

GAO

Report to the Chairman, Subcommittee
on Science, Committee on Science,
Space, and Technology, House of
Representatives

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DEPARTMENT OF ENERGY

Procedures Followed in Awarding Grants to Study Uses of Collider's Assets





United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-259149

December 13, 1994

The Honorable Rick Boucher
Chairman, Subcommittee on Science
Committee on Science, Space, and Technology
House of Representatives

Dear Mr. Chairman:

After about \$2 billion had been spent on constructing the Superconducting Super Collider, the Congress voted to terminate the project in October 1993 because of escalating costs, continuing reports of management problems, and concern about the federal budget deficit. The collider, intended to be the world's largest particle accelerator, was under construction about 30 miles south of Dallas, Texas. In terminating the project, the Congress also directed the Department of Energy (DOE) to study and report on ways to maximize the future use of the collider project's assets. To help with its study, DOE awarded grants to various institutions to prepare studies to define possible future uses of the collider's assets. The largest of these grants was a \$6 million noncompetitive grant to the state of Texas.¹ DOE awarded 11 other grants to institutions responding to a solicitation.² Five of these institutions were located in Texas and six were outside the state; the solicited grants totaled \$1.3 million. You asked us to determine (1) whether DOE complied with federal regulations and its own procedures in awarding the grants, (2) how the solicited grants compared in terms of support to grantees from DOE and timing (i.e., the length of time provided for the studies), and (3) whether grantees from the state of Texas were given an unreasonable advantage over grantees from outside the state.

Results in Brief

DOE generally complied with federal regulations and the Department's procedures in awarding grants to study future uses of the collider project's assets. Our review of DOE's grant award processes did not disclose any departures from applicable regulations and procedures in selecting the grantees and making the grants. However, when notifying applicants that

¹Texas is represented by the Texas National Research Laboratory Commission.

²Two of the solicited awards were not grants. One award was made to the National Aeronautics and Space Administration's (NASA) Jet Propulsion Laboratory, which conducted the work under an interagency agreement between DOE and NASA. Another award was made to DOE's Lawrence Berkeley Laboratory, which conducted the work under DOE's management and operations contract with the University of California. For reporting purposes, we are referring to all of the awards as grants.

had not been selected, DOE did not follow its regulations that generally require that unsuccessful applicants be informed in writing that they could request additional detailed information on DOE's decision. Instead, DOE officials assumed that they would be contacted by the unsuccessful applicants if additional information was desired.

The 11 solicited grants that DOE awarded varied in terms of the funding and technical support provided to the grantees because the scope, nature, and complexity of the studies varied although the grants were generally comparable in timing (the date of the grants' award and date that studies were to be completed). The grantees generally received the level of funding and technical support they requested and were generally satisfied with the amount of support they received. While grantees residing in the state of Texas had the obvious advantage of being located near the collider's site, no other advantages for Texas grantees were identified.

Background

On October 28, 1993, the President signed the Energy and Water Development Appropriations Act of 1994 (P.L. 103-126), which provided for the orderly termination of the collider. At the time of termination, DOE had spent about \$2 billion on the project, including about \$279 million that was contributed by the state of Texas.³ The project's assets, with a book value of about \$518 million, include approximately 15 miles of underground tunnels and access shafts, construction sites, tooling and test equipment, and buildings. Also included among the assets are a magnet development laboratory, very-low-temperature refrigeration facilities, and the project's central facility, which includes office and laboratory space.

In recognition of Texas' large contributions, DOE agreed to provide the state with the funds needed to develop proposals for using the collider's assets. On March 30, 1994, DOE awarded Texas with a noncompetitive grant for \$6 million. This grant provided Texas with funds to study four areas: advanced research in superconductivity, high-performance computing, the medical uses of a linear accelerator, and the potential restoration of the prairie at the collider's site.

In a parallel effort, on March 4, 1994, DOE requested expressions of interest in potential future use of the collider's assets. Twenty-five parties responded to the March 4, 1994, request. After an expert panel reviewed the 25 responses, DOE selected six fields of future use for further study.

³In addition to providing DOE with \$279 million, Texas purchased land and made infrastructure improvements, such as improved roads and utilities. Texas claimed that it had invested a total of about \$539 million on the project.

The fields, which combine some of the individual expressions of interest, are cryogenic (very-low-temperature) helium gas convection research, a geotechnical research facility, a scientific study of the velocity of light in a magnetic field, a research and science education center, minority institutions' network access to a central computer facility, and a regional industrial technology institute. On May 6, 1994, DOE solicited grant applications for studies to define how the potential assets would be used in the six fields. After reviewing 18 applications, DOE selected 11 applicants—5 in Texas and 6 outside the state—and awarded them grants totaling \$1.3 million on August 1, 1994.

DOE Followed Regulations and Procedures

DOE complied with the appropriate federal regulations and DOE's procedures in awarding grants to study uses of the collider's assets, with one minor exception regarding the notification process to applicants not selected for a grant.

All of the grants awarded by DOE were subject to certain provisions in the Department's financial assistance regulations.⁴ These provisions addressed general requirements, such as ensuring that all grant applications reviewed by DOE included technical, business, and financial evaluations. Some other provisions in the regulations outlined various requirements for grants awarded noncompetitively or to state governments and applied only to the Texas grant. DOE determined, for example, that the Texas grant met the requirements for eligibility outlined in the regulations for noncompetitive awards because the studies to evaluate the collider's assets would benefit the Department and the grant was in the public interest. Finally, some provisions in the regulations applied only to the grants solicited through the expressions of interest process. DOE used these provisions to help ensure that all parties were treated fairly. For example, the provisions addressed the type of information that was to be included in the grant solicitation. This would allow potential applicants to decide whether to submit an application, understand how the applications were to be evaluated, and know what would be required of them if they were selected.

Similarly, certain DOE procedures for implementing the Department's regulations applied to all the grants; others, only to the Texas grant; and still others, only to the grants solicited through the expressions of interest process.⁵ For example, the procedures identified what DOE should address

⁴The regulations are identified in 10 C.F.R., subchapter H, part 600.

⁵The procedures are identified in the Financial Assistance Procedures Manual, DOE Order 4600.1A.

during its evaluation of the grant applications. Furthermore, the DOE contracting office for these grants, located in Oak Ridge, Tennessee, has issued further guidance on implementing DOE's regulations for awarding grants.⁶ This guidance refers to the regulations and identifies the documentation to be kept on file for each grant.

By reviewing the file for each grant and discussing the contents with DOE officials, we found that DOE generally complied with its regulations and procedures, with one minor exception. Under DOE's regulations, when unsuccessful applicants are notified that they have not been selected for grant funding for reasons other than the unavailability of appropriated funds, a written notice from DOE is required to offer the applicants the opportunity to obtain a more detailed explanation of why they were not selected. DOE's letters to the unsuccessful applicants did not disclose that this detailed explanation was available. DOE officials said they assumed that the seven unsuccessful applicants knew that additional information was available and would request it if they so desired.

Funding for Grants and DOE's Support Varied, but Timing of Grants Was Comparable

We compared the amount of funding for and DOE's technical support to the grantees who received the 11 grants solicited through the expressions of interest process. We also compared the timing of these 11 grants. The grants varied in terms of funding amounts as did the support provided by DOE to the grantees. These variances reflected differences in the scope, nature, and complexity of the studies to evaluate the collider's assets, but the grants were generally comparable in terms of timing. The funding amounts for the grants awarded through the expressions of interest process ranged from \$35,445 to \$218,829, for a total of nearly \$1.3 million, as shown in table 1.

⁶The guidance is identified in the DOE Oak Ridge Field Office Standard Practices and Procedures.

Table 1: Grantees, Fields of Use, and Amount of Grants

Grantee	Field of use	Amount of grant
Yale University, ^a New Haven, Conn.	Cryogenic helium gas convection research	\$35,445
Duke University, ^a Durham, N.C.	Cryogenic helium gas convection research	47,036
University of Oregon, ^a Eugene, Oreg.	Cryogenic helium gas convection research	183,469
Lawrence Berkeley Laboratory, Berkeley, Calif.	Geotechnical research facility	75,000
Colorado State University, Fort Collins, Colo.	Velocity of light in a magnetic field	76,934
Jet Propulsion Laboratory, Pasadena, Calif.	Velocity of light in a magnetic field	121,600
University of Texas at Arlington, ^b Arlington, Tex.	Research and science education center	85,536
Southern Methodist University, ^b Dallas, Tex.	Research and science education center	86,904
Prairie View A&M University Research Foundation, Prairie View, Tex.	Minority institution network access to the central computer	203,430
University of Texas at Arlington, Arlington, Tex.	Regional industrial technology institute	162,181
Texas Manufacturing Technology Center, Waco, Tex.	Regional industrial technology institute	218,829
Total	N.A.	\$1,296,364

Note: N.A. = not applicable.

^aYale University, Duke University, and the University of Oregon are collaborating on a study of cryogenic helium gas convection research.

^bThe University of Texas at Arlington and Southern Methodist University are collaborating on a study of a research and science education center.

Source: Prepared by GAO from DOE documents.

Some fields of use were more complex to study than others, contributing to varying funding amounts. For example, according to DOE's Deputy Director for the collider project, the scope of work for the first three fields of use—cryogenic helium gas convection research, a geotechnical research facility, and the velocity of light in a magnetic field—was more focused than for the latter three fields and therefore generally required less funds to complete. As indicated in table 1, the grant awards in these three fields ranged from a low of \$35,445 to a high of \$183,469 and averaged \$89,914. For the remaining three fields—research and science education center, minority institution network access to the central computer, and the regional industrial technology institution—the grant

awards ranged from a low of \$85,536 to a high of \$218,829 and averaged \$151,376.

All grantees were satisfied with the level of technical support they received. Although DOE employees provided some support, this support was provided primarily by personnel with DOE's contractors. The amount of technical support that DOE provided to the grantees varied largely as a result of the technical capability of the personnel available. For example, the Jet Propulsion Laboratory's study of the velocity of light in a magnetic field received the most technical support; eight of the collider's laboratory personnel provided the Jet Propulsion Laboratory with assistance—primarily information on the superconducting magnets. On the other hand, the Lawrence Berkeley Laboratory's study of a geotechnical facility received no support from the collider's laboratory personnel because they lacked expertise in this area. Instead, a DOE collider project official provided the grantee with a 15-minute video on the project's underground assets (such as the tunnels). The costs of such support were not included in the amounts awarded to the grantees and were not identified by individual grantees.

The grants were generally comparable in terms of timing. The grants were awarded on the same date—August 1, 1994—and the completed studies were each due on October 31, 1994. However, preaward funding extended the time frames of some grants by funding some of the grantees' work before the awards were actually made. Preaward funding did not increase the total amount of funding that the grantees received but reimbursed them for work performed prior to the August award date. Although all were eligible to request preaward funding, only six grantees requested and received such funding, according to DOE's Deputy Director for the collider project. The six grantees that received preaward funding and began their studies early are shown in table 2.

Table 2: Preaward Funding

Grantee	Amount of funding	Time period covered
Duke University	\$800	July 16-31, 1994
University of Oregon	56,197	June 22-July 31, 1994
Colorado State University	4,277	July 1-31, 1994
University of Texas at Arlington ^a	5,300	July 15-31, 1994
Southern Methodist University	32,434	July 1-31, 1994
University of Texas at Arlington ^b	15,000	July 15-31, 1994

^aThis grant was for a study of a research and science education center.

^bThis grant was for a study of a regional industrial technology institute.

Source: Prepared by GAO from DOE documents.

No Unreasonable Advantages Identified

While grantees residing in Texas had the obvious advantage of being located near the collider's site, no other advantages for Texas grantees were identified. When asked, none of the grantees identified any unreasonable advantages to grantees from Texas.

In exploring whether the different levels of support provided to non-Texas and Texas grantees was an advantage, we found that the amount of technical support provided was due to the availability of expertise rather than the geographic location of the grantees. All of the grantees advised us that they had received the amount of support requested and that they were satisfied with the amount they received.

Agency Comments

We discussed the information in this report with DOE officials, including the Associate Director, Office of Energy Research, and the Deputy Director, Office of the Superconducting Super Collider, who generally agreed with the information's accuracy. However, they suggested some technical corrections, to describe how the Jet Propulsion Laboratory and Lawrence Berkeley Laboratory received funding for their respective studies, for instance, which we have incorporated where appropriate. As requested by your office, we did not obtain written agency comments on a draft of this report.

Scope and Methodology

We reviewed DOE documents and interviewed DOE officials with the project and DOE contracting officials involved in the grants. These officials were

located in Germantown, Maryland; Washington, D.C.; Waxahachie, Texas; and Oak Ridge, Tennessee. To review DOE's compliance with regulations and procedures, we also reviewed the applicable federal regulations and compared them with DOE's implementing guidance included in the DOE Financial Assistance Procedures Manual and the DOE Oak Ridge Field Office Standard Practices and Procedures. We also reviewed each grant recipient's file and compared the documents in the files with the specific requirements for grants in DOE's regulations and procedures. To compare the grants, we focused on the funding for each recipient, DOE's technical support for each recipient, and the timing of each grant. In addition to reviewing the documents provided, we discussed the aforementioned factors with DOE's and contractors' employees who were supporting the grantees and interviewed the grantees. To identify the advantages that might have been given to grantees from Texas, in addition to comparing the funding levels for each grant and the amounts of support provided to the grantees, we discussed the grants and DOE's administration of them with each of the grantees, including the state of Texas.

We performed our review from June through October 1994 in accordance with generally accepted government auditing standards.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the Secretary of Energy and other interested parties. We will make copies available to others on request.

Please contact me at (202) 512-3841 if you or your staff have any questions. Major contributors to this report are listed in appendix I.

Sincerely yours,



Victor S. Rezendes
Director, Energy and Science Issues

Major Contributors to This Report

Resources,
Community, and
Economic
Development
Division, Washington,
D.C.

Jim Wells, Associate Director
Robert E. Allen, Jr., Assistant Director
Sumikatsu J. Arima, Evaluator-in-Charge
Paula L. Mathews, Senior Evaluator

Office of the General
Counsel

Mindi G. Weisenbloom, Senior Attorney

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