



U.S. Department of Energy
Office of Inspector General
Office of Audits and Inspections

INSPECTION REPORT

Submission and Maintenance of Patents at
Sandia National Laboratories

INS-O-15-03

February 2015



Department of Energy
Washington, DC 20585

February 24, 2015

MEMORANDUM FOR THE MANAGER, SANDIA FIELD OFFICE

A handwritten signature in black ink, appearing to read "Rickey R. Hass", is positioned above the typed name.

FROM: Rickey R. Hass
Deputy Inspector General
for Audits and Inspections
Office of Inspector General

SUBJECT: INFORMATION: Inspection Report on the "Submission and Maintenance of Patents at Sandia National Laboratories"

BACKGROUND

The National Nuclear Security Administration (NNSA) is responsible for the management of the nation's weapons complex, including related laboratories, nuclear component production facilities and the Naval Reactor Program. The weapons complex includes Sandia National Laboratories (SNL), which is operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, under its Management and Operating contract. The transfer of technology from Federal agencies and research and development organizations to non-Federal entities has been encouraged and directed through Presidential directives and Congressional legislation. These entities, with preference given to United States-based organizations, include state and local governments, universities, and commercial enterprises.

Sandia Corporation's Technology Transfer Program involves the submission of patent applications resulting from SNL's research and development efforts. Once a patent is assigned, Sandia Corporation must maintain the patent to protect the underlying intellectual property and associated rights. Commercial enterprises, especially small businesses, negotiate licensing agreements for patented technologies, and Sandia Corporation collects related fees. We initiated this inspection to determine whether the processes for submitting and maintaining patents were implemented in a manner that protected the interests of the Department of Energy (Department) and Sandia Corporation.

RESULTS OF INSPECTION

Our inspection determined that, for the most part, the processes for submitting and maintaining patents appeared to have been implemented in a manner that protected the interests of the Department and Sandia Corporation. Specifically, Sandia Corporation sought to patent technology in a manner that assured the Corporation's intellectual property rights were protected. Of the 1,121 Technical Advances and Invention Disclosures submitted for fiscal years 2010 – 2013, 446 (40 percent) were submitted by Sandia Corporation to the U.S. Patent and Trademark Office as patent applications, and the other 60 percent were provided to the Department for its review for possible patents.

However, we found that Sandia Corporation failed to pay the periodic maintenance fees for 14 of the approximate 1,540 patents it maintained. This resulted in the lapse of patents and the loss of associated intellectual property rights, requiring Sandia Corporation to reimburse four companies approximately \$112,000 for licensing fees and royalty payments made for patents, funds to which Sandia Corporation would have otherwise been entitled. In addition, one inventor was paid \$7,000 for lost royalty income.

The funds used for the reimbursements and the royalty income payment came from licensing and royalty revenue, the use of which is subject to the Department of Energy Acquisition Regulation (DEAR) and approved SNL procedures. While these reimbursements were provisionally approved by the Contracting Officer's Representative pending a determination of reasonableness, allocability and allowability, these determinations were never actually made. Therefore, we question the use of \$119,000 in licensing and royalty revenue to reimburse the four companies and to make the payment to the inventor. We also question the allowability of \$1,640 used to pay the U.S. Patent and Trademark Office for the reinstatement of one of the 14 lapsed patents.

In addition, subsequent to the initiation of this inspection, a complaint was received by the Office of Inspector General Hotline that contained a number of patent-related allegations involving SNL. The complaint alleged gross mismanagement of Sandia Corporation's patent process, asserting that many patents were unenforceable due to the interchangeable use of SNL and Sandia Corporation in the application for and assignment of patents. However, during our review, Sandia Corporation obtained a legal opinion from an outside law firm, which concluded that a patent assignment to a National Laboratory is the same as a patent assignment to the Corporation (in this case, SNL vs. Sandia Corporation). This conclusion was confirmed by a Department Office of General Counsel Patent Attorney and the NNSA Patent Counsel. Further, the NNSA Patent Counsel opined, based on established case law, that the interchangeable use of SNL and Sandia Corporation created no patent enforcement issues or risk.

Periodic Maintenance Fees

Our review identified 14 instances in which Sandia Corporation failed to pay the periodic maintenance fees necessary to maintain assigned patents in force. Title 37 Code of Federal Regulations (CFR) 1.362, *Time for payment of maintenance fees*, requires payment of maintenance fees to the U.S. Patent and Trademark Office for all patents with applications that were filed on or after December 12, 1980. However, from 2004 through 2008, due to a computer software error, Sandia Corporation did not fulfill its obligation to make periodic payments for certain patents as required. Of the 14 patents, only one could be restored under the provisions of 37 CFR 1.378, *Acceptance of delayed payment of maintenance fee in expired patent to reinstate patent*. These provisions authorize patent reinstatement as long as the petition to the U.S. Patent and Trademark Office was filed within 24 months of the 6-month grace period and included the required maintenance fee, the surcharge and a statement that the delay in payment was unintentional.

Contributing Factors, Impact and Path Forward

Our review found that the failure by Sandia Corporation to pay the periodic maintenance fees occurred because of a change in software packages used by Sandia Corporation to track and

maintain the status of patents. The change in software necessitated a data transfer of patent-related information. During the data transfer, data affecting 14 patents was corrupted, and the corrupted data was not detected. Because Sandia Corporation relied on this data to alert it to when maintenance fees were due, the absence of the alert in these instances caused Sandia Corporation to miss the payment of periodic maintenance fees. This resulted in the patents and their associated intellectual property rights lapsing and allowed anyone (e.g., competitors to the licensees and other interested parties) the free use of the underlying technologies related to the patents.

Sandia Corporation made payments totaling approximately \$119,000, including reimbursements of approximately \$112,000, to four companies for licensing fees and royalty payments as well as the payment of \$7,000 to one inventor for lost royalty income. Also, Sandia Corporation made a payment of \$1,640 to the U.S. Patent and Trademark Office to reinstate one patent. Licensing and royalty revenue are Federal funds subject to the provision of the DEAR 970.5227-3, *Technology transfer mission*, and SNL PPP-003, *Sandia's Royalty Sharing Program*. Under the DEAR, these funds are required to be used by the Contractor for scientific research, development, technology transfer, and education at SNL. SNL's procedure PPP-003, approved by the NNSA Contracting Officer on March 29, 2012, expands on these provisions and addresses Allowable Costing Categories, to include Education and Training, Technology Development, Scientific Research, Procurement and Licensing Intellectual Property, and Scientific Exchange.

Sandia Corporation argued that the use of licensing and royalty revenue to reimburse licensing fees and royalty payments made for lapsed patents was appropriate because the Corporation was reimbursing funds that had been unknowingly accepted with no appropriate authority after the patents had lapsed. Sandia Corporation also argued that the use of these funds did not fall under the Contracting Officer approved Allowable Costing Categories. Sandia Corporation indicated that the reimbursed licensing fees and royalty payments were never Government funds given that the Corporation never had authority to accept such payments for expired patents. We note, however, that had the patents not been permitted to lapse, Sandia Corporation would have had the right to receive and retain the funds.

Ultimately, Sandia Corporation took the position that the use of licensing and royalty revenue to reimburse the licensees and the inventor was appropriate because, on June 27, 2011, the NNSA Contracting Officer's Representative had approved the use of licensing and royalty revenue for these purposes. However, contrary to this position, the Contracting Officer's Representative only provided a provisional approval. Specifically, the Contracting Officer's Representative used a stamp that stated the following:

Although NNSA does not object to provisionally reimbursing you for your proposed action (Settlement Authority: refund of royalties). The costs associated with this action have not been determined to be reasonable, allocable or allowable on our contract. Until such cost allowability has been determined, you are required to identify and segregate all costs (including directly associated costs and applicable indirect costs) associated with these actions.

Through interviews of the Contracting Officer's Representative and the Contracting Officer, we established that the allowability of these costs was never determined. Therefore, because the use of these funds did not clearly fall under the Contracting Officer approved Allowable Costing Categories, and because allowability was not determined subsequent to the provisional approval by the Contracting Officer's Representative, we question the allowability of the \$119,000 in licensing and royalty revenue used to reimburse the licensees and the inventor. We believe that the determination of the allowability of the \$112,000 reimbursed to the four companies should consider the position taken by Sandia Corporation that these were never Government funds given that the Corporation never had authority to accept such payments for expired patents. The Contracting Officer should also consider that Sandia Corporation, but for its mistake, would have had the right to receive the \$112,000 and use it for acceptable purposes to further its Federal mission.

In addition, the \$1,640 used by Sandia Corporation to reinstate 1 of the 14 lapsed patents before the U.S. Patent and Trademark Office came from Sandia Corporation's patent account. Because the same "mistake" referenced above resulted in the need to make this payment, we question the allowability of this amount as well.

To address the issues associated with the failure to pay the periodic maintenance fees, Sandia Corporation entered into a contract with a commercial enterprise to monitor and make future patent fee payments to the U.S. Patent and Trademark Office. In addition, a Sandia Corporation official said the Corporation will receive a new beta version of the software package in mid-November 2014 with delivery of the final production system due in late March 2015.

RECOMMENDATIONS

To address the issues identified in this report, we recommend that the Manager, Sandia Field Office:

1. Direct the Contracting Officer to make a determination on the reasonableness, allocability and allowability of the \$119,000 in licensing and royalty revenue used to reimburse the four licensees and the one inventor;
2. Direct the Contracting Officer to make a determination on allowability of the \$1,640 in patent account funds used to reinstate one patent before the U.S. Patent and Trademark Office; and
3. Conduct periodic reviews of Sandia Corporation's processes for payment of patent maintenance fees and ensure that patents are maintained, as required.

MANAGEMENT RESPONSE

Management concurred with our recommendations and implemented corrective actions. Since the time of the review, the Contracting Officer completed a review of the \$120,640 in questioned costs and determined those costs to be reasonable, allocable and allowable. Additionally, Sandia Field Office will incorporate periodic reviews of Sandia Corporation's patent maintenance processes into its Integrated Assessment Plan to ensure sustained performance in this area. We

found management's comments and implemented corrective actions to be responsive to our report findings and recommendations. Management's formal comments are included in Attachment 3.

Attachments

cc: Deputy Secretary
Under Secretary for Nuclear Security
Chief of Staff
General Counsel

OBJECTIVE, SCOPE AND METHODOLOGY

OBJECTIVE

To determine whether the processes for submitting and maintaining patents were implemented in a manner that protected the interests of the Department of Energy (Department) and Sandia Corporation.

SCOPE

We conducted the fieldwork for this inspection between February 2013 and February 2015, at the National Nuclear Security Administration (NNSA) Complex and Sandia Corporation in Albuquerque, New Mexico. The inspection was conducted under Office of Inspector General Project Number S13IS005.

METHODOLOGY

To accomplish the inspection objective, we:

- Reviewed and analyzed the documents concerning various aspects of the inspection at Sandia Corporation;
- Collected and reviewed Presidential, Federal and Departmental documents along with Sandia Corporation policies and procedures concerning the invention disclosure and patent processes;
- Reviewed informational topical briefs prepared by NNSA and Sandia Corporation officials; and
- Interviewed Federal and contractor officials, including personnel from NNSA, Sandia Corporation and the Department's Office of General Counsel.

We conducted this inspection in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*, January 2012. Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions and observations based on our inspection objective. We believe the evidence obtained provided a reasonable basis for our conclusions and observations based on our inspection objective. Accordingly, the inspection included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the inspection objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our inspection. Also, we assessed the Department's compliance with the *Government Performance and Results Modernization Act of 2010* and determined that the Department had established appropriate performance measures for technology transfer. Finally, we relied on computer-processed data, to some extent, to satisfy our objective. We confirmed the validity of such data, when appropriate, by reviewing source documents and conducting interviews and physical observations.

A National Nuclear Security Administration official waived the exit conference.

RELATED REPORTS

Office of Inspector General Reports

- Audit Report on [Technology Transfer and Commercialization Efforts at the Department of Energy's National Laboratories](#) (OAS-M-14-02, February 2014). Our review revealed opportunities to improve the effectiveness of the Department of Energy's (Department) management of its technology transfer and commercialization efforts. Specifically, we found that the Department had not finalized quantitative performance metrics necessary for it to determine the success of its technology transfer and commercialization efforts, developed a forward-looking approach for investing the Energy Technology Commercialization Fund required by the *Energy Policy Act of 2005*, and ensured the national laboratories were consistently treating their equity holdings in licensees received as part of their technology transfer efforts. Due to turnover in key staff, we were unable to definitively determine why the Department had failed to finalize and transmit its Execution Plan to Congress. In the absence of finalized performance metrics and forward-looking budgets, the Department is at increased risk of failing to maximize its return on investment of limited technology transfer and commercialization funds.
- Inspection Report on [Performance of Work of for a Non-Department Entity at Lawrence Livermore National Laboratory](#) (INS-O-14-01, January 2014). The Office of Inspector General received a complaint alleging that Lawrence Livermore National Laboratory (LLNL) engaged in illegal competition with the private sector by performing work for a non-Federal entity, and that the facilities and resources of LLNL were used inappropriately to perform this outside work. Our inspection substantiated certain aspects of the allegation. Specifically, we found that LLNL did not adequately consider the prohibitions against a Federally Funded Research and Development Center (FFRDC) competing with the private sector and that LLNL used Department facilities and resources inappropriately to perform work for National Geographic. In addition, the work performed for the documentary did not appear to be consistent with LLNL's mission. These conditions occurred, in part, because LLNL did not follow the established Work for Others' process but instead pursued an alternate, less formal process for approving and funding the documentary as a nonreimbursable project that used Licensing and Royalty funds.
- Audit Report on [Management Controls over the Technology Transfer and Commercialization Program at the Idaho National Laboratory](#) (OAS-M-05-07, June 2005). Certain financial management activities, associated with the Idaho National Laboratory's technology transfer and commercialization program, were not managed by Bechtel BWXT Idaho, LLC consistent with its contract terms. Specifically, Bechtel BWXT Idaho, LLC did not properly recognize royalties due from licensing activities and did not monitor and ensure expenditures were within established administrative limits. This occurred because Bechtel BWXT Idaho, LLC did not take action to correct previously reported weaknesses, and the Idaho Operations Office did not provide adequate oversight to make certain 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.

- Audit Report on [*Management Controls over Patent and Royalty Income at Ames Laboratory*](#) (OAS-M-05-05, May 2005). The audit disclosed that Ames Laboratory 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 in part because the Ames Site Office did not provide 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.

Professional Services Council Report

- Report on [*Federally Funded Research and Development Centers: A Strategic Reassessment for Budget-Constrained Times*](#) (Professional Services Council, June 2012). FFRDCs have an important role to play in defense and intelligence. They maintain laboratories and specialized test and evaluation facilities beyond those available to the Government and its for-profit contractors. However, many of the functions for which FFRDCs were envisioned and which they alone could provide at the outset, can now appropriately be provided by numerous for-profit contractors as effectively and at a far lower cost. Although recent legislative and regulatory changes have opened a clear path to competition, performance-based contracting and cost savings in the acquisition of such services, FFRDCs have instead become increasingly aggressive in work scope expansion.

MANAGEMENT COMMENTS



Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585



February 3, 2015

MEMORANDUM FOR GREGORY H. FRIEDMAN
INSPECTOR GENERAL

FROM: FRANK G. KLOTZ *FK 2/3/15*

SUBJECT: Comments on the Office of Inspector General Draft Report
Titled "*Submission and Maintenance of Patents at Sandia
National Laboratories*"

Thank you for the opportunity to review and comment on the subject draft report. The National Nuclear Security Administration concurs with the auditors' recommendations and has already initiated or completed actions to address each of the issues raised in the report. Since the time of the audit, the Contracting Officer completed review of the \$120,640 in questioned costs and determined those costs to be reasonable, allocable and allowable. Additionally, Sandia Field Office will incorporate periodic reviews of Sandia Corporation's patent maintenance processes into its Integrated Assessment Plan to ensure sustained performance in this area. The initial estimated completion date for the first assessment is July 30, 2015.

We appreciate the auditors' efforts in validating Sandia's operations. If you have any questions regarding this response, please contact Dean Childs, Director, Audit Coordination and Internal Affairs at 301-903-1341.



FEEDBACK

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