities
(CR-MA-95-02)

TO: Edward G. Cumesty, Project Director, Superconducting Super
Collider Project Office

OBJECTIVES OF AUDIT

The purpose of this management advisory report is to alert management to potential problems it faces in terminating the Superconducting Super Collider project. Our specific objective was to determine whether the Universities Research Association, Inc., had an adequate system for the documentation, summarization, and preservation of the scientific and technical documents and information products generated during the project. A further objective of our review was to determine whether the scientific and technical documentation system, as implemented, would ensure that the laboratory scientific and technical documents and products would be accessible following project termination.

SCOPE AND METHODOLOGY

This audit was conducted at the Superconducting Super Collider Laboratory in Waxahachie, Texas, and the Office of Scientific and Technological Information in Oak Ridge, Tennessee, between August and December 1994. Our audit included all scientific and technical documents contained in Superconducting Super Collider and Office of Scientific and Technical Information databases from the inception of the project through August 10, 1994.

To achieve our objectives we reviewed Federal law, Federal Acquisition Regulations, National Archives and Records Administration general records schedules, Departmental orders, the contract with Universities Research Association, Incorporated, as well as their policies and procedures to determine the requirements for the management of Super Collider scientific and technical documents. We also reviewed a 1988 National Archives and Records Administration report on the Department's records management program, an Office of Information Resources Management report, and a contractor internal audit of laboratory records management. We evaluated these reports to determine whether records management issues

had been identified and whether any recommendations were made and implemented by the Department and the contractor. Additionally, we reviewed contractor records management committee meeting minutes and held discussions with Departmental and contractor officials to determine what actions had been taken to implement a records management program prior to project termination. Finally, we utilized two contractor databases and evaluated the accuracy of the laboratory's document control center database by verifying whether technical documents had been categorized according to work breakdown structure codes. We also compared a contractor database of laboratory scientific and technical information products to an Office of Scientific and Technical Information database to determine whether the contractor had provided the technical information office with all required products.

We extensively relied on computer-processed data contained in the scientific technological office information product database. We evaluated the completeness of the laboratory's information product database by comparing it to the Office of Scientific and Technical Information database to verify whether laboratory information products were missing from the scientific and technological database. Based on this evaluation and comparison, we concluded the computer-processed data contained in the scientific and technological office database could be relied on to meet the assignment's objectives.

The audit was made in accordance with generally accepted Government auditing standards for performance audits which included tests of internal controls and compliance with laws and regulations to the extent possible to satisfy the objectives of the audit. Our review disclosed internal control weaknesses in the laboratory's technical document and information product management systems. However, because the review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit.

The results of the review were discussed with the Department's Superconducting Super Collider Project office, Universities Research Association, Oak Ridge Operations Office, and the Office of Scientific and Technical Information officials on December 7, 1994. Department and contractor management agreed to take actions to identify, locate, and if appropriate, send missing products to the Office of Scientific and Technical Information as well as update the laboratory's document database.

RESULTS OF AUDIT

The Department holds ownership of and unlimited rights to all scientific or technical documents and information products produced or used by the Universities Research Association, Inc., during the Superconducting Super Collider Project. The Department's intent is to make available and disseminate the scientific and technical documents and information products generated and acquired during the project. It plans to provide availability and dissemination of these documents and information products through a Federal record center and the Office of Scientific and Technical Information. However, we found that the contractor did not have an adequate system to collect, summarize, and preserve the scientific and technical information generated during the project. We found that the majority of technical documents collected following project termination had not been properly indexed, and that the Office of Scientific and Technical Information had not received almost 21 percent of the scientific and technical products generated by the Universities Research Association, Inc. This condition occurred because the contractor did not establish a uniform and comprehensive records management program until shortly before the project's termination, and uniform information products procedures established in March 1993 were not always implemented. As a result, the contractor cannot provide the assurance that either technical information generated during the project will be available for use by future generations, or that the Department has been provided with all scientific and technical products generated during the project.

RECORD MANAGEMENT SYSTEM REQUIREMENTS

Several Federal laws and Departmental orders provide general guidance to the Department and its contractors for the implementation of a records management program. Under the provisions 44 U.S.C. 2904, the National Archives and Records Administration provides assistance to Federal agencies to ensure that records management policies are adequate. This administration directs that the head of each Federal agency establish and maintain an active, continuing program for the economical and efficient management of the agency's records. The Atomic Energy Act of 1954, as amended, Public Law 95-91 of 1977, the Department of Energy Organization Act, and other laws including the Energy Policy Act of 1992, and the Stevenson-Wydler Technology Innovation Act of 1980 require the dissemination of and access to the Department's scientific and technical information. The Department's Office of Scientific and Technical Information located in Oak Ridge, Tennessee, provides centralized coordination for the Department's

scientific and technical information program, and has traditionally served as the central point of customer access to the Department's information resources.

The Department's contract with the Universities Research Association defines the rights and responsibilities for the management of scientific and technical information for the Department and the contractor. The Department has ownership, the right to inspect, and unlimited rights to the technical data. The contractor is required to make available for access, or deliver, scientific and technical information to the Department at its request. Guidance for the management and delivery of this information is provided in Departmental Order 1430.1D, "Scientific and Technical Information Management."

The contractor's termination plan for technical documents provided for the collection, summarization of, and documentation for the scientific and technical records of the project. Contractor procedures to implement the termination plan provided for the collection of all technical documents, whether complete or not, a system to index all documents according to the laboratory's pre-termination work breakdown structure codes and ultimate transfer to, and storage of, all laboratory technical documents at a Federal record center where documents are to be accessible according to the work breakdown structure code index.

INADEQUATE RECORDS MANAGEMENT ACTIVITY

The Department's Guide to the Management of Scientific and Technical Information provides that "scientific and technical information products are often the only demonstrable results of DOE funded work, [and that] the value of these products is not only in the quality of the work but also in their timely availability to the various interested audiences." The project termination plan required that the contractor collect all technical documents and ensure that these documents would be accessible at a Federal record center under a pre-termination work breakdown structure indexing system. In addition, during the active phase of the project

numerous scientific and technical information products 1/ were to be transferred to the Office of Scientific and Technical Information. However, we found that the contractor did not have an adequate system to collect, summarize, and preserve the scientific and technical documents generated during the project. We found that the approximately 67 percent of technical documents collected following project termination had not been indexed as required. We also noted that the Office of Scientific and Technical Information had not received almost 21 percent of the scientific and technical products generated by the Universities Research Association, Inc. In addition, the contractor was unable to identify the universe of scientific and technical information products that should have been provided to the scientific and technical office.

The laboratory document control center is responsible for collecting and indexing all laboratory scientific and technical documents. These documents will be turned over to a Federal records center in Fort Worth, Texas, at the time of project termination. During our review, documents from the various divisions of the laboratory and subcontractors, all with unique record management systems, were being turned into the laboratory document control center. The contractor and the Department had agreed that after project termination, the work breakdown structure codes would be used to index the technical documents being collected and ultimately stored in the Federal records center. However, at the start of our review, 55,928 of the 82,932 documents collected and entered into the document control center database had not been assigned a work breakdown structure code.

Currently, a subcontractor acting as librarian/programmer is responsible for assigning work breakdown structure codes to contractor and subcontractor technical documents being collected in the laboratory's document control center. At the time of our review, the librarian/programmer was attempting to write a program that would convert the numerous laboratory document coding systems so that all documents would have a

1/ Items appropriate for transfer to Oak Ridge includes, but is not limited to three types of technical reports: progress, topical and final; journal articles; books; computer media; scientific/technical audiovisuals or multimedia; published proceedings, papers, or other publications resulting from DOE-sponsored scientific or technical conferences, domestic or foreign; presentations at scientific/technical conferences; and information on research work in progress, and preprints.

pre-termination work breakdown structure code assigned to them in the system. The librarian indicated that ultimately document control center personnel would be responsible for assigning work breakdown structure codes to documents that do not respond to the conversion program. As of October 18, 1994, the document control center staff had removed approximately 3,700 documents from the database (due to duplication) or had entered work breakdown structure codes on over 49,000 technical documents. Document control center personnel are not the authors of these documents and their indexing efforts may lack the precision that would have been attained had a laboratory-wide records management system been in place prior to project termination.

Our comparison of laboratory and scientific and technical office databases as of August 10, 1994, showed that 234 of 1,114 laboratory information products had not been provided to the scientific and technical office. In addition, our comparison of the two databases showed that the scientific office at Oak Ridge had received 184 information products that were not included in the laboratory's database. This occurred in 110 instances because the laboratory's information product database was incomplete. The remaining 74 products were forwarded to the scientific and technological office by other-than-laboratory sources such as contractors retained by Oak Ridge to review open literature and identify Department funded research products.

LOW PRIORITY PLACED ON RECORDS MANAGEMENT

A laboratory-wide records management program and procedures to track, monitor, and assist scientists in collecting and categorizing documents and providing information products to Oak Ridge were neither initially established nor implemented in a timely manner. In addition, contract language relating to the establishment of a records management program was vague and open to interpretation.

We noted that the contractor had discussed implementing a laboratory-wide records management program prior to project termination. Contractor management spent over 3 years discussing various records management proposals. A Department project official and a contractor official attributed the lack of a records management program at the laboratory to weak contract language and limited management emphasis placed on this issue. The Department project official stated that, "records management usually takes a back seat to other issues (even in other programs) because it is more usual for DOE projects to continue for many years. Project termination just caught them undecided on the records management issue."

We also noted that even though the laboratory established procedures for the management of laboratory scientific and technical information products in March 1993, they were not always implemented. For example, procedures required a database tracking the status of technical information products be updated on a weekly basis. However, the laboratory's report log which is the definitive list of laboratory's information products was inaccurate and incomplete.

The laboratory's scientific and technical records management problems are not unique. A previous evaluation on the Department's records management program by the National Archives and Records Administration recommended that the Department, which includes the project office and laboratory staff, should "undertake a special program to educate Department scientists about the need to create and maintain records documenting important research and development activities and the requirement to handle them as Federal records, not personal papers." This report also commented that Departmental Order 1430.1A (now amended) stated that appropriate disposition of scientific and technical information should be addressed during phase out activities. However, the report noted that planning for the disposition should take place during the creation and design phase. Another evaluation conducted by the Department's Office of Information Resource Management Policy, Plans, and Oversight stated that future evaluations would address issues that "ensure that scientists do not remove Government records under the assumption that they are personal records." During our review, we found that the laboratory had not developed or implemented policies or procedures in a timely manner that properly addressed these records management issues.

CONCLUSION

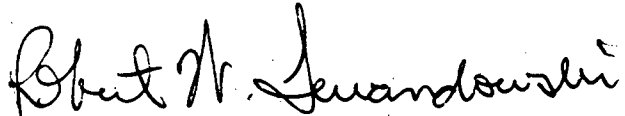
Following project shutdown at the end of Fiscal Year 1995 all laboratory scientific and technical documents will be indexed according to the laboratory's pre-termination work breakdown structure codes and stored at a Federal records center in Fort Worth, Texas. In addition, Oak Ridge will maintain the completed information products provided by the laboratory. However, because the laboratory lacked a comprehensive technical document management program prior to termination, neither the contractor nor the Department can guarantee that all documents have been collected or will be indexed accurately. This limits the availability of the data for future generations. Further, because no officials we

spoke with were aware of what technical products had been sent to Oak Ridge, the potential exists for unnecessary duplication of scientific and technical research funding.

SUGGESTED ACTIONS:

1. Ensure that all technical documents are indexed accurately.
2. Determine whether the reports on the Office of Inspector General listing of information products existed, and if applicable, locate and obtain products and assure that they are sent to the Office of Scientific and Technical Information.
3. Universities Research Association should update their index of scientific and technical data and ensure that work-in-progress results are also sent to the Office of Scientific and Technical Information.

Although no formal recommendations are being made in this report, we would appreciate a response indicating the actions you plan to take concerning the issues raised in this report. The material contained in the report along with management actions will be considered for inclusion in an overall report to be published at a later date. The assistance and cooperation provided by your staff have been greatly appreciated.



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