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DEPARTMENT OF
HOMELAND
SECURITY

Improvements Could
Further Enhance
Ability to Acquire
Innovative
Technologies Using
Other Transaction
Authority





Highlights of [GAO-08-1088](#), a report to congressional committees

Why GAO Did This Study

When the Department of Homeland Security (DHS) was created in 2002, it was granted “other transaction” authority—a special authority used to meet mission needs. While the authority provides greater flexibility to attract and work with nontraditional contractors to research, develop, and test innovative technologies, other transactions carry the risk of reduced accountability and transparency—in part because they are exempt from certain federal acquisition regulations and cost accounting standards.

In 2004, GAO reported on DHS’s early use of this authority. This follow-up report determines the extent to which nontraditional contractors have been involved in DHS’s other transactions, and assesses DHS’s management of the acquisition process when using this authority to identify additional safeguards.

To conduct its work, GAO reviewed relevant statutes, guidance, and prior GAO reports on other transactions, and interviewed contracting and program management officials, as well as contractors. GAO also reviewed 53 files for agreements entered into from fiscal years 2004 through 2008 and identified those involving nontraditional contractors.

What GAO Recommends

DHS concurred with both of GAO’s recommendations to improve the information DHS has on its other transactions and to strengthen its other transaction contracting workforce.

To view the full product, including the scope and methodology, click on [GAO-08-1088](#). For more information, contact John K. Needham at (202) 512-4841 or needhamjk1@gao.gov.

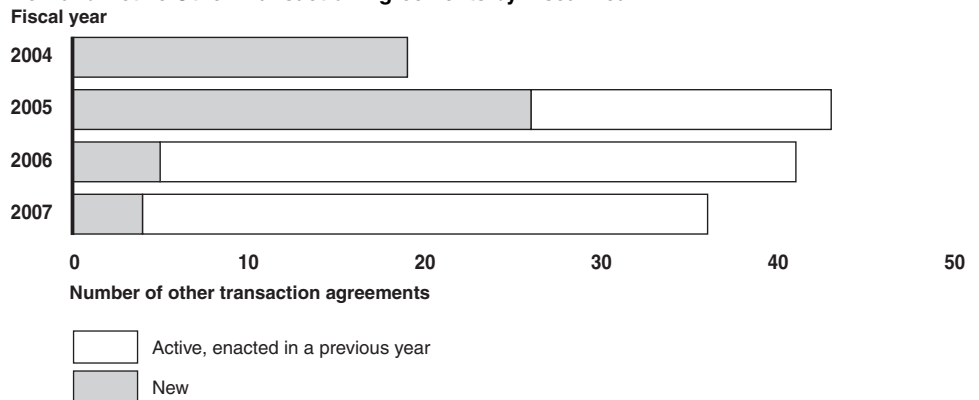
DEPARTMENT OF HOMELAND SECURITY

Improvements Could Further Enhance Ability to Acquire Innovative Technologies Using Other Transaction Authority

What GAO Found

DHS’s other transactions documentation indicates that nontraditional contractors played a significant role in over 80 percent of the Science and Technology directorate’s other transaction agreements. GAO identified 50 nontraditional contractors who participated in 44 agreements—one-third of them were prime contractors and about half of them were small businesses. These contractors provided a variety of technologies and services that DHS described as critical—including technology designed to detect chemical warfare agents after a suspected or known chemical attack. The proportion of dollars obligated for nontraditional contractors on an agreement did not necessarily indicate the importance of their contributions. For example, only 1 percent of total agreement obligations were allocated to a nontraditional subcontractor that, according to the prime contractor, was specially qualified for developing tests for a hazardous substance detection system.

New and Active Other Transaction Agreements by Fiscal Year



Source: GAO analysis of DHS data.

While DHS has continued to develop policies and procedures for other transactions, including some to mitigate financial and program risks for prototype projects, the department faces challenges in systematically assessing its use of other transactions and maintaining a skilled contracting workforce. DHS issued guidance in 2008 and continued to provide training to contracting staff on the use of other transactions. However, DHS does not track information on the amount of funds paid to nontraditional contractors or the nature of the work they performed, which could help the department assess whether it is obtaining the full benefits of other transaction authority. DHS recently updated its procurement database to capture information on other transaction agreements, but the database does not include all of the data DHS would need to assess nontraditional contractor involvement. Further, DHS’s ability to maintain a stable and capable contracting workforce remains uncertain due to high staff turnover and the lack of a staff planning method.

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Abbreviations

DHS	Department of Homeland Security
DNDO	Domestic Nuclear Detection Office
DOD	Department of Defense
FAR	Federal Acquisition Regulation
FPDS-NG	Federal Procurement Data System-Next Generation
S&T	Science and Technology directorate

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United States Government Accountability Office
Washington, DC 20548

September 23, 2008

Congressional Committees

The Department of Homeland Security's (DHS) Science and Technology directorate (S&T) is responsible for providing state-of-the-art technology to federal, state, and local governments to improve homeland security. To help accomplish this mission, Congress granted DHS special acquisition authority, known as "other transaction"¹ authority for prototype and research and development projects. S&T has used this authority to increase flexibility in attracting and working with contractors to research, develop, and test innovative technologies.² However, other transactions carry the risk of reduced accountability and transparency in part because they are exempt from the Federal Acquisition Regulation (FAR) and the government's cost accounting standards. DHS has maintained that this authority is a critical tool in attracting contractors that have not traditionally done business with the government and that the authority has enhanced its ability to share the costs of developing certain technologies with industry. The authority, initially granted for 5 years, was extended through September 2008 in the Fiscal Year 2008 Appropriations Act. Section 391(b) of title 6 of the U.S. Code requires that we report on DHS's use of this authority.

In 2004, we reported on S&T's use of other transaction authority and made recommendations to improve its use.³ At the time that work was conducted, S&T was in the early stages of establishing these agreements, and we have not since assessed the extent of the involvement of

¹ Other transactions are agreements other than government contracts, grants, and cooperative agreements. See 6 U.S.C. § 391(a)(1) incorporating provisions of 10 U.S.C. § 2371. In this report, we also refer to other transaction agreements as "other transactions" and as "agreements."

² Other transaction agreements have only been used by two of DHS's components: the Transportation Security Administration (TSA) and the Office of Procurement Operations in support of S&T. TSA's authority is derived from the Aviation and Transportation Security Act (Pub. L. No. 107-71, (2001)) and is not addressed in this report.

³ GAO, *Homeland Security: Further Action Needed to Promote Successful Use of Special DHS Acquisition Authority*, [GAO-05-136](#) (Washington, D.C.: Dec. 15, 2005).

nontraditional contractors⁴ or the portion of the funding they receive. For this follow-up report, also in response to the 2002 statute, and to inform Congress's decision on whether to further extend this authority, we (1) determined the extent to which nontraditional contractors have been involved in other transactions with DHS to fulfill technology and mission needs, and (2) assessed DHS's management of the acquisition process when using other transactions to determine if additional safeguards are needed should the authority be made permanent.

To conduct our work, we reviewed relevant statutes, directives, guidance, and our prior reports on other transactions and interviewed S&T's contracting and program representatives, as well as contractors. We reviewed 53 other transaction agreements entered into from fiscal years 2004 through 2008 and related documents and identified those involving nontraditional contractors.⁵ While we conducted a search of the Federal Procurement Data System-Next Generation (FPDS-NG)⁶ to determine whether these contractors had prior government work, we did not independently verify contractors' self-certification as nontraditional, which occurs during agreement negotiation. We conducted this performance audit from April through September 2008, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. For more information on our scope and methodology, see appendix I.

⁴ According to statute, a nontraditional contractor is a business unit that has not, for a period of at least one year prior to the date of entering into or performing an other transaction agreement, entered into or performed: any contract subject to full coverage under cost accounting standards; or any contract in excess of \$500,000 to carry out prototype projects or to perform basic, applied, or advanced research projects for a federal agency subject to compliance with the FAR. See 6 U.S.C. § 391(d), incorporating the definition at section 845 of the National Defense Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160 (1993) as amended.

⁵ DHS's June 30, 2008 report to Congress reported on 38 agreements. During the course of our audit work, we reviewed files for these 38 agreements, as well as 15 additional agreements we identified, including 1 agreement entered into after DHS's reporting period. In addition, we identified 2 agreements we could not review because the files were not complete.

⁶ FPDS-NG is the federal government's primary data system for tracking information on procurement actions.

Results in Brief

DHS's other transactions documentation indicates that nontraditional contractors, at both the prime and subcontractor levels, played a significant role in S&T's other transaction agreements, providing critical technologies or services. Of the 53 agreements we reviewed, 44 involved nontraditional contractors—one-third of which were prime contractors and about half of which were small businesses. S&T program managers told us that other transaction authority facilitated the involvement of nontraditional contractors who may have the most innovative solutions to homeland security needs. Nontraditional contractors provided a variety of technologies and services which DHS described as critical to their projects, including sensor technology designed to detect chemical warfare agents to help first responders assess and monitor risks in an area after a suspected or known chemical attack. We found that the proportion of dollars obligated for nontraditional contractors did not necessarily indicate the importance of their contributions. For example, only 1 percent of total agreement obligations were allocated for work conducted by one nontraditional subcontractor to develop chemical tests for a hazardous substance detection system. According to the prime contractor, this nontraditional contractor was the leading expert in the field and uniquely qualified to contribute to the project.

Since our 2004 report, DHS has continued to develop policies and procedures for other transactions but faces additional management challenges, including the need to systematically assess its use of other transactions and maintain a contracting workforce skilled in managing other transactions. In May 2008, DHS issued guidance on the use of other transactions. DHS also has adopted several practices for managing other transactions, including the frequent use of firm-fixed price⁷ agreements with payable milestones as a means to mitigate financial and program risks for prototype projects. However, DHS lacks complete information needed to systematically assess whether it is obtaining the full benefits of other transaction authority. For example, DHS does not have the information to determine whether it is using other transaction authority to effectively negotiate intellectual property and data rights. DHS has recently updated its procurement database to include some information on other transaction agreements, but the capacity to capture information on nontraditional contractors is limited. For example, DHS does not track information on the amount of funds paid to nontraditional contractors or

⁷ For fixed price contracts, a specified price is paid regardless of the contractor's costs, minimizing the financial risk to the government.

the nature of the work they performed. DHS has implemented training for other transaction contracting officers; however, the department's ability to maintain a stable and capable contracting workforce is uncertain due to recent high staff turnover and the lack of a staff planning method. Our prior work has noted concerns with regard to the sufficiency of DHS's acquisition workforce to ensure successful outcomes.

To promote DHS's efficient and effective use of its other transaction authority in meeting its mission needs, we are recommending DHS collect relevant data on other transaction agreements and assess and report to Congress on the use of these agreements, and determine the number of contracting officers needed to support S&T to help ensure a sufficient contracting workforce to execute other transaction authority. In written comments on a draft of this report, DHS concurred with these recommendations but did not specify how it would address them. DHS's comments are reprinted in appendix III. DHS also provided technical comments on our draft report, which we incorporated as appropriate.

Background

Other transaction authority was created to enhance the government's ability to acquire cutting-edge science and technology in part through attracting contractors that typically have not pursued government contracts because of the cost and impact of complying with government procurement requirements. Because other transactions are exempt from certain statutes, they permit considerable latitude by agencies and contractors in negotiating agreement terms. For example, other transactions allow the federal government flexibility in negotiating intellectual property and data rights, which generally stipulate each party's rights to technology developed under the agreement. Because these agreements do not have a standard structure based on regulatory guidelines, they can be challenging to create and administer.

The Homeland Security Act of 2002 authorizes two types of other transactions: (1) prototype and (2) research and development. Other transactions for prototypes are used to carry out projects to develop prototypes used to evaluate the technical or manufacturing feasibility of a particular technology, process, or system. To use other transactions for prototypes, federal statute requires that one of three conditions be met: (1) significant participation by a nontraditional contractor, (2) parties to the transaction other than the federal government will pay at least one-

third of the total project cost, or (3) the Chief Procurement Officer determines that exceptional circumstances justify the use of an other transaction agreement.⁸ Other transactions for research and development are used to perform basic, applied, or advanced research and do not require the involvement of nontraditional contractors.⁹ Almost all of S&T's other transaction agreements have been for prototype projects and justified based on the involvement of nontraditional contractors.¹⁰

From fiscal years 2004 through 2008, S&T entered into at least 55 other transaction agreements to support 17 different projects.¹¹ (For a description of the projects see app. II.) DHS entered into 45 agreements in fiscal years 2004 and 2005, when it first began using other transactions to support prototype development projects, based on the Department of Defense's (DOD) guidance and, in some cases, with assistance from DOD contracting officers. Currently, DHS's Office of Procurement Operations provides all contracting support, including that for other transactions, to

⁸ 6 U.S.C. § 391(a)(2), incorporating section 845(d) of the National Defense Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160 (1993).

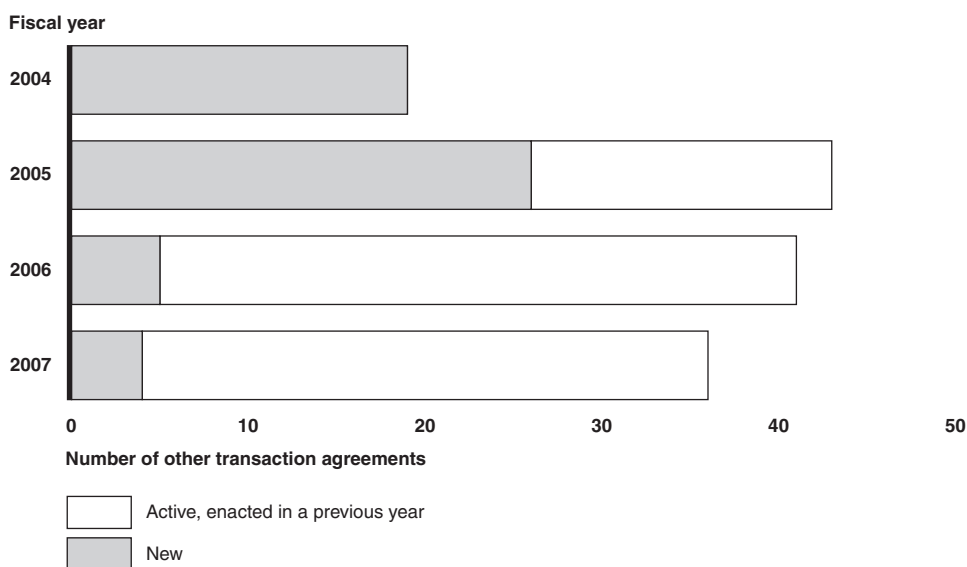
⁹ 6 U.S.C. § 391(a)(1) (incorporating the requirements of 10 U.S.C. § 2371(e)) requires (1) that to the extent practicable, the federal government may not pay more than all other parties combined and that (2) the Secretary must ensure that the use of a contract, grant, or cooperative agreement for such project is not feasible or appropriate. DHS guidance implementing this requirement states that the contracting officer should (1) use other transactions for research to develop innovative approaches to carrying out research projects when a standard procurement vehicle (contract, grant, or cooperative agreement) is not appropriate or feasible; and (2) understand that other transactions for research require, to the maximum extent practicable, a 50 percent resource sharing of program costs between the government and the contractor.

¹⁰ We could not review two agreement files because they were incomplete. Of 53 agreements we reviewed, we determined that 49 were prototype agreements and 4 were research and development agreements. Of the prototype agreements, 43 were justified based on the involvement of nontraditional contractors, 5 were justified based on cost-sharing by the contractors, and 1 agreement did not specify a justification. Three agreements involved both nontraditional contractors and cost-sharing arrangements. In total, 8 agreements proposed that contractors would contribute over \$22 million (almost 14 percent) of the total proposed costs of these projects.

¹¹ A single S&T program can result in other transaction agreements with multiple contractors. Four of the 55 agreements are managed by DHS's Domestic Nuclear Detection Office (DNDO), and S&T contracting representatives told us these agreements were entered into by the S&T directorate before DNDO was created.

S&T.¹² S&T contracting officers explained that they have been more selective in choosing to use other transaction agreements in recent years. Since 2006, DHS has entered into fewer new agreements each year, while continuing to fund work under the initial agreements entered into in 2004 and 2005. (See fig. 1.) As of April 2008, according to DHS data, 21 agreements were active—including 1 agreement entered into in fiscal year 2008—and 33 agreements were closed.¹³

Figure 1: New and Active Other Transaction Agreements by Fiscal Year



Source: GAO analysis of DHS data.

Note: Excludes 1 agreement for which we could not determine the end date of the agreement.

In fiscal year 2007, other transactions accounted for about \$124 million (about 17 percent) of the S&T's total acquisition activity of \$748 million to

¹² Responsibility for the acquisition function at DHS is shared between the Chief Procurement Officer and each DHS component head. Eight DHS components have internal procurement offices with a Head of Contracting Activity who has overall responsibility for the day-to-day management of the component's acquisition function. The Office of Procurement Operations provides contracting support to all other components including S&T. See GAO, *Department of Homeland Security: Progress and Challenges in Implementing the Department's Acquisition Oversight Plan*, GAO-07-900 (Washington, D.C.: June 13, 2007).

¹³ DHS could not readily determine the status of one agreement.

fund and develop technology in support of homeland security missions.¹⁴ A small proportion of projects account for the vast majority of the funding for other transactions; in February 2008, we reported that the seven largest agreements accounted for over three-quarters of all obligations.¹⁵

Most Agreements Involved Nontraditional Contractors to Provide Key Technologies and Services

DHS has used its other transaction authority to leverage the capabilities of nontraditional contractors in prototyping and research and development efforts. Most of S&T's agreements have involved nontraditional contractors, including small businesses, at the prime or subcontractor level. The majority of the nontraditional contractors provided technologies or services that DHS described as significant to the efforts under S&T projects.¹⁶ S&T program managers stated that without the involvement of nontraditional contractors, some of the research efforts may not have been able to advance.

We identified a total of 50 nontraditional contractors who participated in 44 (83 percent) of the agreements we examined, with multiple nontraditional contractors involved on 8 agreements. Half of these contractors had not recently worked for the government.¹⁷ Sixteen nontraditional contractors were prime contractors on agreements, while the other 34 were subcontractors.¹⁸ Nearly half of the nontraditional

¹⁴ In February 2008, we reported that, according to S&T data, S&T's total obligations in fiscal year 2006 were over \$1.16 billion. S&T explained that the large difference between the reported obligations in fiscal years 2006 and 2007 was because the fiscal year 2006 total included obligations for DNDO. Without DNDO obligations, S&T reported its total obligations in fiscal year 2006 to be about \$880 million.

¹⁵ GAO, *Department of Homeland Security: Status and Accountability Challenges Associated with the Use of Special DHS Acquisition Authority*, [GAO-08-471T](#) (Washington, D.C.: Feb. 7, 2008.)

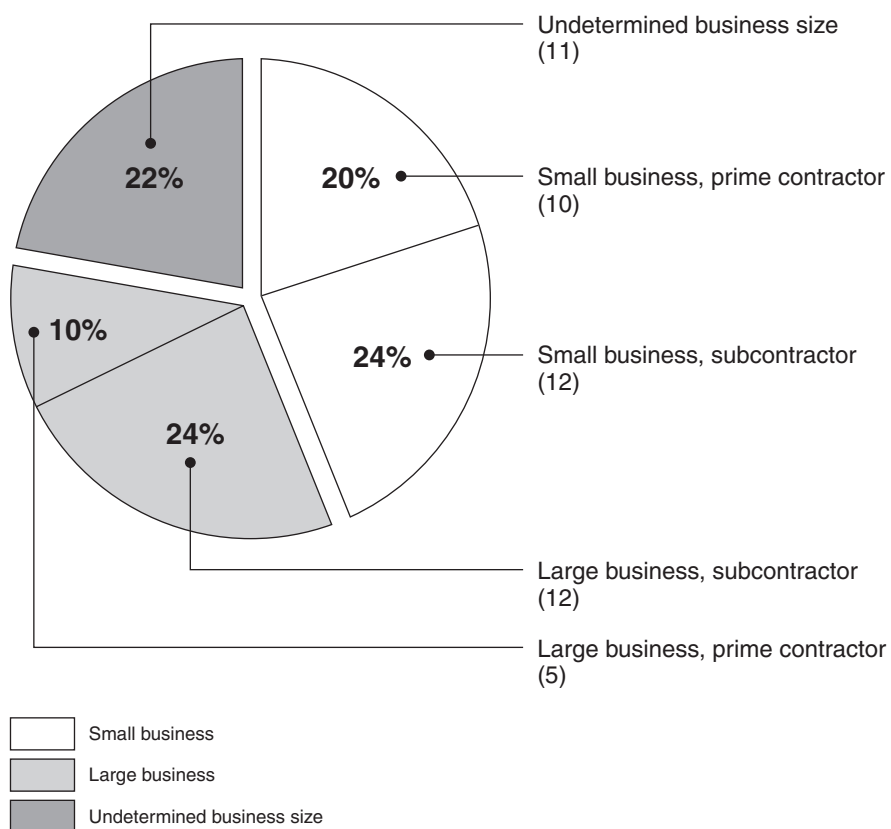
¹⁶ DHS contracting officers told us they exercise professional judgment in determining whether a nontraditional contractor is making a significant contribution. DHS guidance provides several examples of significant contributions, including supplying relevant new technology, services or products; accomplishing a significant amount of the effort; or in some other way causing a material reduction in the cost, schedule, and/or increase in performance.

¹⁷ Based on our limited review of federal procurement data, the 25 contractors who had recently worked for the government appeared to have no contracting actions in the year prior to entering into the other transaction agreements that would have subjected them to cost accounting standards, or that were for prototype or research projects in excess of \$500,000.

¹⁸ The number of prime contractors includes one nontraditional contractor who also participated as a subcontractor on another agreement.

contractors were classified as small businesses.¹⁹ According to some S&T program managers, using the agreements reduced the administrative burden of working with the federal government and encouraged small businesses, in particular, to participate. Figure 2 shows the proportion of prime contractors and subcontractors by business size.

Figure 2: Nontraditional Contractors by Role and Business Size



Source: GAO analysis of DHS and Central Contractor Registration data.

¹⁹ We determined business size by reviewing the Central Contractor Registration, the primary government repository for contractor information required for the conduct of business with the government.

Planned obligations for 25 of the 44 agreements involving nontraditional contractors total \$117 million, which is 40 percent of the total dollars obligated through these agreements.²⁰

In describing the roles of the nontraditional contractors, the agreements and supporting documentation we reviewed identified the majority of these roles as significant to the project's successful completion. Program staff, contracting officers, and contractor representatives also highlighted several technologies and services that nontraditional contractors provided to S&T through the use of other transaction authority.

Several agreements that we reviewed identified significant technologies and services provided by nontraditional contractors. For example, one agreement with a nontraditional contractor—the sole participant on the project—noted that the contractor's sensor technology would be used to develop prototypes designed to detect chemical warfare agents. The agreement stated that the resulting prototype would help first responders assess and monitor the risks in an area after a suspected or known chemical attack. Similarly, one nontraditional subcontractor was involved under an agreement to develop a prototype for delivering robust detection and geographic information about bioterror attacks. The agreement stated this subcontractor would have a significant level of participation and a substantial role in the project, and possessed unique skills and expertise in the area of DNA microarrays, which was identified as a core technology for the system. In addition, the subcontractor was identified as the leader for all bioagent detection laboratory testing for the project, as well as for designing and performing the lab tests for all critical items in the development of the system.

Program managers said some of the projects pursued under the agreements could not have advanced without the contributions of nontraditional contractors. For example, S&T staff told us that one project, the development and testing of a prototype device to counter the threat of shoulder-fired missiles to commercial aircraft, required the participation of nontraditional contractors. They said that the involvement of major commercial airlines and transport companies allowed S&T to test whether a certain military technology was suitable for a commercial application. In another case, the project manager said that the

²⁰Documentation on the other 19 agreements did not have enough information for us to assess the planned obligations for nontraditional contractors.

nontraditional contractor was the only company that held patent rights for the unique technology needed to develop a type of foot and mouth disease vaccine. According to the nontraditional contractor's representative, the company would not have participated in the project under a FAR-based contract due to concerns about retaining intellectual property rights.

The proportion of dollars obligated on each agreement for nontraditional contractors—which ranged from less than 1 percent to 100 percent—did not necessarily indicate the importance of the contractors' contributions. For example, only 1 percent of one agreement's obligations was allocated for work by a nontraditional subcontractor to develop chemical tests for a hazardous substance detection system. However, the prime contractor told us that this nontraditional contractor was the leading expert in the field and uniquely qualified to contribute to the project. In a similar example, only 3 percent of an agreement's obligations were allocated for work by a nontraditional contractor to manufacture devices necessary for a mobile laboratory prototype. However, DHS considered these devices the heart of the project, and thus a significant contribution.

Policies and Practices Are in Place to Manage Agreements, but Assessment and Staffing Needs Have Not Been Fully Addressed

Since we reported in 2004, DHS has continued to develop policies and practices for managing other transactions, issuing an operating procedure and a guidebook in May 2008, but has not fully addressed the need to assess its use of these agreements and maintain a contracting workforce. DHS has developed guidance and practices to minimize financial and program risks. However, DHS does not have information to systematically assess whether it is obtaining the full benefits of its other transaction authority. Finally, contracting officers with business acumen and training are critical to entering into and administering other transactions; however, it is unclear whether the present workforce is sufficient to support S&T's operation.

DHS Has Adopted Policies and Practices for Managing the Risks of Other Transactions

In 2004, we reviewed DHS policies and procedures and found they provided a foundation for using its other transaction authority, though refinements were needed. We reported that since the beginning of its use of other transactions, DHS has applied commonly accepted acquisition practices, such as using contractor payable milestone evaluations to manage other transaction agreements.²¹ Aspects of DHS's review process

²¹ [GAO-05-136](#).

for other transaction agreements are similar to those for contracts subject to the FAR. For example, DHS's proposed sole source agreements must be explained and approved, and program and contracting offices, as well as its office of general counsel, review all proposed agreements.

DHS's guidance for prototype projects also encourages the use of fixed price agreements with fixed payable milestones to minimize financial and performance risks. We found that DHS has established fixed price agreements with fixed payable milestones in 44 of the 53 agreements we reviewed.²² Fixed price acquisitions generally transfer most of the financial risk to the contractor. The financial risk for both parties may be further limited in other transaction agreements by a provision that allows either the government or contractor to leave the program without penalty. In addition, the use of fixed price agreements mitigates concerns regarding cost controls, as the costs are fixed at the time the agreements are established. Payable milestones mark observable technical achievements or events that assist program management and focus on the end goal of the agreement. DHS guidance states that it is based on commercial best practices, in which the use of payable milestones gives industry opportunities to provide major input into milestone descriptions as well as the option to leave the program. One S&T program manager told us that a contractor opted to cancel an agreement at a payable milestone after determining it could no longer meet the goals of the program.

DHS's recent guidance also calls for considering when to include financial audit provisions in the agreements. Our 2004 report noted that the department lacked guidance on when to include such provisions—other than providing for access to GAO when the agreement is over \$5 million.²³ In May 2008, DHS issued a guidebook for the use of other transactions for prototypes, which now includes additional information on when audits should be conducted. Specifically, it states that audit provisions should be

²² Five of the six agreements that were cost-reimbursable agreements, not fixed price, also used payable milestones. The remaining cost-reimbursable agreement was payable on a monthly basis. Three agreements were for the exchange of data and had no costs associated with them.

²³ Pursuant to statute, in the instance of actions greater than \$5,000,000, Other Transaction Contracting Officers must include a provision in the agreement authorizing GAO access to the records of any party to the agreement under certain circumstances but this statutory requirement only applies to exercises of the prototype authority, not to the research authority. 6 U.S.C. § 391(a)(2), incorporating section 845(c)(1) of the National Defense Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160 as amended.

included when the payment amounts in the agreement are based on the awardee's financial or cost records, or when parties other than the government are required to provide at least one-third of the total costs. The guidebook contains sample audit clauses that contracting officers should use or tailor to an individual agreement. The guidance also describes when these requirements apply to key participants other than the prime contractor.

DHS Lacks Information Needed to Assess Whether It Is Obtaining Full Benefits of Other Transaction Authority

Two key benefits of using other transactions are to provide greater latitude in negotiating the allocation of intellectual property and data rights and to leverage the cutting-edge technology developed by nontraditional contractors. Knowledge gained from past projects supported by other transaction agreements could allow DHS to assess the extent to which these benefits are being obtained and inform planning to maximize benefits for future projects. Performance information can help agency managers to ensure that programs meet intended goals, assess the efficiency of processes, and promote continuous improvement. We have previously reported on the benefits of agencies using systematic methods to collect, verify, store, and disseminate information on acquisitions for use by their current and future employees.²⁴ However, DHS does not have the data it needs to make such assessments and ensure that, in using other transactions, the benefits outweigh the additional risks.

In our 2004 review, we found that S&T lacked the capacity to systematically assess its other transactions, and we recommended that DHS capture knowledge obtained during the acquisition process to facilitate planning and implementing future projects. While the S&T directorate now shares knowledge about the benefits derived from completed projects on an informal basis, DHS does not formally collect or share information about whether other transactions have been successful in supporting projects or what factors led to success or failure. In 2005, DHS hired a consultant to develop a "lessons learned" document based on the DOD's experience using other transactions, and DHS has incorporated this into its other transactions training. S&T program representatives told us that their programs undergo regular management reviews; however, these reviews are not documented. DHS has not developed a system for

²⁴ GAO, *Best Practices: Highlights of the Knowledge-Based Approach Used to Improve Weapon Acquisition*, [GAO-04-392SP](#) (Washington, D.C.: January 2004) and NASA: *Better Mechanisms Needed for Sharing Lessons Learned*, [GAO-02-195](#) (Washington, D.C.: Jan. 30, 2002).

capturing knowledge from its own projects, which may limit its ability to learn from experience and adapt approaches going forward.

DHS also lacks the information needed to assess whether it is using other transaction authority to effectively negotiate intellectual property and data rights. While some agreements tailored the language on intellectual property and data rights to the particular needs of the project, we found that the language in most agreements was similar and that some of this language is generally applied to FAR-based contracts. For example, most agreements included

- standard FAR clauses for allocating intellectual property rights, such as giving all ownership of an invention to the contractor while maintaining a paid-up license that allows the government to use the invention;
- standard FAR language that gives the government the right to require a contractor to grant a license to responsible applicants or grant the license itself if the contractor refuses to do so;
- requirements for the contractor to submit a final report on the use of the inventions or on efforts at obtaining such use; and
- a standard data rights clause with an added provision that extends rights to state and local governments.²⁵

Incorporating these clauses enables DHS to protect the government’s interest, however, the extent to which DHS needed these rights is unclear because the rationale for using these provisions and the anticipated benefits were not documented. Concerned that rights may be overestimated—and ultimately result in the government paying for unused rights and discouraging new businesses from entering into other transaction agreements—DOD issued guidance on intellectual property rights negotiations.²⁶ We reported that DOD’s guidance called for consideration of factors such as the costs associated with the inability to obtain competition for future production, maintenance, upgrade, and modification of prototype technology, or the inability of the government to adapt the developed technology for use outside the initial scope of the

²⁵ DHS believes that state and local governments will be the primary customers and wanted to ensure that products developed under agreements were available and affordable to them, without needing to pay high usage rights payments. DHS has extended its rights in many agreements by defining “government” as including state and local governments.

²⁶ GAO, *Intellectual Property: Information on the Federal Framework and DOD’s Other Transaction Authority*, [GAO-01-980T](#) (Washington, D.C.: July 17, 2001).

prototype project. DHS's May 2008 guidance for prototype projects includes similar areas of consideration to assist contracting officers in negotiating these rights, which could help to address this concern if implemented as intended. This guidance also provides that contracting officers, in conjunction with program managers, should obtain the assistance of the DHS Intellectual Property Counsel in assessing intellectual property needs.

To better track procurement data from other transaction agreements, DHS has modified its procurement database to capture additional information. For example, DHS recently made changes to its database to allow the user, in part, to identify a prime contractor's nontraditional status. However, the capacity of the database is limited as it is not designed to capture data to assess DHS's use of other transactions—particularly on the extent of nontraditional contractors' contributions. The procurement database is also limited to including information on new and active agreements, so DHS may have missed an opportunity to gather data on experiences from any inactive agreements not included in the database. As of April 2008, at least 10 agreements—almost 20 percent of all the agreements we reviewed—were not in the database. In addition, the database does not contain information on the nature of the work performed by nontraditional contractors—either prime or subcontractors—or the funding allocated to nontraditional contractors. DHS's guidance only recommends reporting expenditures of government funds if a cost reimbursement agreement is involved or the agreement involves cost-sharing. Most available data on the contributions of nontraditional contractors are maintained in hard copy files, but documentation on 19 of 44 agreements did not contain sufficient information for us to determine the planned obligations for nontraditional contractors.

DHS Has Taken Steps to Develop Staff Skills but Has Been Challenged to Maintain Its Contracting Workforce

The unique nature of other transaction agreements requires staff with experience in planning and conducting research and development acquisitions, strong business acumen, and sound judgment to enable them to operate in a relatively unstructured business environment. DHS requires its other transaction contracting officers to hold a certification for the most sophisticated and complex contracting activities and to take training on the use of this authority.

DHS has created training courses that provide instruction in the use of both FAR-based research and development contracting and other transaction agreements. The topics covered include intellectual property, foreign access to technology created under other transactions, and

program solicitations. According to DHS representatives, between January 2005 and March 2008, approximately 80 contracting staff, including contracting officers, had been trained. DHS representatives also said they are developing a refresher course for staff who have already completed the initial training. DHS's recently issued guidance also requires program staff to take training on other transactions.

When DHS first began entering into other transaction agreements in fiscal year 2004, it relied upon contracting services from other agencies, such as the U.S. Army Medical Research Acquisition Activity, including staff who were experienced in executing other transaction agreements. Since fiscal year 2005, DHS has been granting warrants²⁷ to permit its own contracting officers to enter into other transaction agreements and has issued these warrants to 17 contracting officers. Nine of these contracting officers have been assigned to support S&T; however, DHS has experienced turnover and 4 of these S&T contracting officers have left DHS since February 2008. The Office of Procurement Operations does not have a staffing model to estimate how many contracting officers are needed to support S&T's workload on an ongoing basis. Two S&T program managers, who each manage one agreement, told us that they had difficulty obtaining assistance from the procurement office for other transactions, and attributed this to inadequate staffing levels and turnover. Our prior work has noted ongoing concerns with regard to the sufficiency of DHS's acquisition workforce to ensure successful outcomes. In 2003, we recommended that DHS develop a data-driven assessment of the department's acquisition personnel resulting in a workforce plan that would identify the number, skills, location, and competencies of the workforce.²⁸ In 2005, we reported on disparities in the staffing levels and workload imbalances among component procurement offices and recommended that DHS conduct a departmentwide assessment of the number of contracting staff.²⁹ This recommendation has not been implemented. As of February 2008, DHS reported that approximately 61 percent of the minimum required level and 38 percent of the optimal level of contract specialists were in place, departmentwide. We have

²⁷ Only those employees with specific contracting officer authority known as a "warrant" may execute contracts on behalf of DHS.

²⁸ GAO, *Contract Management: INS Contracting Weaknesses Need Attention from the Department of Homeland Security*, [GAO-03-799](#) (Washington, D.C.: July 25, 2003).

²⁹ GAO, *Homeland Security: Successes and Challenges in DHS's Efforts to Create an Effective Acquisition Organization*, [GAO-05-179](#) (Washington, D.C.: Mar. 29, 2005).

ongoing work on acquisition workforce issues and initiatives at DHS and plan to report on the results of these efforts in the final product for that engagement.

Conclusion

While other transaction agreements can carry the benefit of tapping into innovative homeland security technologies through nontraditional contractors, as they are exempt from federal procurement regulations, they also carry the risk of reduced accountability and transparency if not properly managed. DHS has successfully used its other transaction authority to attract nontraditional contractors to develop innovative technologies to address homeland security needs, and it continues to implement the policies and procedures needed to manage the inherent risks of these agreements. However, DHS continues to lack the resources—in terms of knowledge and workforce capacity—to ensure that its agreements are transparent and maximize their potential benefits. If other transaction authority is made permanent, it will be important for DHS to take a systematic approach to assessing its experience with other transaction authority and identifying and addressing contracting workforce needs. These steps would not only enable DHS to more strategically manage its agreements in the future, they also would provide Congress with useful information on the benefits of the authority.

Recommendations for Executive Action

To promote the efficient and effective use by DHS of its other transactions authority to meet its mission needs, we recommend that the Secretary of Homeland Security direct the Under Secretary for Management and the Under Secretary for Science and Technology to take the following two actions:

- Collect relevant data on other transaction agreements, including the roles of and funding to nontraditional contractors and intellectual property rights, and systematically assess and report to Congress on the use of these agreements to ensure that the intended benefits of the authority are achieved.
- Direct the Office of Procurement Operations to work with the Science and Technology directorate to determine the number of contracting officers needed to help ensure a sufficient contracting workforce to execute other transaction authority.

Agency Comments and Our Evaluation

We provided a draft of this report to DHS for review and comment. In written comments, DHS concurred with our recommendations and provided some information on efforts under way to improve information on its use of other transaction authority. DHS's comments are reprinted in their entirety in appendix III. DHS also provided technical comments that were incorporated where appropriate.

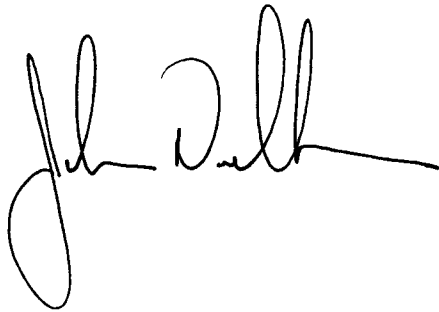
In response to our first recommendation, that DHS collect relevant data on other transactions agreements, including the roles of and funding to nontraditional contractors and intellectual property rights, and systematically assess and report to Congress on the use of these agreements to ensure that the intended benefits of the authority are achieved, DHS stated that the Chief Procurement Officer is taking steps to improve the information DHS has on its other transactions. DHS reiterated changes it has made to its procurement data system which are described in our report. DHS also noted the information included in its annual report to Congress on S&T's other transactions. For example, the report details the technical objectives of each other transaction including the technology areas in which the project is conducted. DHS also stated that it plans to revise its guidance to specify that the Office of Procurement Operations and S&T program management should formally collaborate in preparing its annual report to Congress, noting that this process can serve as a means of sharing "lessons learned" on the benefits of other transaction authority. While DHS stated that its report to Congress includes overarching assessment information, DHS does not systematically evaluate whether it is obtaining the full benefits of other transaction authority. For example, DHS did not specify how it will improve the availability of and systematically assess information related to the nature of the work being performed by nontraditional contractors, the funding allocated to nontraditional contractors, or areas considered in the negotiation of intellectual property rights. We continue to believe that these are key areas in which DHS should collect and evaluate data to determine whether the intended benefits of the authority are achieved.

In response to our second recommendation, that the Office of Procurement Operations work with S&T to determine the number of contracting officers needed to help ensure a sufficient contracting workforce to execute other transaction authority, DHS stated that this issue can only be addressed as part of broader departmentwide acquisition workforce initiatives. DHS recognized the need to have contracting personnel, certified in the use of other transactions, in sufficient numbers to handle S&T's workload as it arises, but noted that the workload does not lend itself to a static number of personnel. While we recognize that the

workload for other transactions fluctuates, the Office of Procurement Operations does not have a staffing model that incorporates workload to estimate what level of contracting support is needed for other transactions on an ongoing basis. We continue to believe that this would help DHS managers ensure a sufficient contracting workforce to execute S&T's other transaction authority.

We are sending copies of this report to interested congressional committees and the Secretary of Homeland Security. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's web site at <http://www.gao.gov>.

If you or your staff have questions regarding this report or need additional information, please contact me at (202) 512-4841 or needhamjk1@gao.gov. Contact points for our offices of Congressional Relations and Public Affairs may be found on the last page of this report. Principal contributors to this report were Amelia Shachoy, Assistant Director; Alexandra Dew; Russ Reiter; Matthew Voit; Tracey Graham; John Krump; and Karen Sloan.

A handwritten signature in black ink, appearing to read "John K. Needham". The signature is stylized with large, flowing loops and a long horizontal stroke at the end.

John K. Needham, Director
Acquisition and Sourcing Management

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Chairman

The Honorable Susan M. Collins

Ranking Member

Committee on Homeland Security and Governmental Affairs

United States Senate

The Honorable Henry A. Waxman

Chairman

The Honorable Tom Davis

Ranking Member

Committee on Oversight and Government Reform

House of Representatives

The Honorable Bennie G. Thompson

Chairman

The Honorable Peter T. King

Ranking Member

Committee on Homeland Security

House of Representatives

Appendix I: Scope and Methodology

To determine the extent to which nontraditional contractors have been involved in other transactions with the Department of Homeland Security (DHS) to fulfill technology and mission needs, we obtained an initial list of agreements from DHS's Office of Procurement Operations, the contracting office responsible for entering into these agreements; conducted a file review; and interviewed DHS's Science and Technology (S&T) directorate's program managers. As shown in table 1, we identified 53 of 55 agreements that we could review.

Table 1: Identification of Other Transaction Agreements Entered into from Fiscal Years 2004 through 2008

	Agreements identified by the Office of Procurement Operations	Additional agreements identified during contract file review	Additional agreements identified by program managers	Total number of agreements identified
Agreement files reviewed	44	4	5	53
Partial agreement files obtained (not reviewed)	1	0	1	2
Total number of agreement files	45	4	6	55

Source: GAO presentation of data from DHS and GAO file reviews.

Note: S&T identified six additional projects that were entered into using an other transaction agreement; however, we were not able to obtain documentation or confirm that agreements were used for these projects.

Nontraditional contractors were identified in 44 agreement files, although not all had complete information. For example, 19 of these files did not include sufficient information to determine how much of the contract value was proposed to go to nontraditional contractors. We analyzed all available agreements and the contractors' proposals to identify the nontraditional contractors, the contribution they plan to bring to the project, and the nontraditional contractors' shares as identified in contractors' proposals. However, DHS relies on contractors to self-certify their status as a nontraditional government contractor during agreement negotiation. In analyzing DHS's agreements, we did not independently verify a contractor's reported status as a nontraditional contractor other than to conduct a search of the Federal Procurement Data System-Next Generation (FPDS-NG) to determine whether these contractors had prior government work. Our limited review of FPDS-NG identified 25 contractors who had worked with the government in the previous year but found no contract actions that appeared to be subject to the cost accounting standards or that were for prototype or research projects in excess of \$500,000. We also did not independently verify the share of costs allocated to nontraditional contractors or their contributions under the

agreements. We determined nontraditional contractors' business size by reviewing data from the Central Contractor Registration. With these data, we identified the business size of 39 of 50 nontraditional contractors. Of the remaining 11 firms, 1 firm did not have a business size identified and 10 were not listed in the database. In addition, we interviewed DHS contracting officers and S&T program managers to obtain their views on the contributions that the nontraditional contractors provided to the project. In addition, we also interviewed two prime contractors, one traditional and one nontraditional, to understand their experiences with entering into other transactions with DHS.

To assess DHS's management of the acquisition process when using other transactions, we reviewed and analyzed each available agreement file to assess the process and procedures used to negotiate and enter into the agreement. We reviewed DHS's Management Directive 0771.1, *Other Transaction Authority*, dated July 8, 2005, and Procurement Operating Procedure 311, *Other Transactions for Prototypes* and the attached *Other Transaction for Prototype Guidebook*, dated May 22, 2008. We also interviewed contracting officers and program managers as well as a representative from DHS's legal counsel to obtain an understanding of the review process. We reviewed each available agreement analysis to determine how the intellectual property and data rights were negotiated. We discussed with contracting and program representatives whether information is collected to assess the effectiveness and benefits of the use of other transaction authority or what lessons are learned from its use. We also reviewed DHS's June 30, 2008, report to Congress on its use of other transaction authority, which includes information on 38 agreements. During the course of our audit work, we reviewed 15 additional agreements, including 1 agreement entered into after DHS's reporting period. We reviewed DHS's training material provided to contracting officers on the use of the other transaction authority. We also obtained information on the number of contracting representatives that have received this training and the number of those that have left DHS since 2005. We also reviewed our prior reports on the use of other transaction authority at the Departments of Defense and Homeland Security.

We conducted this performance audit from April through September 2008, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Description of DHS Projects Supported by Other Transaction Agreements

Project	Description
S&T Chemical/Biological Division	
Agriculture Biosecurity Thrust Area Veterinary Countermeasures	Development of a Foot and Mouth Disease vaccine that allows for the determination of whether an animal has been infected
Autonomous Rapid Facility Chemical Agent Monitor (ARFCAM)	Autonomous chemical detectors
ARFCAM Millimeter Wave- Terahertz Spectroscopy	Demonstrating the ability to use spectroscopy as an approach for detecting chemical warfare agents and toxic industrial chemicals
BioAgent Autonomous Network Detector (BAND)	Biological detection sensor system
Food Biological Agent Detection Sensor (FBADS)	Rapid, portable technology to detect “threat agents” in food
Instantaneous Bio-Aerosol Detection Systems (IBADS)	Rapid bio-aerosol sensors
Lightweight Autonomous Chemical Identification System (LACIS)	Hand-held chemical agent detectors
Low-Cost Bio-Aerosol Detection System (LBADS)	Low-cost bio-aerosol sensors
Portable High-through-put Integrated Laboratory Identification System (PHILIS)	Identifies dangerous chemical compounds in contaminated areas
Rapid Automated Biological Identification System (RABIS)	Continuous monitoring for a broad range of potential bio-aerosol threats
S&T Explosives Division	
Counter Man-Portable Air Defense Systems (CMANPADS)	Detects shoulder-launched surface-to-air missiles, cues a laser to jam weapons’ guidance system
S&T Infrastructure Protection & Geophysical Science Division	
Kentucky Critical Infrastructure Protection Institute (KCI)	Protects critical infrastructure against terrorist attacks, emergency situations; community-based program
S&T Homeland Security Advanced Research Projects Agency	
Prototypes and Technology for Improvised Explosives Device Detection (PTIEDD)	Develops security systems to screen individuals for explosive trace residue
Secure Super Grids	Developing a “high temperature superconductor” power grid
Domestic Nuclear Detection Office	
Advanced Passive Detection Components	Sensors and detectors to reduce the risk of radiological and nuclear threats
Advanced Spectroscopic Portals (ASP)	Detects nuclear materials to prevent nuclear attacks/terrorism
FAST TRAC	Detects radiological and nuclear material at the component level

Source: GAO presentation of data from DHS other transaction agreement files.

Appendix III: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528



**Homeland
Security**

September 19, 2008

Mr. John Needham
Director, Acquisition and Sourcing Management
Government Accountability Office
Washington, D. C. 20548

Dear Mr. Needham:

Thank you for the opportunity to review draft report GAO-08-1088, Department of Homeland Security: Improvements Could Further Enhance Ability to Acquire Innovative Technologies Using Other Transaction Authority.

The Department of Homeland Security (DHS) and the Office of the Chief Procurement Officer (OCPO) concurs with GAO's recommendations. The following is the Departmental response to the recommendations contained in the draft report.

Recommendation 1. Collect relevant data on other transaction agreements, including the roles of and funding to nontraditional contractors and intellectual property rights, and systematically assess and report to Congress on the use of these agreements to ensure that the intended benefits of the authority are achieved.

The Office of the Chief Procurement Officer is taking the following steps to address GAO's recommendation to improve the information DHS has on its other transactions (OT): (1) The Office of Procurement Operations (OPO) has recently developed and implemented an OT module in PRISM, its contract writing system to ensure that information on OTs is current, accurate, and complete. OPO uses customized monthly reports to reconcile the status of OT actions with Science & Technology (S&T). (2) In addition, DHS is required to provide an annual report to Congress on its OTs. Information collected includes basic transactional and overarching assessment information. (i.e., basic transactional data includes agreement number, effective date, awardee, extent of competition, estimated completion date, U.S. Government dollars contributed, non-Government dollars contributed, etc.

Overarching assessment information details the technical objectives of the OT effort including the technology areas in which the project is conducted, extent to which the OT has contributed to a broadening of the technology and industrial base available for meeting DHS needs, extent to which the OT has fostered, within the technology and industrial base, new relationships and practices that support the national security of the U.S., and the rationale for using OT authority in lieu of Federal Acquisition Regulation-

www.dhs.gov

based contracts. The basic transactional data is collected in the PRISM OT module. DHS guidance will be revised to specify that the overarching assessment information identified above is obtained through a formal collaborative effort between OPO contracting personnel and the S&T OT program management as part of the preparation of DHS's annual OT report. In addition to providing the necessary reporting information, the process can serve as a means of sharing information and "lessons learned" regarding the realization of benefits of OT authority.

Recommendation 2. Direct the Office of Procurement Operations to work with the Science & Technology Directorate to determine the number of contracting officers needed to help ensure a sufficient contracting workforce to execute other transaction authority.

Because DHS OT contracting officers' workload includes both OTs and procurement contracts, GAO's comments regarding Office of Procurement Operations (OPO) Contract Specialist staffing sufficiency for OT support can only be addressed as part of broader Departmentwide acquisition workforce initiatives. The specific workload for OT certified Contracting Specialists and Contracting Officers may vary from time to time, so OPO recognizes the need to have OT Certified Contracting personnel in sufficient numbers to handle the S&T workload as it arises. Such a workload does not lend itself to a static number of Full Time Equivalent personnel. Any actions determined to be necessary as a result of GAO's recent DHS Acquisition Workforce study (GAO Engagement Code 120688) will be implemented in response to the above recommendation. In addition, to ensure workforce effectiveness in the planning, award, and administration of OTs, DHS has established mandatory OT training, successful completion of which is required as a prerequisite to designation as an OT contracting officer.

We thank you again for the opportunity to review the report and provide comments.

Sincerely,



Jerald E. Levine
Director
Departmental GAO/OIG Liaison Office

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