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AMERICA COMPETES ACT

NIST Applied Some
Safeguards in
Obtaining Expert
Services, but
Additional Direction
from Congress Is
Needed



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Highlights of [GAO-09-789](#), a report to congressional committees

Why GAO Did This Study

The America COMPETES Act gave the National Institute of Standards and Technology (NIST), within the Department of Commerce, the authority, through 2010, to obtain the temporary services of up to 200 experts or consultants per year, but did not specify how the agency should acquire these services. NIST has used this authority to award personal services contracts to obtain the services of individuals.

The act requires GAO to report on whether additional safeguards would be needed if NIST's authority were to be made permanent. To meet that requirement, GAO determined (1) the extent to which NIST has used its authority; (2) how effective the authority has been in helping NIST meet its need for experts; and (3) the extent to which NIST has provided appropriate safeguards over its use, and what additional safeguards are needed. GAO reviewed statutes, regulations, federal guidance, and NIST's contracts. In addition, GAO interviewed officials at NIST, Commerce, and the Office of Personnel Management (OPM).

What GAO Recommends

If the Congress extends or makes the COMPETES Act authority permanent, it may want to consider clarifying how NIST is to obtain the services of experts. In commenting on a draft of this report, Commerce and NIST concurred with GAO's conclusions, and OPM provided technical comments, which were incorporated as appropriate.

View [GAO-09-789](#) or [key components](#). For more information, contact Anu Mittal at (202) 512-3841 or mittala@gao.gov.

AMERICA COMPETES ACT

NIST Applied Some Safeguards in Obtaining Expert Services, but Additional Direction from Congress Is Needed

What GAO Found

From August 2007 through April 2009, NIST had awarded 39 contracts totaling about \$1.9 million using the COMPETES Act authority. Work under 16 of these contracts has been completed, 1 was canceled prior to being funded, and work on 22 is ongoing. Four of NIST's seven laboratories awarded 32 of the 38 funded contracts. Award amounts averaged \$50,754. Award amounts covered the costs of labor hours and, in 9 cases, the costs of travel. No contract exceeded 1 year in duration, and the number of hours purchased averaged 939 hours per contract. In general, the experts designed and conducted experiments, analyzed data, and delivered their results in peer-reviewed reports. These experts also assisted with research projects, such as a study of the lighting sources and the materials used for traffic signs and road markings.

According to NIST officials, the COMPETES Act authority, despite limitations, has been highly effective in helping NIST meet its need for experts. These officials told GAO that the authority allows NIST to award personal services contracts that enable the agency to quickly redirect research as needed. The officials also stated that the authority allows NIST to respond to the short-term research needs of other agencies that do not merit NIST hiring new staff. Most of these officials value the authority because they interpret it as allowing NIST to award contracts without competition, which helps them to quickly select individuals with specialized expertise. Nonetheless, some officials said the authority limits the amount of pay that can be offered, which may prevent NIST from contracting with the most highly qualified experts; although none of these officials could provide an example of when this had occurred. Also, because NIST has strictly applied the 1-year limit in the authority, NIST officials said they are limited in their ability to retain experts, even if the experts are still needed. If the authority is not made permanent, NIST officials said they will have to revert to the use of nonpersonal services contracts, which they believe are less effective in meeting the agency's needs because they require time-consuming contract modifications to redirect research and limit NIST's ability to select specific experts to do the work.

NIST has developed procedures that include safeguards for using the authority, but it had difficulty determining which specific laws and regulations to apply because it did not receive clear guidance from Commerce or OPM. As a result, to help limit the risk to the agency, NIST adopted some safeguards from the *Federal Acquisition Regulation* (FAR) that apply to contracts and some from OPM's regulations that implement personnel statutes. For example, NIST awarded the contracts at a firm fixed price, a FAR safeguard, and limited the pay offered to experts, a safeguard in the personnel statute. Neither the COMPETES Act nor a second law incorporated in the act clearly state whether NIST is required to use its new authority by appointing individuals as federal employees in accordance with OPM regulations or by awarding personal services contracts in accordance with the FAR. Because the question of which safeguards NIST is legally required to apply is unsettled, the need for any additional safeguards is also unclear at this time.

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Abbreviations

DOE	Department of Energy
FAR	<i>Federal Acquisition Regulation</i>
FTE	full-time equivalent
GS	General Schedule
NIST	National Institute of Standards and Technology
OPM	Office of Personnel Management

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United States Government Accountability Office
Washington, DC 20548

August 7, 2009

The Honorable John D. Rockefeller IV
Chairman
The Honorable Kay Bailey Hutchison
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Bart Gordon
Chairman
The Honorable Ralph M. Hall
Ranking Member
Committee on Science and Technology
House of Representatives

The United States is a world leader in scientific and technological innovation, and the health of the U.S. economy is tied directly to scientific and technological advances that help create new goods, jobs, and services. To help ensure the continued competitiveness of the United States in scientific and technological fields, the Congress passed the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act (COMPETES Act) in 2007¹ to invest in American innovation through research and development. A key agency in this effort is the National Institute of Standards and Technology (NIST), within the Department of Commerce, which supports the private sector through research and the distribution of federally developed technologies to all economic sectors. NIST's research provides measurement, calibration, and quality assurance techniques that directly support basic technological advances, enhance product reliability, and improve manufacturing processes. NIST employs about 2,900 scientists, engineers, technicians, and support personnel in its seven research laboratories and two centers.² In addition, each year NIST hosts about

¹Pub. L. No. 110-69, 121 Stat. 572 (2007).

²NIST's seven research laboratories are Building and Fire Research, Chemical Science and Technology, Electronics and Electrical Engineering, Information Technology, Manufacturing Engineering, Materials Science and Engineering, and Physics. Its two centers are for Nanoscale Science and Technology and for Neutron Research.

2,600 guest researchers from academia, industry, and other government agencies to assist with ongoing research.

Government agencies typically obtain the skills and knowledge they need to accomplish their missions by directly hiring employees under competitive appointment or other procedures subject to statutory requirements and instructions from the Office of Personnel Management (OPM). Alternatively, agencies may obtain needed skills and expertise through the award of nonpersonal services contracts and, if specifically authorized by statute, by personal services contracts. A personal services contract creates an employer-employee relationship between the agency and the contractor, which may be an individual or a firm. In the employer-employee relationship created by a personal services contract, the contractor is subject to the relatively continuous supervision and control of a federal employee. In contrast, a nonpersonal services contract creates an arm's-length relationship between the agency and the contractor. Agencies that award either type of contract to an organization must adhere to the *Federal Acquisition Regulation* (FAR), which is designed to promote competition, protect the government's interests, and help ensure the effective use of government funds.

Section 3009 of the COMPETES Act authorizes NIST to "procure the temporary or intermittent services of experts or consultants (or organizations thereof)" to assist with urgent or short-term research projects. The authority will expire on September 30, 2010, unless reauthorized by the Congress. The act allows NIST to procure the services of up to 200 experts or consultants per year, for a period not to exceed 1 year. The act further requires NIST to obtain these services in accordance with 5 U.S.C. § 3109(b), which permits statutorily authorized agencies to "procure by contract" the temporary or intermittent services of experts or consultants and sets some limitations on the use of the authority—for example, by limiting pay to the maximum amount that a civil servant may receive under the General Schedule (GS). Where NIST wishes to obtain these services by using individual experts or consultants rather than by using an organization, it is not legally settled—because of inconsistent or ambiguous statutes, regulations, decisions, and practices—whether NIST may (or must) do so by appointing the individual as a temporary or intermittent federal employee or by awarding a personal services contract under the procurement statutes and the FAR. To date, NIST has used its authority under the COMPETES Act and 5 U.S.C. § 3109(b) to award personal services contracts to individuals.

The COMPETES Act also requires that, within 2 years of enactment, GAO review and report on whether additional safeguards would be needed with respect to the use of the authority granted to NIST if it were to be made permanent.³ This report addresses the mandated requirement. As agreed with your offices, the objectives of this review were to determine (1) the extent to which and for what purposes NIST has used its authority under the COMPETES Act to obtain the services of experts, (2) how effective this authority has been in helping NIST meet its need for experts to assist with urgent and short-term research projects, and (3) the extent to which NIST's policies and procedures provide appropriate safeguards over the use of this authority.

To determine the extent to which and for what purposes NIST used its new authority under the COMPETES Act, we obtained and reviewed the files of all personal services contracts that NIST had awarded from August 2007 through April 2009 and developed a database of descriptive information about these contracts, such as the total and average dollar amounts of the awards, the total and average duration, and the number of contracts awarded by each NIST laboratory. We also obtained and reviewed budget and workforce data for each of NIST's seven laboratories and determined, for fiscal year 2008, the portion of each laboratory's budget and workforce that these contract experts represented. In addition, we interviewed NIST laboratory officials responsible for 17 of the 39 contracts and acquisition management officials to gain a better understanding of the nature of the projects and the skills of the experts procured. To determine how effective this authority has been in helping NIST meet its need for experts, we interviewed NIST laboratory officials to obtain their views on the benefits of using personal services contracts. We also reviewed NIST's strategic, workforce, and laboratory plans to determine the extent to which this authority has been incorporated into the agency's workforce planning process. To determine the extent to which NIST's policies and procedures provide appropriate safeguards, we identified NIST's operating procedures for using this authority and reviewed NIST's contract files to determine the extent to which the information contained in the files adhered to the agency's procedures. In addition, we reviewed NIST's efforts to train program and procurement staff in the use of this authority. To identify additional safeguards that

³We use the term safeguards in this report to refer to laws, policies, and procedures that protect the government's interests or promote the integrity of the government's decisions, approvals, disapprovals, and recommendations.

NIST could potentially apply to its procedures, we reviewed statutes, regulations, and case law governing federal hiring and contracting, as well as guidance developed by the Office of Federal Procurement Policy within the Office of Management and Budget, and interviewed officials at OPM. We also reviewed documents from other agencies that have the authority to procure the temporary or intermittent services of experts and consultants under 5 U.S.C. § 3109, including the Department of Homeland Security, the Department of Defense, the Department of Health and Human Services, and the National Aeronautics and Space Administration. We also reviewed the contract files to determine the extent to which NIST incorporated hiring and contracting safeguards. Appendix I contains a more detailed description of our scope and methodology.

We conducted our work from October 2008 to August 2009 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.

Background

Advances in science and technology are widely seen as responsible for much of the economic growth and increased standard of living in modern societies. NIST, a nonregulatory agency within Commerce, plays a lead role in promoting innovation and industrial competitiveness by advancing measurement science, standards, and technology. The new technologies that will shape life in the 21st century—including nanotechnology, information technology, and advanced manufacturing—rely, in part, on NIST-developed tools to measure, evaluate, and standardize materials and processes. The work conducted at NIST underlies much of our nation’s business and public infrastructure, from helping to ensure the quality of air and water to helping to ensure the security of online financial transactions. Fundamental to NIST’s ability to sustain these contributions is the quality of the almost 3,000 scientists who work there, including 3 Nobel Laureates, and the many visiting researchers who come to use NIST’s specialized measurement facilities.

In 2007, the COMPETES Act granted NIST the authority to “procure” the temporary services of experts or consultants to supplement its workforce for urgent or short-term projects. This authority allows NIST to procure the services of up to 200 experts or consultants per year. The act further

requires NIST to obtain these services in accordance with 5 U.S.C. § 3109(b), which grants an agency the authority to “procure by contract” the temporary (not to exceed 1 year) or intermittent services of experts or consultants. Under section 3109(d), OPM is required to prescribe regulations necessary to administer this section, including setting the criteria for the appropriate circumstances in which to employ an expert or consultant and the criteria for setting the pay of experts and consultants under this section. OPM’s regulations on expert and consultant appointments appear at 5 C.F.R. part 304.⁴

Obtaining personal services from individuals or organizations by contract, rather than by appointment, is generally prohibited unless specifically authorized by statute, such as 5 U.S.C. § 3109. Agencies that have such statutory authorization may use 5 U.S.C. § 3109 as a contracting authority and apply FAR procedures, rather than OPM regulations, when awarding contracts to procure personal services from organizations. Additionally, agencies that have such statutory authorization may use 5 U.S.C. § 3109 to appoint individual experts or consultants as temporary federal employees in accordance with OPM regulations. The law is unsettled, however, on the extent to which 5 U.S.C. § 3109 permits agencies to award procurement contracts in accordance with the FAR when they obtain the personal services of individual experts. Although the FAR permits the use of a contract to obtain the personal services of individual experts,⁵ the text of 5 U.S.C. § 3109 may imply that these services should be obtained through appointment.⁶ As we have previously noted and as described in more detail in table 1, a personal services contract is characterized by the close working relationship that is established between the agency and the contractor. To date, NIST has used its authority under 5 U.S.C. § 3109 to award personal services contracts to individuals.

⁴OPM’s regulations define an expert as a person who is specially qualified by education and experience to perform difficult and challenging tasks in a particular field beyond the usual range of achievement of competent persons in that field. An expert is regarded by other persons in the field as an authority or practitioner of unusual competence and skill in a professional, scientific, technical, or other activity. These regulations define a consultant as a person who can provide valuable and pertinent advice generally drawn from a high degree of broad administrative, professional, or technical knowledge or experience.

⁵FAR § 13.003(d).

⁶OPM—an agency charged with administering federal personnel laws—is required by 5 U.S.C. § 3109(d) to issue regulations implementing 5 U.S.C. § 3109, including “criteria governing the circumstances in which it is appropriate to *employ* an expert or consultant under the provisions of this section . . .” (emphasis added).

Table 1: Characteristics of a Personal Services Contract

- Work is performed on-site.
- Principal tools and equipment are furnished by the government.
- Services are applied directly to the integral effort of the agency or an organizational subpart in the furtherance of its assigned function or mission.
- Comparable services, meeting comparable needs, are performed in the same or similar agencies using civil service personnel.
- The need for the type of service provided can reasonably be expected to last beyond 1 year.
- The inherent nature of the service, or the manner in which it is provided, reasonably requires, directly or indirectly, government direction or supervision of contractor employees to (1) adequately protect the government's interest, (2) retain control of the function involved, or (3) retain full personal responsibility for the function supported by a duly authorized federal officer or employee.

Source: FAR § 37.104.

Within NIST, the Acquisition Management Division is responsible for managing, overseeing, and supporting NIST's procurement operations, including personal services contracts, and for advising agency staff on acquisition strategies. NIST's contracting officials are also responsible for ensuring that all acquisitions of goods and services are in compliance with various federal laws, regulations, and policies governing procurement operations and procedures. When a laboratory needs expert services, subject matter experts—called technical information contacts—work with the laboratory director to prepare a request for a personal services contract that describes the work to be performed and the expertise needed. This request is then reviewed by a contracting officer technical representative and NIST's contracting officials prior to approval.

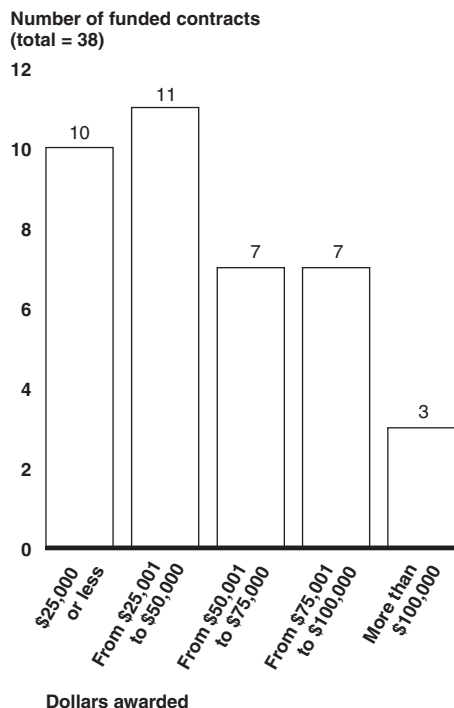
NIST Has Awarded 39 Contracts Totaling about \$1.9 Million to Obtain the Services of Experts

From August 2007 through April 2009, NIST had awarded 39 contracts to obtain the services of individual experts to assist with a variety of urgent or short-term research projects. According to agency officials, NIST initially restricted the use of the authority to the services of experts and not consultants, in part, because of concerns that the historical demand for consultants from its laboratories had averaged about 200 per year and, therefore, might exceed the limit of 200 set by the COMPETES Act. NIST officials said the agency had not used the authority more extensively, in part, because it had been operating at a reduced funding level for much of the time that it has had the authority. In addition, NIST officials said that they will develop a plan to allocate the 200 contracts among the laboratories if the demand increases. As of April 30, 2009, work under 16 of the contracts had been completed, work under 22 contracts was

ongoing, and 1 contract was canceled at the request of the contractor prior to any payment being made.

The 38 contracts that NIST funded totaled about \$1.9 million. All but 3 of the 38 contracts were valued at \$100,000 or less (see fig. 1). The awards averaged \$50,754 and ranged from \$7,492 to \$114,033. All 38 contracts were firm fixed-price contracts. Award amounts covered the costs of purchasing a specified number of the experts' labor hours, and 9 contracts also included from \$2,500 to \$10,000 for the experts to attend professional conferences or conduct other travel related to their research.

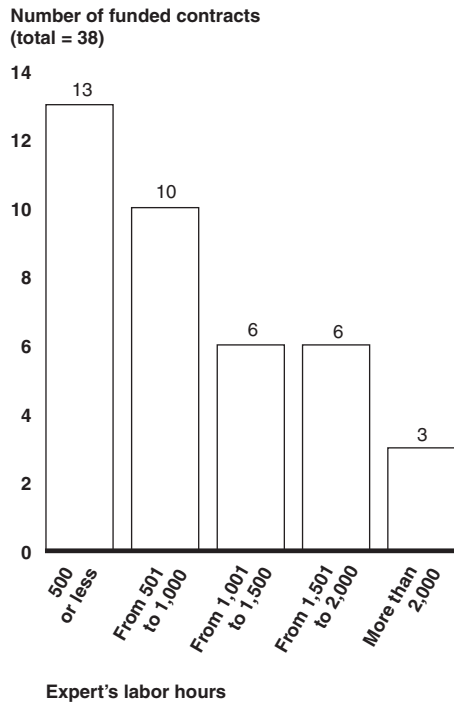
Figure 1: Funded Contracts in Each Award Amount Range, August 2007 through April 2009



Source: GAO analysis of NIST data.

None of the 38 contracts that NIST funded exceeded the statutory limit of 1 year in duration. The number of hours purchased averaged 939 hours per contract and ranged from 149 hours to 2,080 hours (see fig. 2). According to NIST officials, 2,080 hours translates to the agency's definition of 1 full-time equivalent (FTE)—that is, the number of hours worked by an employee during the course of a year.

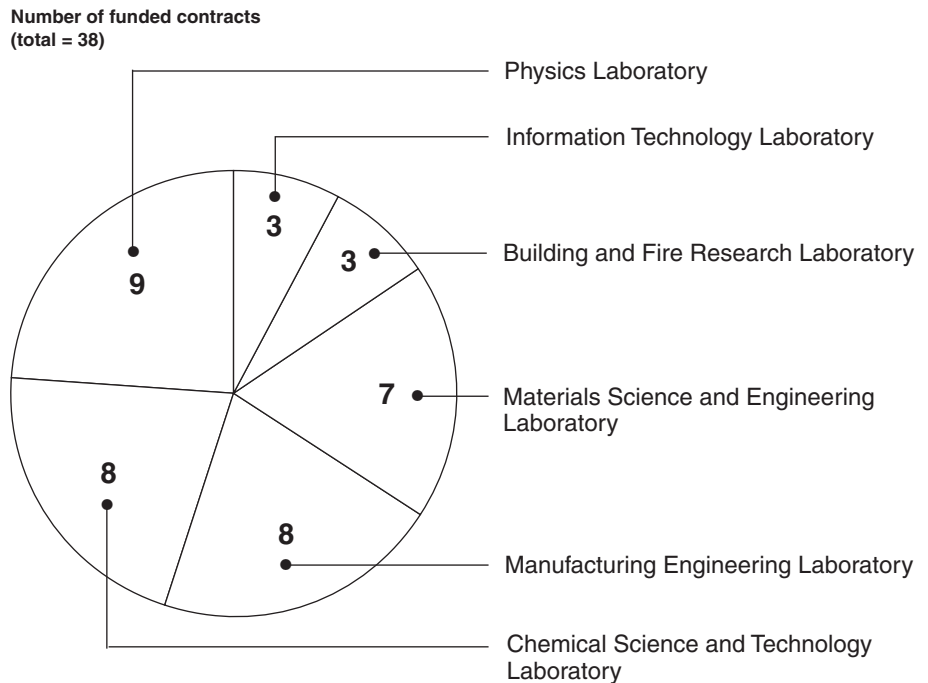
Figure 2: Expert's Labor Hours Acquired by Each Funded Contract, August 2007 through April 2009



Source: GAO analysis of NIST data.

Six of the seven NIST laboratories requested the 38 contracts that NIST funded, as shown in figure 3. Four laboratories—the Chemical Science and Technology Laboratory, Manufacturing Engineering Laboratory, Materials Science and Engineering Laboratory, and Physics Laboratory—awarded 32 of the funded contracts, and 2 laboratories—the Building and Fire Research Laboratory and Information Technology Laboratory—each awarded 3 of the funded contracts. An additional contract awarded by the seventh NIST laboratory, the Electronics and Electrical Engineering Laboratory, was canceled at the request of the contractor prior to any payment being made.

Figure 3: Funded Contracts Awarded by Six of the Seven NIST Laboratories, August 2007 through April 2009



Source: GAO analysis of NIST data.

NIST awarded contracts to acquire the services of 32 experts in fiscal year 2008 and 6 experts through the end of April in fiscal year 2009 (see table 2). The 29,208 hours acquired in fiscal year 2008 translates to approximately 14 FTEs. The Physics Laboratory made the most use of this authority, awarding 8 contracts in fiscal year 2008 totaling about \$500,000. The 9,392 hours acquired by the laboratory translated to about 4.5 FTEs. Although data for fiscal year 2009 are preliminary, the apparent drop in the use of the COMPETES Act authority compared with the previous year is the result of NIST operating under a continuing resolution during the first half of fiscal year 2009 and does not reflect a declining need for the authority, according to agency officials.

Table 2: Funded Contracts by NIST Laboratory, Fiscal Years 2008 and 2009

Laboratory	Fiscal year 2008			Fiscal year 2009 (through Apr. 30, 2009)		
	Number of contracts	Total dollars awarded	Total hours acquired	Number of contracts	Total dollars awarded	Total hours acquired
Building and Fire Research Laboratory	3	\$53,715.68	904	0	\$0	0
Chemical Science and Technology Laboratory	5	257,586.74	4,272	3	92,719.79	1,857
Information Technology Laboratory	1	106,512.00	1,664	2	190,756.80	3,120
Manufacturing Engineering Laboratory	8	419,116.60	8,437	0	0	0
Materials Science and Engineering Laboratory	7	245,503.10	4,539	0	0	0
Physics Laboratory	8	502,757.96	9,392	1	59,996.80	1,480
Total	32	\$1,585,192.08	29,208	6	\$343,473.39	6,457

Source: GAO analysis of NIST data.

In fiscal year 2008, the hours of expert services that the six NIST laboratories procured under the COMPETES Act authority supplemented their federal staff resources by about 1 percent (see table 3). Similarly, the dollar amount of these awards totaled less than 1 percent of the approximately \$254 million budget for the laboratories in fiscal year 2008.

Table 3: NIST Laboratories' Use of the COMPETES Act Authority Compared with the Total Resources Used by the Laboratories for Fiscal Year 2008

Dollars in thousands

Laboratory	FTE equivalent of labor hours acquired in fiscal year 2008	Total actual fiscal year 2008 FTEs	Percentage	Total amount of contracts awarded in fiscal year 2008	Total actual budget for fiscal year 2008	Percentage
Building and Fire Research Laboratory	0.4	130	0.3%	\$54	\$28,757	0.2%
Chemical Science and Technology Laboratory	2.1	237	0.9	258	48,321	0.5
Information Technology Laboratory	0.8	306	0.3	107	59,201	0.2
Manufacturing Engineering Laboratory	4.1	129	3.1	419	35,417	1.2
Materials Science and Engineering Laboratory	2.2	165	1.3	246	37,482	0.7
Physics Laboratory	4.5	166	2.7	503	44,804	1.1
Total	14.0	1,133	1.2%	\$1,585	\$253,982	0.6%

Source: GAO analysis of NIST data.

Note: Some columns do not sum due to rounding.

Thirty-five of the 38 contracts that NIST funded using the COMPETES Act authority were awarded to experts who had at least some prior experience in working with the agency. More specifically, we found that 25 of the contractors were former NIST employees, many of whom had worked for the agency for more than 20 years. An additional 10 experts had worked at NIST as guest researchers or contractors. The remaining 3 contract experts either had no prior federal experience or had worked at other federal agencies.

In general, for the 38 contracts that NIST funded, the contract experts designed and conducted experiments, analyzed data, and delivered the results of their work in reports that are expected to meet NIST's standards for publication in a professional journal. The research projects that these experts assisted with served a variety of purposes, such as

- a study of the characteristics of various types of lighting sources and retro-reflective materials that are used for traffic sign materials and road markings;

-
- the development of standard methods to assess the flammability of materials in upholstered furniture, which were needed in setting regulations designed to reduce the risk of fire spread in buildings; and
 - an analysis to help develop cryptographic and information technology security standards and guidelines.

NIST Officials Believe That the COMPETES Act Authority Has Been Highly Effective in Allowing the Agency to Obtain Expert Services

NIST officials identified a number of benefits of the agency's COMPETES Act authority in meeting urgent and short-term needs for the services of experts. NIST officials also stated that despite limits on this authority, their ability to perform high-quality research in the future will be hampered if this authority is not extended.

NIST Officials Identified a Number of Benefits Related to the COMPETES Act Authority

According to NIST officials, the COMPETES Act authority has been highly effective in helping the agency meet urgent and short-term needs for the services of experts. Although NIST laboratory officials noted that they do not have any formal metrics to measure the effectiveness of the personal services contracts they have awarded using this authority, they cited the following five benefits that enhanced the laboratories' ability to conduct research.

First, NIST officials stated that research rarely follows a direct path and is often dependent on the results of individual experiments. Laboratory officials told us that the employer-employee relationship created by a personal services contract provides NIST with the flexibility to redirect the research as needed to quickly respond to new and potentially fruitful developments, and that this relationship is critical to maintaining the pace of research progress. They explained that without a close working relationship with the contractor, changes in the work would require a formal contract modification, which often increases the cost of a contract and takes valuable time away from research.

Second, according to NIST officials, the COMPETES Act authority allows NIST to take advantage of short-term funding opportunities that do not merit the long-term investment required to hire new staff. Typically, such

opportunities are offered to NIST by other agencies that need NIST's assistance for such purposes as to help with regulatory decision making or to develop specialized scientific information that the agencies cannot develop for themselves. For example, a NIST laboratory official told us that the Department of Energy (DOE) provided funding to NIST through an interagency agreement as part of an effort to develop standards for light-emitting diodes and other forms of solid-state lighting. The official explained that DOE approached NIST for assistance with this effort because DOE did not have the expertise within its national laboratories to develop such standards. Because the funding was available for only 1 to 3 years, the laboratory official stated that NIST would have been unable to commit to hiring a full-time employee. The official stated that the authority (1) allowed NIST to effectively use this funding to quickly obtain an experienced researcher through a personal services contract to work on the project and (2) helped accelerate the completion of scheduled work for DOE, while furthering NIST's own research in this area. Even in cases when funding was not supplied by other agencies, the authority has allowed NIST to undertake research vital to regulatory efforts. For example, one laboratory acquired the services of an expert to develop a new test to measure the flammability of foam mattresses. The results of this test, according to a NIST scientist, will help guide new regulations being prepared by the Consumer Product Safety Commission.

Third, some NIST scientists with whom we spoke stated that the COMPETES Act authority also helps to bridge gaps in workforce and succession planning. They explained that the personal services contracts awarded under the authority provided an effective means of obtaining the skills and knowledge of senior scientists outside NIST as well as NIST scientists who have retired, and allowed them to share their knowledge with scientists who currently work at NIST. This is particularly helpful when funding limitations have restricted the agency's ability to hire individuals to work alongside senior researchers before they retire to provide continuity in the technical and scientific skills that laboratories have identified in their workforce plans. NIST scientists stated that while the agency has a broad research focus, most of the researchers have a specialized expertise, which can be difficult to replace when individual scientists retire.

Fourth, most laboratory officials told us that they value the COMPETES Act authority because they have interpreted it to mean that NIST is allowed to award personal services contracts without competition. As a result, agency officials have used the authority to target individuals whom they have determined already have the needed technical expertise, usually

a scientist who has previously worked at NIST as an employee, guest researcher, or contractor. According to NIST officials, such individuals are known to have the specialized expertise the laboratory needs and are familiar with the agency's culture. In other words, these officials said that such experts were a "known quantity" who would require little to no lead time before providing valuable contributions to the agency. Also, NIST laboratory officials told us that the use of the authority has eliminated some of the delays that accompanied competitive acquisition processes regulated by the FAR. For example, laboratory officials with whom we spoke stated that, prior to the use of the COMPETES Act authority, delays associated with completion of the competitive procurement process had led to experts being unavailable to assist with research projects when the agency was prepared to award the contracts. NIST officials stated that acquisitions under the authority usually do not take much longer than 1 month, whereas the lead time for similar competitive NIST awards has been as many as 75 days.

Finally, NIST scientists stated that the COMPETES Act authority provides a cost-effective means of obtaining the services of experts. NIST officials explained that because the personal services contracts that have been awarded under the authority have gone to individual experts, NIST does not incur any overhead costs commonly associated with contracts awarded to organizations. One laboratory official estimated that personal services contracts awarded to individual experts may reduce some costs associated with nonpersonal services contracts awarded to organizations due to the elimination of such costs. In addition, one laboratory official also noted that the personal services contracts were more cost-effective because of the GS-15, step 10, pay ceiling imposed by 5 U.S.C. § 3109(b).

Despite Two Limitations, NIST Believes Contracts Awarded under the COMPETES Act Authority Are More Effective Than the Alternative

NIST laboratory officials told us that the COMPETES Act authority limits the agency's ability to obtain expert services on a short-term basis in two important ways. First, although the GS-15, step 10, limit in the pay can help make the contracts more cost-effective, NIST officials stated it may also prevent NIST from contracting with some experts, especially if they come from industry, where experts are typically more highly compensated. However, neither contracting officials nor laboratory officials could provide us with specific examples of when this limitation impacted their ability to attract an expert whose services they needed. Second, NIST has interpreted the 1-year limit cited in the COMPETES Act as an inflexible limit on the duration of each contract. NIST officials told us that this time limit prevents the agency from retaining contract experts for an additional year to complete work begun under short-term funding opportunities.

Laboratory officials with whom we spoke explained that this need is not uncommon, since research sometimes progresses more slowly than anticipated or may provide results that alter the direction of the research in ways that require additional work.

NIST officials told us that, if the COMPETES Act authority is not made permanent, they will have to resume the use of nonpersonal services contracts to obtain the services of experts in the future. According to NIST officials, nonpersonal services contracts are not as effective as the personal services contracts they have awarded under the authority because they do not allow for a direct working relationship with the contract expert and also require time-consuming contract modifications to redirect the research, if needed. For example, NIST officials explained that when the agency awards nonpersonal services contracts to organizations, the agency has limited ability to select the individual experts who will be assigned to conduct the work. As a result, when a contractor provides an expert who is not familiar with NIST or the ongoing research project, NIST officials must take time to train the expert. According to these officials, the time spent training these experts on the background of the research projects and NIST's culture delays the progress of the research. Furthermore, any changes in the scope or direction of the research work would require formal contract modifications, which, as we have previously mentioned, are both time-consuming and can lead to cost increases for the contract.

NIST Has Applied Safeguards over the Use of the COMPETES Act Authority, but Congressional Direction Is Needed if the Authority Is Extended

NIST has developed and implemented a set of procedures to guide the use of personal services contracts awarded to individual experts under the COMPETES Act authority and has adopted some of the safeguards contained in the FAR and some contained in the OPM regulations. However, it is unclear whether additional safeguards are needed for NIST's use of this authority because which safeguards NIST is legally required to apply is an unsettled question. This lack of clarity stems from inconsistency or ambiguity in the statutes, regulations, decisions, and practices on this issue.

To provide safeguards over the use of the COMPETES Act authority, NIST has developed and implemented procedures for agency officials to follow when awarding personal services contracts to individual experts. The procedures describe the type of documentation that must be maintained in the contract files, specify requirements for review of the contracts, and identify the laws and regulations that NIST believed were or might be applicable to its use of the authority.

To develop these procedures, NIST officials told us that in 2007, after the COMPETES Act was enacted, they consulted with officials at Commerce's Office of General Counsel and at OPM, but were unable to get clear guidance about, among other things, whether FAR requirements or OPM regulations apply to awarding personal services contracts to individuals when using this authority. For example, NIST officials told us that they had contacted Commerce attorneys via e-mail regarding several issues that they needed clarification about, but said that the discussions they had with Commerce attorneys did not adequately address their concerns. Similarly, according to NIST officials, when they consulted with OPM, the officials referred them back to the laws and regulations. According to NIST officials, OPM officials did not address any of the issues that NIST officials said they were confused about. When we contacted OPM officials, they told us that, although agencies with authority under 5 U.S.C. § 3109 are legally permitted to appoint individuals as federal employees in a manner consistent with the OPM regulations in 5 C.F.R. part 304, it was not clear as a legal matter whether 5 U.S.C. § 3109 also allows agencies to use contracts to obtain the personal services of individual experts and consultants, and, if so, the extent to which the FAR would apply in these circumstances.

Because of the unclear guidance from Commerce and OPM, NIST contracting officials told us that they had difficulty in determining which specific laws and regulations to apply when using the COMPETES Act authority. Consequently, to help limit the risk to the agency, they adopted some safeguards from the FAR and some from OPM's regulations for NIST's procedures. Table 4 summarizes the laws and regulations cited in NIST's procedures.

Table 4: Laws and Regulations Cited by NIST’s Procedures for COMPETES Act Authority

Law or regulation	Title	Description
COMPETES Act	Procurement of Temporary and Intermittent Services	Authorizes NIST to procure the temporary or intermittent services of experts or consultants in accordance with 5 U.S.C. § 3109(b) to assist with urgent or short-term research projects.
FAR § 37.104	Personal Services Contract Procedures	Describes characteristics of personal services contracts.
FAR part 13	Simplified Acquisition Procedures	Prescribes policies and procedures for the acquisition of supplies and services, including construction, research and development, and commercial items, up to \$100,000.
5 U.S.C. § 3109	Employment of Experts and Consultants; Temporary or Intermittent	Provides authorization to an agency to procure, by contract, the temporary (not in excess of 1 year) or intermittent services of experts or consultants.
5 C.F.R. part 304	Expert and Consultant Appointments	Describes OPM’s regulations that apply to the appointment of experts and consultants as federal employees under 5 U.S.C. § 3109.

Sources: NIST’s Personal Services Contract Procedures (NIST-01-09); the FAR; 5 U.S.C.; and 5 C.F.R.

Note: In addition, NIST’s procedures stated that NIST would apply all other FAR and Commerce regulations that may apply to personal services contracting. However, the procedures do not list any specific regulations that would apply. NIST officials told us that 18 U.S.C. § 207 and 5 C.F.R. §§ 576.201 and 576.202 govern the use of this authority as well.

Our review of the 39 contracts awarded from August 2007 through April 2009 indicates that NIST essentially took a contracting approach, rather than an appointment approach subject to OPM regulations, when it acquired the services of experts under the COMPETES Act authority. Specifically, we found that NIST did not appoint any of the experts as employees as provided for in the OPM regulations and instead entered into personal services contracts with individual experts. Nevertheless, we also found that NIST applied some of the safeguards from the personnel statutes as implemented through OPM’s regulations. For example, none of the contracts awarded a rate of pay to an expert that exceeded the basic rate of pay of a GS-15, step 10, applicable for the calendar year in which the contract was awarded. Furthermore, NIST did not award any personal services contracts exceeding 1 year in duration, in accordance with the limitations of 5 U.S.C. § 3109 and the COMPETES Act.

We also found that NIST had implemented a number of safeguards from the FAR to minimize financial and performance risks to the agency. Specifically, NIST awarded all 39 personal services contracts as firm fixed-price contracts, which generally transfer most of the financial risk to the contractor. The use of firm fixed-price contracts mitigates concerns regarding cost controls, since the costs are fixed at the time the contracts are established. Also, all of these contracts included a clause allowing either the government or the contractor to terminate the contract at any

time and for any reason without penalty after providing 15 days notice. A termination clause further limits the government's risk because the agency will not incur financial penalties for terminating the contract.

In addition, we found that NIST implemented contracting practices beyond those included in its procedures, to reduce the risk to the government. For example, for 37 of the 39 contracts, NIST officials reviewed a federal database of parties excluded from federal contracting to determine whether the potential contractors had experienced any performance problems in the execution of other federal contracts.⁷ Furthermore, NIST provided training to both contracting and laboratory officials on how to use this authority and included in each contract a requirement that the contractor fully disclose any actual or potential conflicts of interest. NIST officials also periodically discuss issues related to the agency's COMPETES Act authority through an Acquisition Advisory Panel, which can recommend changes to existing acquisition practices on the basis of feedback from program and contracting officials.

Although NIST applied a number of contracting safeguards, we found that NIST did not compete any of the 39 contracts we reviewed. NIST laboratory officials we interviewed said they were told by NIST contracting officials that COMPETES Act contracts were not subject to competition requirements of the FAR. NIST contracting officials told us that they reached this conclusion because they interpreted 5 U.S.C. § 3109(b)'s exemption from the public advertisement requirements of 41 U.S.C. § 5 as an exemption from the FAR's competition requirements. NIST officials told us that they nonetheless decided to include a statement in the COMPETES Act contract files that only one qualified expert was available to perform the services NIST needed, a process they believe is authorized by the FAR's simplified acquisition procedures. We found that 37 of the 39 contract files did contain a one-sentence statement attesting that the expert selected was the only person reasonably available to perform the needed services. However, the files did not indicate how that determination was made. The remaining 2 files contained no statement concerning the lack of competition.

⁷The database, Excluded Parties Listing Systems, identifies those parties excluded throughout the U.S. government (unless otherwise noted) from receiving federal contracts or certain subcontracts and from certain types of federal financial and nonfinancial assistance and benefits.

In January 2008, NIST began to forward COMPETES Act contracts that it had awarded to Commerce's Office of General Counsel for review. A Commerce attorney told NIST via e-mail that 5 U.S.C. § 3109 did not contain an explicit exemption from the FAR competition rules for COMPETES Act contracts, and, therefore, advised NIST that the contracts should be competed to the maximum extent practicable, with file documentation concerning any lack of competition. Similarly, a Commerce attorney told us that the department believes these contracts should be competed, unless the agency obtains a more explicit exemption from the FAR's competition requirements. However, the Commerce attorney also told us that the department had not considered the possibility that NIST could have used this authority to appoint individuals as experts in accordance with OPM regulations. Moreover, OPM officials told us (1) that its regulations implementing 5 U.S.C. § 3109 were limited to the use of that section as an authority to appoint experts and consultants as federal employees and (2) that it is unclear whether 5 U.S.C. § 3109 also allows agencies to use contracts to obtain the personal services of individual experts and consultants, and, if so, the extent to which the FAR would apply to such contracts.⁸ One OPM official suggested that the Congress may need to provide clarification on this issue. Since March 2009, in response to a recommendation by Commerce, NIST has issued public announcements of its intent to award eight personal services contracts and has received proposals from potentially interested contractors that are now under review by the agency.

Because the statutes granting NIST authority to obtain the temporary services of experts and consultants do not clearly state whether NIST is required to obtain the services by appointing individuals as federal employees in accordance with OPM regulations or by awarding personal services contracts in accordance with the FAR, NIST faces substantial uncertainty as it continues to formulate procedures and safeguards for the use of the authority granted by the COMPETES Act. In our view, the question of which safeguards NIST is legally required to apply—and thus the need for any additional safeguards—is unclear at this time. We believe that the Congress will have an opportunity to clarify this issue should it decide to extend NIST's COMPETES Act authority.

⁸At least 130 other federal agencies are authorized by statute to obtain temporary or intermittent services of experts and consultants under 5 U.S.C. § 3109. We have not reviewed how these other agencies have implemented this authority, although we did review policy and other documents developed by a number of agencies that have been granted this authority.

Conclusions

NIST plays a vital role in fostering the nation's position as a scientific and technological leader. The skills and abilities of its scientists help the agency respond to public and private sector needs for complex and challenging research results. The COMPETES Act has conferred on NIST the authority to acquire supplemental expertise to help it respond even more quickly to the demand for its services. When NIST awarded contracts to obtain temporary expert services, it applied safeguards from both OPM regulations and the FAR. Whether there is a need for additional safeguards, however, is unclear because which safeguards NIST is required to apply is legally unsettled. One possible interpretation of 5 U.S.C. § 3109 is that NIST must apply the FAR because 5 U.S.C. § 3109 authorizes agencies to "procure by contract." Another possible interpretation of 5 U.S.C. § 3109 is that NIST must apply personnel laws and OPM regulations because 5 U.S.C. § 3109(d) directs OPM to issue implementing regulations, including specifying the circumstances in which it is appropriate to "employ" temporary experts and consultants. Ultimately, because executive branch agencies have authority to carry out the laws, not to definitively interpret them, this issue can be resolved definitively only through a judicial interpretation of the law or by further legislative action by the Congress.

Matter for Congressional Consideration

Because the law is unsettled about which procedures NIST should use to obtain the services of experts under the COMPETES Act authority, if the Congress chooses to extend or make the authority permanent, it may want to consider specifying which procedures NIST should employ.

Agency Comments

We provided the National Institute of Standards and Technology, the Department of Commerce, and the Office of Personnel Management with a draft of this report for their review and comment. Commerce and NIST provided a consolidated response and concurred with our conclusion that further clarification of the law granting NIST the authority to obtain temporary services of experts and consultants is needed from the Congress. OPM only provided technical comments, which we incorporated as appropriate. The consolidated comments from Commerce and NIST are presented in appendix II.

We are sending copies of this report to the appropriate congressional committees and other interested parties. We are also sending a copy to the Deputy Director of the National Institute of Standards and Technology,

Secretary of Commerce, and Director of the Office of Personnel Management. In addition, this report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staffs have questions about this report, please contact me at (202) 512-3841 or mittala@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

A handwritten signature in black ink that reads "Anu K. Mittal". The signature is written in a cursive, flowing style.

Anu K. Mittal
Director, Natural Resources and Environment

Appendix I: Scope and Methodology

The objectives of this study were to determine (1) the extent to which and for what purposes the National Institute of Standards and Technology (NIST) has used its authority under the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act (COMPETES Act) to obtain the services of experts, (2) how effective this authority has been in helping NIST meet its need for experts to assist with urgent and short-term research projects, and (3) the extent to which NIST policies and procedures provide appropriate safeguards over the use of this authority.

To determine the extent to which and for what purposes NIST used its new authority under the COMPETES Act, we obtained and reviewed all files related to the 39 personal services contracts that NIST had awarded from August 2007 through April 2009 and developed a database of descriptive information about these contracts. The descriptive information we collected included, among other things, the NIST laboratory that requested the expert, information on whether the expert had worked at NIST in some capacity or at another federal agency, the number of labor hours covered by the contract, the total contract award amounts for labor and travel, the duration of the contract, and information on whether the contract was for a fixed price. We also obtained and reviewed budget and workforce data for each of NIST's seven laboratories and determined, for fiscal year 2008, the portion of each laboratory's budget and workforce that these contract experts represented. In addition, we interviewed NIST contracting and laboratory officials to gain an in-depth understanding of the nature of the projects and the skills of the experts procured.

To determine how effective this authority has been in helping NIST meet its need for experts, we interviewed NIST laboratory officials to obtain their views on the benefits of using personal services contracts and more detail on how work under the contract was conducted. More specifically, we interviewed nine technical information contacts, who worked directly with the experts working on 17 of the 39 contracts. We selected these nine officials to ensure that we interviewed at least one technical information contact from each of the six NIST laboratories that funded contract experts. In selecting technical information contacts to interview, we also considered the number of contract experts with which each official worked, the number of former NIST employees that were awarded contracts, the laboratory that sponsored the research, whether the contracts had been completed, and the total dollar value of the contracts. We also reviewed NIST strategic, workforce, and laboratory plans to determine the extent to which this authority has been incorporated into the agency's planning.

To determine the extent to which NIST policies and procedures provide the appropriate safeguards, we identified NIST's procedures for using the COMPETES Act authority and reviewed NIST's contract files to determine the extent to which they adhered to the agency's procedures as described in NIST's *Personal Services Contract Procedures* (NIST-01-09). In addition, we reviewed the statutes and regulations that NIST identified as governing its use of the COMPETES Act authority. The laws consist of Public Law 110-69, section 3009 (Procurement of Temporary and Intermittent Services) and 5 U.S.C. § 3109(b) (Employment of Experts and Consultants; Temporary or Intermittent). The regulations include 5 C.F.R. part 304 (Expert and Consultant Appointments) and two sections of the *Federal Acquisition Regulation* (FAR)—part 13 (Simplified Acquisition Procedures) and section 37.104 (Personal Services Contracts). The safeguards in NIST's procedures included such things as certification that the expert's assistance was for an urgent or short-term project; evidence of review by NIST contracting and human resources officials and completion of a risk-level assessment and information technology security checklist; a report from the Federal Procurement Data System-Next Generation report; and a legal review by the Department of Commerce's Office of General Counsel.

To determine whether NIST needed to include additional safeguards in its management of this authority, we first identified measures designed to protect the government's interests and help ensure that decisions regarding the use of federal funds promote integrity (safeguards). Specifically, we reviewed guidance issued by the Office of Management and Budget's Office of Federal Procurement Policy, prior GAO and Commerce Inspector General reports, as well as other FAR and Office of Personnel Management (OPM) regulations, and we interviewed officials at OPM. Furthermore, we reviewed best practices and policies in place at other agencies that have the authority to procure the temporary or intermittent services of experts and consultants under 5 U.S.C. § 3109(b). We focused on agencies that NIST had contacted as it developed its procedures, such as the Department of Homeland Security, Department of Defense, Department of Health and Human Services, and National Aeronautics and Space Administration. The safeguards we identified through this process included, among other things, certification that the position was temporary and appropriate as defined in 5 C.F.R. part 304; evidence of public notice through commonly used sources to announce federal contracting opportunities, such as FedBizOpps; evidence that the contract was performance-based; and the inclusion of organizational conflict-of-interest and termination clauses in each contract. Regarding competition, we included such FAR safeguards as documentation of the

number of sources considered for the contract, the reason that the expert was the only reasonably available source, and justification for the lack of competition for awards exceeding \$100,000.

We compared each of the 39 personal services contracts awarded by NIST with the safeguards we identified to determine the extent to which NIST followed its own procedures and the extent to which NIST followed other hiring and contracting safeguards. In addition, we reviewed NIST's efforts to train program and procurement staff in the use of this authority.

We conducted our work between October 2008 and August 2009 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: Consolidated Comments from the Department of Commerce and National Institute of Standards and Technology



UNITED STATES DEPARTMENT OF COMMERCE
The Secretary of Commerce
Washington, D.C. 20230

July 22, 2009

Dr. Anu K. Mittal
Director for Natural Resources and Environment
Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

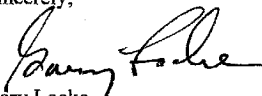
Dear Dr. Mittal:

Thank you for your letter regarding the Government Accountability Office's draft report, "America COMPETES Act: NIST Applied Some Safeguards in Obtaining Expert Services But Additional Direction From Congress is Needed," and for the opportunity to review and comment on this draft.

Overall, the draft report is clear and objective. In particular, the draft report appropriately identifies the need for Congress to clarify some of the language contained in the statutes granting the Department of Commerce's National Institute of Standards and Technology (NIST) the authority to obtain temporary services of experts and consultants.

I am committed to ensuring that NIST will continue to apply all safeguards required by statute and policy as it obtains services under the authority of the America COMPETES Act.

Sincerely,


Gary Locke

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Anu Mittal, (202) 512-3841 or mittala@gao.gov

Staff Acknowledgments

In addition to the individual named above, Cheryl Williams, Assistant Director; Virginia Chanley; Stephen Cleary; Karin Fangman; Karen Keegan; Omari Norman; Sylvia Schatz; Amelia Shachoy; Ben Shouse; Matthew Voit; and William Woods made key contributions to this report.

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