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

Audit Report

Management Controls over the Technology Transfer and Commercialization Program at the Idaho National Laboratory

OAS-M-05-07

June 2005

Department of Energy
Washington, DC 20585

June 13, 2005

MEMORANDUM FOR THE MANAGER, IDAHO OPERATIONS OFFICE

FROM: William S. Maharay for
George W. Collard
Assistant Inspector General
for Audit Operations
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Management Controls over the Technology Transfer and Commercialization Program at the Idaho National Laboratory"

BACKGROUND

Since the 1980s, when technology transfer was established as a national laboratory mission in the *Stevenson-Wydler Technology Innovation Act* and the *National Competitiveness and Technology Transfer Act*, the Department of Energy (Department) has successfully transferred numerous technologies to the private sector for commercialization. Technology transfer allows the Department to receive full benefit of laboratory research. At the Department's Idaho National Laboratory (INL), the technology transfer mission was conducted principally by a contractor, Bechtel BWXT Idaho, LLC (Bechtel).

Between Fiscal Years 2000 and 2004, Bechtel budgeted approximately $14.2 million for technology transfer activities that included, among other things, assisting spin-off businesses; providing technical assistance to small businesses; and licensing the right to develop, manufacture, and sell laboratory-developed technologies to private firms. For instance, the INL has licensed a light-weight wireless video camera system that first responders can carry into an incident scene, such as a hazardous material spill. This license is one of approximately 40 fee-bearing licenses that were active at the INL during our audit. The royalties collected from the fee-bearing licenses are required to be reinvested into the laboratory's research and development (R&D) program and shared with inventors. The objective of this audit was to determine whether the technology transfer and commercialization program at the Idaho National Laboratory was managed consistent with business-related contract requirements.

RESULTS OF AUDIT

Certain financial management activities associated with the Idaho National Laboratory's technology transfer and commercialization program were not managed by Bechtel consistent with its contract terms. Specifically, Bechtel did not properly recognize royalties due from licensing activities and did not monitor expenditures to ensure they were within established administrative limits. This occurred because Bechtel did not take action to correct previously reported weaknesses and the Idaho Operations Office did not provide adequate oversight to ensure contract provisions were complied with and reported weaknesses corrected. Without adequate controls in place, the Department cannot ensure that certain financial aspects of its technology transfer and commercialization program are adequately managed at INL. Accordingly, we have made recommendations to the Manager of the Idaho Operations Office to improve oversight of Bechtel's financial controls over its technology transfer and commercialization program.

MANAGEMENT REACTION

The Idaho Operations Office concurred with the report's findings and recommendations and indicated that it is taking corrective action designed to improve oversight. Management comments are included in Appendix 3.

Attachment

cc: Chief of Staff
Director, Office of Nuclear Energy, Science, and Technology

MANAGEMENT CONTROLS OVER THE TECHNOLOGY TRANSFER AND COMMERCIALIZATION PROGRAM AT THE IDAHO NATIONAL LABORATORY

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Technology Transfer Financial Controls

Bechtel BWXT Idaho, LLC (Bechtel) did not (a) properly account for royalties due from licensing activities, and (b) track technology transfer-related costs to ensure that they did not exceed the contractually-imposed administrative limit.

Royalties Due From Licensing Activities

Bechtel did not properly recognize royalty revenues for license agreements in its financial records or clearly justify "forgiving" royalties due. One of the avenues available for the contractor to transfer technology is to license patented Idaho National Laboratory (INL) technology to private companies so it can be further developed and made available for commercial sale. Many of these licenses have a requirement for the licensee to pay a royalty to the INL for use of the patented technology. These fees are frequently a combination of minimum annual royalties and a percentage of the licensee's revenue from sales. However, Bechtel did not record and recognize any royalties due from the license agreements in its financial records. For example, in order to maintain an exclusive license for an INL-developed technology, one licensee owed approximately $25,000 in minimum annual royalties. Yet, Bechtel had not recognized the revenue as a receivable. In fact, neither technology transfer program personnel nor accounting personnel at Bechtel were able to provide a comprehensive list from which the amount of royalties due from licensees could be readily determined.

Furthermore, Bechtel had not clearly justified "forgiven" royalty revenues on technology transfer accounts that had been written off. Specifically, from Fiscal Years (FY) 2000 – 2004, Bechtel's technology transfer office had forgiven approximately $680,000 of the $3 million in royalties due without clearly documenting the reasons for these actions. In some cases, Bechtel failed to document that the royalties were forgiven at all. According to management, since the primary purpose of technology transfer was to stimulate the utilization of Federally funded technology rather than for the sites to earn revenue through the collection of royalties, Bechtel often forgave the royalties of licensees that had difficulties in making the required payments.

Administrative Spending Limit

Bechtel did not accumulate, report, or monitor technology transfer costs to ensure that such expenditures were within the contractually-imposed administrative limit. Specifically, the Bechtel contract limits the costs associated with technical assistance, obtaining and assigning intellectual property rights, licensing, and other technology transfer costs to 0.5 percent of the site's research and development budget, unless the contracting officer's prior approval to exceed this limit is granted. However, because Bechtel did not separately track and report on the amount spent for technology transfer activities, they were unable to determine if or when that limit was exceeded.

Internal Controls over Program Activities

Bechtel did not strengthen its controls to account for royalty revenues even though weaknesses were reported by internal auditors several years ago. Also, the Idaho Operations Office did not provide adequate oversight to ensure that Bechtel established appropriate financial controls over technology transfer royalties and costs.

- Even though Bechtel management was aware of control weaknesses over royalty revenues, they did not take corrective action. In 2000, Bechtel's internal auditors reported weaknesses in internal controls over royalty collections. Specifically, they found that an adequate accounts receivable process had not been established to track, manage, and report the royalty receivables. As a result, the auditors recommended that the technology transfer and commercialization program implement a billing and accounts receivable process that was consistent with generally accepted accounting principles. Although Bechtel management agreed with the recommendations, the same problems still persisted in 2004.

- The Idaho Operations Office did not ensure that Bechtel corrected previously disclosed weaknesses over royalty collections. In addition, neither the Department's technology transfer program officer nor the contracting officer were aware of the clause that established the administrative limit on technology transfer costs. Thus, the Department did not have systems in place to monitor technology transfer expenditures to ensure that they were within the administrative ceiling. In fact, when we initiated the audit, Idaho Operations Office officials were not able to identify the actual research and development costs that apply to the contract clause. Subsequently, the officials said that they interpreted the clause as applying to the entire contract, rather than to research and development funds. Such an interpretation increases the availability of technology transfer funds by assessing non-research and development activities for support.

Ensuring Program Effectiveness

Without adequate controls in place to ensure that royalty revenues are tracked and collected, the Department cannot ensure an appropriate amount of technology transfer revenues are reinvested in its research program. By not ensuring that Bechtel obtained contracting officer approval before exceeding the administrative limit on technology transfer expenditures, the Department is unable to evaluate, on a case-by-case basis, the value to be achieved by spending additional funds for technology transfer and commercialization activities. Without controls in place to monitor expenditures in this regard, the Department is not in a position to make such a determination.

RECOMMENDATIONS

We recommend that the Manager, Idaho Operations Office improve controls over technology transfer and commercialization program activities by:

1. Requiring the contractor to recognize and record accounts receivable in accordance with generally accepted accounting principles;

2. Requiring the contractor to implement appropriate internal controls over write-off of uncollectable accounts receivable, including Federal concurrence and adequate documentation supporting decisions to write-off accounts; and,

3. Ensuring that administrative limitations are not exceeded without contracting officer approval.

MANAGEMENT REACTION

The Idaho Operations Office concurred with all three recommendations. Specifically, the Manager plans to work with the contractor to implement a process to record the fixed fee licenses and other commercialization activities under a section of the Royalty Financial Reports entitled "Fixed Fee and Other Activities Due". Additionally, the Manager will improve controls over technology transfer activities by requiring the contractor to implement appropriate controls over the write-off of uncollectable accounts receivable. Both of these corrective actions are to be implemented by October 1, 2005.

Further, the Manager reviewed the contractual clauses governing the technology transfer program and determined that the allowable costs for technology transfer activities did not exceed the administrative limit. However, due to the changes in contract structure, the program manager and Contracting Officer agree that additional oversight emphasis is needed, and will implement corrective actions to ensure the administrative limit is not exceeded without Contracting Officer approval.

AUDITOR COMMENTS

Management's comments are responsive to the recommendations.

OBJECTIVE

The objective of this audit was to determine whether the technology transfer and commercialization program at the Idaho National Laboratory was managed consistent with business-related contract requirements.

SCOPE

The audit was performed from August 2004 to June 2005 at the Idaho Operations Office and Bechtel BWXT Idaho, LLC in Idaho Falls, Idaho. The audit covered the technology transfer and commercialization program at the INL from FY 2000 through 2004. It should be noted that as of February 1, 2005, the management and operating contract at the INL transitioned from Bechtel to Battelle Energy Alliance. Thus, Battelle is now responsible for the technology transfer and commercialization program.

METHODOLOGY

To accomplish the audit objective, we:

- Obtained and reviewed the management and operating contract for the Idaho National Laboratory;
- Researched Federal and Departmental regulations;
- Reviewed findings from prior audit reports regarding technology transfer;
- Reviewed cooperative research and development agreements and licensing contracts;
- Assessed internal controls and performance measures established under the *Government Performance and Results Act of 1993*; and,
- Interviewed key personnel in the Idaho Operations Office and the technology transfer and commercialization program.

The audit was performed 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 the audit objective. Specifically, we tested controls with respect to the Department's oversight. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. Also, we considered the establishment of performance measures in accordance with the *Government Performance and Results Act of 1993,* as they related to the audit objective. No specific performance measures were established for the technology transfer and commercialization program. Finally, we did not rely on computer-processed data to accomplish our audit objective.

An exit conference was held with Idaho Operations Office personnel on June 7, 2005.

PRIOR AUDIT REPORTS

- *Management Controls over Patent and Royalty Income at Ames Laboratory* (OAS-M-05-05, May 2005) The audit disclosed that Ames had not adequately controlled and accounted for patent and royalty revenues, nor expended such funds to further research, technology transfer, and education. These issues occurred because the Department had not provided guidance regarding the extent to which its laboratories were permitted to rely on third-party entities to assume fiduciary responsibility for patent and royalty revenues. Furthermore, the Ames Site Office did not provided adequate oversight to ensure that Ames established a plan for the use of patent revenues in a manner consistent with contract terms. As a result, approximately $3.5 million generated by technology transfer is at greater risk of loss and of not being productively used.

- *Audit of Verification of Cooperative Research and Development Agreement Partner Funds-In-Kind Contributions at Sandia National Laboratories* (WR-B-95-01, December 1994). The audit's objective was to determine whether the Department's current practices were adequate for verifying in-kind partner contributions for cooperative research and development agreements. The audit found that the partners had inappropriately shifted part of their cost share to the Government and that current practices were inadequate for verifying partner in-kind contributions. This occurred in part because the Department did not implement the prevention and detection controls necessary to ensure that partners met their cost sharing obligations.

- *Report on Inspection of Selected Issues Regarding the Department's Enhanced Technology Transfer Program (*DOE/IG-0353, July 1994). The inspection identified several issues, including a lack of uniform budget guidance; lack of objectives for the Department's Technology Transfer Program; incomplete budget and accounting documentation; and lack of performance measurements for a technology transfer assessment program. As a result, the Office of Inspector General made several recommendations including developing a process or system to relate budget to the objectives of the Technology Transfer Program.

- *Technology Transfer: Several Factors Have Led to a Decline in Partnerships at DOE's Laboratories (*GAO-02-465, April 2002). At the time of the audit, the Department's laboratories had substantially reduced the number of cooperative research and development agreement partnerships and technical assistance to small businesses. Instead, the laboratories increasingly transferred technology through agreements that were funded by a business or other nonfederal entity constraints. Further, by FY 2001, most of the 12 DOE laboratories did not provide technical assistance for small businesses, unless a business was willing to pay for the service.

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memorandum

Idaho Operations Office

Date: May 17, 2005

Subject: DOE Idaho Operations Office's Comments to Draft Office of Inspector General (OIG) Audit Report A04ID008, titled: "Management Controls Over Technology Transfer and Commercialization at the Idaho National Laboratory " (AS-RMD-FS-05-023)

To: George W. Collard, Assistant Inspector General
for Audit Services
Office of Inspector General
DOE-HQ, IG-32/FORS

We have reviewed the subject draft report attached to IG-32 memorandum of April 26, 2005. We generally concur with all recommendations and have developed cost-efficient action plans to correct the noted deficiencies. Comments specific to the three recommendations are attached.

If you have questions or would like additional information, please contact Nicolas Nicolayeff, Audit Liaison, on (208) 526-0172.

Paul B. Keele, Acting Assistant Manager
Administration Services

Attachment

DOE Idaho Operations Office's Comments to Draft Office of Inspector General (OIG) Audit Report A04ID008 "Management Controls Over Technology Transfer and Commercialization at the Idaho National Laboratory"

Recommendation 1: That the Manager, Idaho Operations Office, improve controls over technology transfer and commercialization activities by requiring the contractor to recognize and record accounts receivable in accordance with Generally Accepted Accounting Principles.

Management Comments:

Concur. The Idaho Operations Office (NE-ID) will work with its contractor, BEA, to appropriately implement this recommendation by October 1, 2005. As part of this process, BEA will review the process for reporting fixed fee licenses and other commercialization activities in accordance with DOE Headquarters accounting guidance (May 18, 1992). Receivables, recorded in accordance with Generally Accepted Accounting Principles, will be reported under a section within the Royalty Financial Reports entitled "Fixed Fee and Other Activities Due." Commercialization activities that are based on sales volume or other unknowable criteria do not qualify as receivables. These activities will be tracked separately.

Recommendation 2: That the Manager, Idaho Operations Office, improve controls over technology transfer and commercialization activities by requiring the contractor to implement appropriate internal controls over write-off of uncollectable accounts receivable, including Federal concurrence and adequate documentation supporting decisions to write-off accounts.

Management Comments:

Concur. Within the terms and conditions of the BEA contract, NE-ID will work with BEA to appropriately implement this recommendation by October 1, 2005. BEA will review the process to determine appropriate and adequate documentation in support of any write-offs. Controls will be strengthened when making a decision that uncollectable receivables should be written off and collection efforts terminated.

Recommendation 3: That the Manager, Idaho Operations Office, improve controls over technology transfer and commercialization activities by ensuring that administrative limitations are not exceeded without Contracting Officer approval.

Management Comments:

Concur. When the Management and Operating (M&O) Contract was awarded in October 1999, the Statement of Work (SOW) consisted of both research and development and environmental management clean-up work. Technology transfer and commercialization were integral to both parts of the SOW. Consequently, NE-ID determined that allowable costs did not exceed the .5 percent of the operating funds included in the entire budget of the Idaho Site.

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In light of the current Idaho National Laboratory M&O structure, the NE-ID program manager and Contracting Officer believe that increased oversight emphasis in this area is merited.

NE-ID will exercise oversight to ensure that administrative limitations are not exceeded without Contracting Officer approval. The Contracting Officer will consult with DOE General Counsel and DOE procurement policy with respect to interpreting the applicable contract clauses.

As has been our practice for many years, the NE-ID program manager will review the work packages developed by the contractor. As part of this review, the program manager will assist the Contracting Officer to determine if the administrative costs are allowable and in accordance with DEAR clause 970.5227-3, Technology Transfer Mission. If the costs are expected to exceed the administrative limits, the NE-ID program manager will recommend that the Contracting Officer provide written approval as defined by the clause.

IG Report No. OAS-M-05-07

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