



U.S. Department of Energy
Office of Inspector General
Office of Audit Services

Audit Report

Management Controls over Cash Advances for Proprietary Use of Office of Science User Facilities

OAS-M-07-07

September 2007



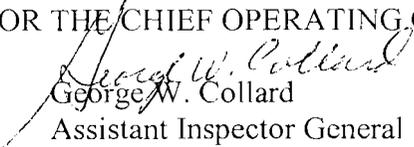
Department of Energy

Washington, DC 20585

September 25, 2007

MEMORANDUM FOR THE CHIEF OPERATING OFFICER, OFFICE OF SCIENCE

FROM:


George W. Collard
Assistant Inspector General
for Performance Audits
Office of Inspector General

SUBJECT:

INFORMATION: Audit Report on "Management Controls over Cash Advances for Proprietary Use of Office of Science User Facilities"

BACKGROUND

The Office of Science oversees the operation of 48 of the nation's most advanced research and development user facilities located at national laboratories and universities. These state of the art facilities, which include particle and nuclear physics accelerators and synchrotron light sources, are shared with the science community worldwide and contain some technologies and instrumentation that are unavailable elsewhere. The results of the experiments performed at these facilities can either be shared with the science community or retained for proprietary purposes, typically by a commercial entity, with intentions of using the information for profit or gain.

The Department of Energy's *Accounting Handbook* requires that proprietary users provide advance payments prior to beginning experiments using Department facilities. These advances are applied to offset the Department's operating costs; thereby precluding it from financing proprietary experiments. The objective of our audit was to determine whether cash advances had been established by the Department for proprietary experiments performed at user facilities.

RESULTS OF AUDIT

The Department had not always received advance payments for the proprietary use of its facilities. Specifically, four of five user facilities did not obtain adequate advances for 46 percent (190 of the 409) of the proprietary experiments included in our review. For example, it took one facility 404 days after the experiment started to receive payment from a major oil company. Another facility was still waiting to collect payment from one of its users for an experiment begun 483 days prior to our review. In fact, three of these facilities indicated that they had never obtained advances from proprietary users.

Laboratories included in our review had not always established policies requiring advanced payments. Specifically, two of the four laboratories had not established policies requiring advance payments from proprietary users. Further, the Department's site offices had not verified whether the laboratories had policies requiring advance payments or if they were collecting advances.



As a result, the Department inappropriately provided funding for over \$1.6 million in costs for 190 proprietary experiments. To ensure that the agency does not finance proprietary research at its user facilities, we recommended that the Department require its site offices to implement controls to ensure that facilities are collecting advances from proprietary users.

MANAGEMENT REACTION

The Office of Science concurred with the recommendations and provided an appropriate corrective action plan to be implemented by the end of Fiscal Year 2008.

Attachment

cc: Deputy Secretary
Under Secretary of Energy
Under Secretary for Science
Chief of Staff
Team Leader, Audit Liaison Team, CF-1.2

REPORT ON MANAGEMENT CONTROLS OVER CASH ADVANCES FOR PROPRIETARY USE OF OFFICE OF SCIENCE USER FACILITIES

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ADVANCES FROM USERS

Advances

The Department of Energy (Department) had not always received advance payments for the proprietary usage of its facilities. The Department's Accounting Handbook requires that advances be established from proprietary users, and states: "DOE funds will not be used, even on a temporary basis, to cover any of the non-DOE entity user's costs." As illustrated in the table below, however, four of five user facilities we reviewed had not always obtained adequate advance payments for proprietary experiments conducted during the period October 1, 2005 through December 31, 2006.

Table I: Experiments With and Without Adequate Advances			
<u>Laboratory and Associated User Facility</u>	Number of Experiments		Percentage With Inadequate Advances
	In Review	Inadequate Advances	
<u>Brookhaven National Laboratory</u>			
Tandem van de Graaff	45	45	100
National Synchrotron Light Source	45	45	100
<u>Stanford Linear Accelerator Center</u>			
Synchrotron Radiation Laboratory	79	79	100
<u>Berkeley National Laboratory</u>			
Advanced Light Source	238	21	9
<u>Oak Ridge National Laboratory</u>			
Mouse Genetics Research Facility	2	0	0
Totals	409	190	46

Overall, we found that the Department had not obtained advances for 190 of the 409 proprietary experiments we reviewed. Representatives from Brookhaven National Laboratory (Brookhaven) and Stanford Linear Accelerator Center (Stanford) informed us that they never received advances from proprietary users. At Berkeley National Laboratory, we found problems with 21 experiments, 12 were without any advance and 9 had insufficient advances to cover costs of the experiment. Oak Ridge National Laboratory collected advances for both experiments run during the period of review.

Management of Advances

Laboratories had not always established policies consistent with the Department's requirement for obtaining advance payment for proprietary research. Specifically, two of the four laboratories included in our review had not established policies requiring advance payments from proprietary users. When we initiated the audit, for example, Brookhaven did not have a policy requiring advance payments for proprietary use of its Tandem van de Graaff

and the National Synchrotron Light Source. Similarly, Stanford did not have an advance payment policy for proprietary use of its Synchrotron Radiation Laboratory. Based on our audit work, Brookhaven and Stanford representatives provided us with their newly drafted policies during our site visits.

Furthermore, the Department had not verified whether the laboratories had established policies requiring advance payments and were collecting advances. In fact, the Department was unaware that such policies did not exist at two laboratories, or that advances were not always collected.

Financing of Proprietary Costs

By not collecting adequate cash advances, the Department inappropriately financed over \$1.6 million for the cost of experiments performed by proprietary users for extended periods of time. The elapsed days, from the beginning of the experiment to receipt of the payment from the user, represents the amount of time that the Department financed the cost of proprietary experiments conducted at its user facilities. The table below shows the average delay in receiving payments from proprietary users. The average elapsed days to receive payment was greater than six months for the National Synchrotron Light Source, almost five months for the Tandem van de Graaff, about two months for the Synchrotron Radiation Laboratory, and less than one month for the Advanced Light Source.

Table II: Cost of Experiments With Inadequate Advances			
<u>Laboratory and Associated User Facility</u>	Number of Experiments	Cost of Advances	Average Days to Payment
<u>Brookhaven National Lab</u>			
Tandem van de Graaff	45	\$984,407	141
National Synchrotron Light Source	45	\$324,346	192
<u>Stanford Linear Accelerator Center</u>			
Synchrotron Radiation Lab	79	\$232,158	56
<u>Berkeley National Lab</u>			
Advanced Light Source	21	\$86,451	24
Totals	190	\$1,627,362	103

Although averaging 103 elapsed days for all of the experiments, payments for some experiments were outstanding for much longer. For example, the Department financed:

- A major oil company that took 404 days to pay \$45,185 for its experiment;

-
- Another experiment, costing \$34,358, that was not paid for 469 days; and,
 - Two other experiments totaling \$54,206, which had not been paid as of the time of our reviews and were outstanding for 169, and 483 days.

The absence of advances and delays in payment were identified at four of the five user facilities included in our review. These same conditions may be occurring at the other 43 Office of Science user facilities.

RECOMMENDATIONS

We recommend that the Chief Operating Officer, Office of Science, strengthen oversight of user facilities by directing the site offices to:

1. Review facilities proprietary use policies for compliance with the Department's advance payment policy; and,
2. Periodically review user facilities collections of advances.

MANAGEMENT REACTION

The Office of Science concurred with the recommendations and directed the site offices to implement the Department's policy requiring the payment of cash advances and periodic monitoring of compliance with the policy by the end of Fiscal Year 2008.

AUDITOR COMMENTS

Management's comments are responsive to the report's recommendations.

Appendix 1

OBJECTIVE	The objective of this audit was to determine if cash advances had been established for experiments performed at user facilities
SCOPE	The audit was performed between February 2007 and June 2007 at the Office of Science's Headquarters in Germantown, MD; Berkeley National Laboratory in Berkeley, California; Stanford Linear Accelerator Center in Stanford, California; Brookhaven National Laboratory in Upton, New York; and Oak Ridge National Laboratory in Oak Ridge, Tennessee. The scope of the audit included experiments performed at user facilities during October 1, 2005 through December 31, 2006.
METHODOLOGY	<p>To accomplish the audit objective, we:</p> <ul style="list-style-type: none">• Reviewed applicable laws and regulations pertaining to user facility operations;• Reviewed Departmental policies and procedures related to user facility operations;• Judgmentally selected five user facility sites based on the amount of proprietary work and other indicators of adverse conditions;• Performed site visits to review and analyze the status of user advances and verify the receipt of payment for experiments performed;• Determined the status of Departmental oversight of the user facility operations; and,• Held discussions with officials and personnel from the Office of Science and the Berkeley, Stanford, Brookhaven and Oak Ridge National Laboratories. <p>The audit was conducted in accordance with generally accepted Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy audit objectives. Performance measures were not established for the advances obtained by user facilities; therefore, we could not assess how they might have been used to measure performance. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of the audit. We assessed the reliability of computer-processed data through validation to supporting documentation and found it to be accurate.</p> <p>Management waived the exit conference.</p>

PRIOR AUDIT REPORT

- *Recovery of Costs for the Proprietary Use of the Advanced Photon Source* (DOE/IG-0753, January 2007). This report identified ineffective administration of financial controls over proprietary research at the Advanced Photon Source. Specifically, Argonne National Laboratory charged an hourly rate that was not sufficient to cover operating costs, routinely reduced the number of hours charged to proprietary users, and did not always collect advances for proprietary experiments. The Department of Energy had not reviewed the charges of the Advanced Photon Source since it began operating in 1995, and the laboratory had not established controls to ensure accurate reporting of proprietary usage and to obtain advances from proprietary users. As a result, the Department was, in effect, subsidizing scientists conducting proprietary research at Argonne by at least \$3 million from Fiscal Year 2004 through the first quarter of Fiscal Year 2006.



Department of Energy

Washington, DC 20585

September 14, 2007

MEMORANDUM FOR GEORGE W. COLLARD
ASSISTANT INSPECTOR GENERAL
FOR PERFORMANCE AUDITS
OFFICE OF INSPECTOR GENERAL

FROM: GEORGE J. MALOSH
CHIEF OPERATING OFFICER
OFFICE OF SCIENCE

SUBJECT: Office of Science Comments on IG Draft Report,
"Management Controls over Cash Advances for Proprietary
Use of Office of Science User Facilities"

Thank you for the opportunity to review and comment on the subject draft report. The Office of Science (SC) concurs with the recommendations contained in this report.

As SC Chief Operating Officer, I will direct the Site Offices at all SC laboratories to implement the DOE policy for the payment of cash advances for proprietary use at SC user facilities and to periodically monitor compliance with DOE policy for payments for proprietary use of the facilities. SC operates two facilities at National Nuclear Security Administration laboratories: The Center for Integrated Nanotechnologies at Sandia National Laboratory and Los Alamos National Laboratory (LANL); and the Manuel Lujan Jr. Neutron Scattering Center at LANL. SC will contact the respective site offices to coordinate the implementation of the DOE policies on proprietary use. SC anticipates these actions to be completed by the end of FY 2008.

If you have any questions regarding these comments, please contact Pedro Montano in the SC Office of Basic Energy Sciences at 301-903-2347.

cc:
P. Dehmer, SC-22



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