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SMALL BUSINESS CONTRACTING

SBA Efforts May Clarify the Assignment of Industry Codes, and Most Code Appeals Were Dismissed

GAO Highlights

Highlights of [GAO-18-76](#), a report to the Committee on Small Business, House of Representatives

Why GAO Did This Study

Federal regulations require that contracting officers assign the NAICS code that best describes the principal purpose of the acquisition. SBA's OHA is responsible for reviewing appeals of NAICS code assignments. Questions have been raised about whether agencies assign the appropriate NAICS codes to ID/IQ contracts with multiple task orders.

GAO was asked to review several issues related to NAICS codes. In this report, GAO examines (1) what contracting officers consider when assigning NAICS codes to federal contracts and the status of efforts to clarify code assignment and (2) industry views on NAICS code assignment and the number and outcomes of appeals.

GAO reviewed policies and procedures of the four agencies with the highest ID/IQ obligations from fiscal years 2011–2015: Army, Navy, Department of Homeland Security (DHS), and Department of Health and Human Services (HHS); reviewed one contract and 10 related task orders at each of the selected agencies and interviewed the related contracting officers; analyzed 2016 federal contracting data to identify commonly used NAICS codes and size standards; interviewed three industry groups and five firms that filed appeals for industry views on NAICS code assignment; and analyzed SBA decisions on NAICS code appeals in 2014–2016.

The Department of Defense, DHS, and SBA had no comments on the report. The General Services Administration and HHS had technical comments, which we incorporated as appropriate.

View [GAO-18-76](#). For more information, contact William Shear at (202) 512-8678 or shearw@gao.gov.

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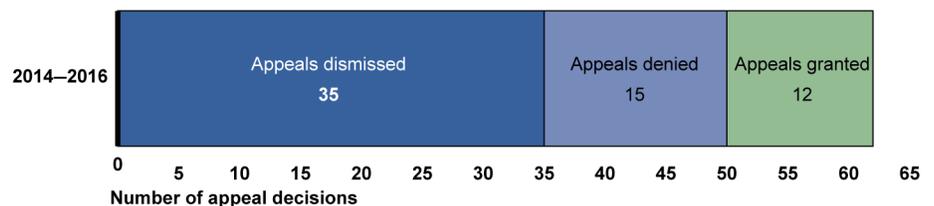
SBA Efforts May Clarify the Assignment of Industry Codes, and Most Code Appeals Were Dismissed

What GAO Found

Agencies' contracting officers consider various factors in assigning North American Industry Classification System (NAICS) codes to federal contracts, and the Small Business Administration (SBA) issued a rule in 2013 intended to clarify NAICS code assignment. NAICS codes are the basis for SBA's size standards; therefore, the code that the contracting officer assigns determines whether a firm is eligible for federal contracting preferences, such as small business set-asides. The contracting officers GAO interviewed cited several factors that affect their assignment of NAICS codes, including information on the work to be performed and input from agency small business specialists. However, they stated that assigning a NAICS code can be challenging when one or more codes could apply to a contract. In the 2013 rule, SBA clarified that under certain circumstances, contracting officers may assign more than one code to multiple-award contracts. Such contracts are awarded to two or more contractors under a single solicitation and include indefinite delivery/indefinite quantity (ID/IQ) contracts used when quantities and timing are not known at the time of the award. However, updates to the Federal Acquisition Regulation (FAR)—the rules governing the federal government's purchasing process—are required to fully implement SBA's final rule. The agencies GAO interviewed plan to implement this rule after it is adopted into the FAR and they can make necessary updates to their information technology for contracting. This FAR rule-making process is ongoing.

Some industry groups and firms GAO interviewed expressed concerns about how contracting officers assign NAICS codes, but SBA's Office of Hearings and Appeals (OHA) dismissed most appeals and denied more than half of the remaining appeals. Some industry groups and firms GAO interviewed expressed concerns that contracting officers may assign NAICS codes based on the size standard (thereby affecting the number of firms that can compete as a small business) and not the work to be performed. However, some also stated it was difficult to determine how often this practice occurs, and OHA officials noted it is the office's role to review the appropriateness of appealed NAICS codes, not the contracting officer's intention when assigning the code. Of the 62 NAICS code appeals that were filed in calendar years 2014–2016, OHA dismissed 35, denied 15, and granted 12 (see fig.). Appeals were dismissed because, among other things, they were untimely or the contracting officer cancelled the acquisition.

Figure: Number of NAICS Code Appeal Decisions, 2014–2016



Source: GAO analysis of North American Industry Classification System code appeals. | GAO-18-76

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Abbreviations

DHS	Department of Homeland Security
DOD	Department of Defense
EDWOSB	economically disadvantaged women-owned small business
FAR	Federal Acquisition Regulation
FPDS-NG	Federal Procurement Data System-Next Generation
GSA	General Services Administration
HHS	Department of Health and Human Services
ID/IQ	indefinite delivery/indefinite quantity
NAICS	North American Industry Classification System
NASA	National Aeronautics and Space Administration
OHA	Office of Hearings and Appeals
OMB	Office of Management and Budget
PCR	procurement center representative
SAM	System for Award Management
SBA	Small Business Administration
SDVO	service-disabled veteran-owned
WOSB	women-owned small business

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December 5, 2017

The Honorable Steve Chabot
Chairman
The Honorable Nydia M. Velázquez
Ranking Member
Committee on Small Business
House of Representatives

In fiscal year 2016, about \$100 billion in federal contracts were awarded to small businesses. The Small Business Administration (SBA) uses the North American Industry Classification System (NAICS), the federal standard for classifying businesses by industries, as the basis for its small business size standards. Size standards determine eligibility for receiving federal contracting preferences, such as small business set-asides. The Federal Acquisition Regulation (FAR)—the principal set of rules governing the federal acquisition process—requires that contracting officers assign the NAICS code that best describes the principal purpose of the product or service being acquired. The contracting officer’s code assignment is final unless SBA or an affected firm files an appeal. SBA’s Office of Hearings and Appeals (OHA) reviews appeals of NAICS code assignments.

Questions have been raised about the extent to which contracting officers choose a NAICS code because they want a certain size standard, not because it best describes the principal purpose of the acquisition. Questions have also been raised about the assignment of NAICS codes to indefinite delivery/indefinite quantity (ID/IQ) contracts, which are awarded to one or more firms for the same or similar products or services and are used when the exact times and quantities of future deliveries are not known at the time of award. These contracts may consist of multiple awards and orders, and one concern is that the NAICS code assigned to a contract may not represent the work performed under the majority of the orders.¹

¹Multiple-award contracts are contracts awarded to two or more contractors under a single solicitation. An order of supplies, via a delivery order, or an order of services, via a task order, is then placed with one of the contractors pursuant to procedures established in the contract. In this report, the term “orders” refers to delivery and task orders.

You asked us to review several issues related to NAICS codes. In this report, we examine (1) what contracting officers consider when assigning NAICS codes to federal contracts and the status of efforts to clarify code assignment and (2) industry views on NAICS code assignment and the number and outcomes of appeals filed with SBA OHA.

For our first objective, we reviewed federal laws and regulations related to NAICS code assignment and relevant policies and procedures from the four agencies with the highest ID/IQ obligations from fiscal years 2011–2015 (the 5 most recent years of data available from the Federal Procurement Data System-Next Generation (FPDS-NG) when we began our review): Army, Navy, Department of Homeland Security (DHS), and Department of Health and Human Services (HHS).² To understand how these selected agencies assign NAICS codes to contracts, we reviewed contract documentation, such as acquisition plans and market research documents, for one ID/IQ contract from each of the agencies and interviewed the relevant contracting officers, small business specialists, and SBA procurement center representatives (PCR).³ We also selected and reviewed 10 orders from each contract and compared the order purposes to the base award purposes. To determine the status of ongoing efforts to clarify code assignment, we reviewed proposed and final regulatory changes and interviewed officials at SBA and the General Services Administration (GSA) (the agency responsible for managing the operation, maintenance, and updating of FPDS-NG). To assess the reliability of the FPDS-NG data we used, we conducted electronic testing for missing data, outliers, and inconsistent coding, and compared the data on selected contracts to contract documentation we obtained. We determined that these data were sufficiently reliable for the purposes of determining ID/IQ obligations and identifying trends in NAICS codes assigned (as discussed below).

For our second objective, we interviewed officials from three industry groups and five firms that filed NAICS code appeals during calendar years 2014–2016 (the 3 most recent years of data available). To identify commonly used NAICS codes and commonly used size standards, we

²FPDS-NG is the system used to collect and report data on federal procurements (FAR Subpart 4.6).

³SBA PCRs are among the primary staff who implement SBA's prime contracting programs, which are intended to increase contracting opportunities for small businesses and help ensure that small businesses receive a fair and equitable opportunity to participate in federal prime contracts. They are assigned to buying activities at procuring agencies.

analyzed data from FPDS-NG to identify the top NAICS codes by obligations and by number of contracts awarded in fiscal year 2016. To assess whether contracting officers were more likely to use a NAICS code after the corresponding size standard increased, we analyzed FPDS-NG data on fiscal year 2009–2016 obligations and number of contracts awarded for NAICS codes with size standards that SBA increased in 2012. To understand SBA OHA’s process for reviewing NAICS code appeals, we reviewed federal regulations and interviewed OHA officials. For context, we compared OHA’s process for NAICS codes appeals to its processes for other types of appeals. To identify the number and outcomes of NAICS code appeals, we analyzed SBA’s OHA decisions on NAICS code appeals filed during calendar years 2014–2016. Appendix I provides additional details on our scope and methodology.

We conducted this performance audit from October 2016 to December 2017 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 in our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

NAICS Codes and SBA’s Size Standards

The Economic Classification Policy Committee of the Office of Management and Budget (OMB), Statistics Canada, and Mexico’s Instituto Nacional de Estadística y Geografía developed NAICS codes as a standard for collecting and analyzing data describing the economies of North American countries. The U.S Census Bureau assigns a 6-digit NAICS code to each industry based on its primary activity that generates the most revenue.⁴ The Economic Classification Policy Committee reviews NAICS codes every 5 years for potential revisions to ensure the relevance, accuracy, and timeliness of the classifications.

Additionally, SBA uses NAICS codes as the basis for its small business size standards. The Small Business Act authorizes SBA to establish size

⁴The first two digits of the NAICS code designate the economic sector, the third digit designates the subsector, the fourth digit designates the industry group, the fifth digit designates the NAICS industry, and the sixth digit designates the national industry.

standards for determining eligibility for federal small business assistance, including contracting preferences. Size standards vary by industry and are generally expressed either as the average number of employees over a 12-month period or the average annual receipts in the previous 3 years.⁵ For certain codes, there are more than one size standard. SBA refers to these additional size standards as exceptions. For example, NAICS code 541712 (Research and Development in the Physical, Engineering, and Life Sciences, Except Biotechnology) with a general size standard of 1,000 employees has three exceptions related to aircraft and aircraft engines (1,500 employees), other aircraft parts (1,250 employees), and guided missiles and space vehicles (1,250 employees). The Small Business Jobs Act of 2010 requires SBA to review at least one-third of all size standards during every 18-month period from the date of its enactment and to review all size standards at least every 5 years. SBA has completed the first 5-year review of all size standards.⁶

To help ensure that small businesses receive a share of federal procurement contract dollars, Congress has set an annual government-wide goal of awarding not less than 23 percent of prime contract dollars to small businesses. For firms to compete for government contracts set aside for small businesses, these firms have to meet the small business size standard for the procurement and have the capacity to provide the goods and services.

Indefinite Delivery/Indefinite Quantity (ID/IQ) Contracts

ID/IQ contracts provide flexibility in cases where the government cannot determine the exact quantities and required timing for a product or service. We found in 2017 that from fiscal years 2011 through 2015, the proportion of spending by federal agencies on ID/IQ contracts remained stable and accounted for about a third (more than \$130 billion annually) of total government contract obligations.⁷ Contracting officers may award

⁵Businesses provide their average employees and receipts when registering in the System for Award Management (SAM). Businesses must have an active entity registration in SAM to do business with the federal government (FAR Subpart 4.11).

⁶The size standards presented in this report are based on 2012 NAICS codes. In April 2017, SBA issued a proposed rule to amend its small business size regulations to incorporate NAICS code revisions for 2017 into its table of small business size standards. 82 Fed. Reg. 18253 (Apr. 18, 2017). In September 2017, SBA finalized its proposed rule, without change, effective October 1, 2017. 82 Fed. Reg. 44886 (Sept. 27, 2017).

⁷GAO, *Federal Contracts: Agencies Widely Used Indefinite Contracts to Provide Flexibility to Meet Mission Needs*, [GAO-17-329](#) (Washington, D.C.: Apr. 13, 2017).

either a single-award or multiple-award ID/IQ contract to meet procurement needs. Single-award ID/IQ contracts refer to situations when only one contract is awarded under a solicitation and are used in certain circumstances such as when only one contractor is capable of providing the product or service. Multiple-award ID/IQ contracts refer to situations when contracts are awarded to two or more contractors under a single solicitation. The FAR contains policies for using multiple-award ID/IQ contracts and states a preference for multiple-award (rather than single-award) ID/IQ contracts.

NAICS Code Assignment and Acquisition Process

Contracting officers have the authority to enter into, administer, or terminate contracts and are responsible for assigning the appropriate NAICS code and corresponding size standard to an acquisition.⁸ The FAR requires that contracting officers assign the NAICS code that best describes the principal purpose of the acquisition and states that the contracting officer's assignment of the NAICS code is final unless a person adversely affected by the decision or SBA files an appeal.⁹ The FAR states that when selecting the NAICS code, contracting officers are to give primary consideration to the industry descriptions in the NAICS Manual, the product or service description in the solicitation, the relative value and importance of the components of the procurement making up the end item being procured, and the function of the goods or services being purchased.¹⁰ It also notes that a procurement is usually classified according to the component that accounts for the greatest percentage of contract value.

In addition to the contracting officer, a number of agency officials and offices provide input on the assignment of NAICS codes to federal contracts during different phases of the acquisition process (presolicitation, pre-award, and award) (see fig. 1).

- **Presolicitation phase.** The program office identifies a need and contacts the contracting officer for guidance on developing and

⁸FAR 19.303.

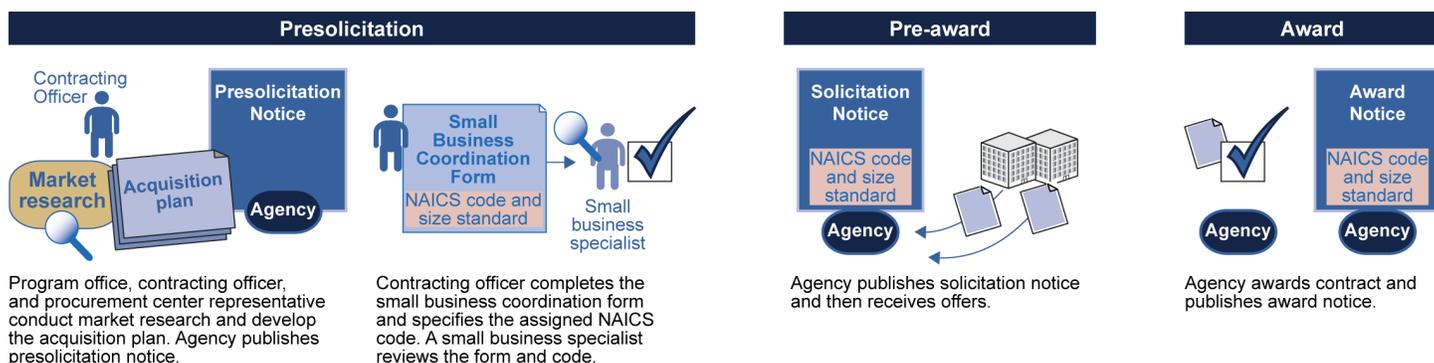
⁹FAR 19.303(a)(2) and 19.303(c). According to FAR 19.303(a)(1), the contracting officer is to include the appropriate NAICS code and corresponding size standard in solicitations above the micro-purchase threshold. The micro-purchase threshold is \$3,500 with some exceptions.

¹⁰FAR 19.303(a)(2).

preparing key acquisition documents, such as the market research report and acquisition plan.¹¹ The contracting officer and program office may also seek advice from the small business specialist and assigned PCR. After the approval of the procurement request, the contracting officer and program office work together to revise planning documents as necessary. Also during the presolicitation phase, the contracting officer coordinates with agency small business specialists and SBA's assigned PCR using a small business coordination form. The contracting officer then publishes the presolicitation notice to summarize proposed contract actions.

- **Pre-award phase.** After the approval of the NAICS code, the contracting officer publishes the solicitation, which specifies the assigned NAICS code and corresponding size standard.
- **Award phase.** The agency awards the contract and publishes the award notice. Agencies use their contracting writing systems to execute the acquisition life-cycle from planning to contract award and use FPDS-NG to report contract awards.

Figure 1: NAICS Code Assignment and Acquisition Process



NAICS = North American Industry Classification System

Source: GAO analysis of agency documents. | GAO-18-76

Firms interested in challenging a NAICS code assigned to a solicitation may file an appeal with SBA OHA. OHA was established in 1983 and is responsible for reviewing appeals of NAICS code assignments. OHA also

¹¹The FAR defines market research as the process used to collect and analyze data about capabilities in the market that could satisfy an agency's procurement needs. Acquisition plans generally discuss the acquisition process, identify the milestones at which decisions should be made, and serve as road maps for implementing these decisions.

reviews appeals of certain SBA program decisions such as size determinations; eligibility determinations for service-disabled veteran-owned (SDVO) small businesses, women-owned small businesses (WOSB), and economically disadvantaged women-owned small businesses (EDWOSB); and 8(a) business development program eligibility determinations, suspensions, and terminations.¹²

Contracting Officers Consider Various Factors When Assigning NAICS Codes, and SBA's 2013 Rule Provides Additional Guidance for Multiple-Award Contracts

Contracting Officers Consider Several Factors When Assigning NAICS Codes

Officials at the Army, the Navy, DHS, and HHS stated that contracting officers refer to the FAR when assigning NAICS codes and consider a variety of factors. Additionally, in 2010 the Department of Defense (DOD) disseminated a memorandum to its components, which include the Army and the Navy, reiterating the process for determining the size status of contractors, including the requirement that contracting officers determine the appropriate NAICS code and related small business size standard and include them in solicitations. Although these agencies did not have training that specifically focused on NAICS codes, the training for contracting officers included discussion of NAICS code assignment.

¹²An SDVO small business is a small business concern owned and controlled by one or more service-disabled veterans. A WOSB is a small business that is at least 51 percent owned and controlled by one or more women. An EDWOSB is a small business that meets the ownership and control of a WOSB but is also defined as economically disadvantaged. SBA's 8(a) business development program helps socially and economically disadvantaged small businesses gain access to federal contracting opportunities.

Contracting officers at these four agencies cited several factors, including a contract's scope of work, that are involved in determining the NAICS code for a contract solicitation or an order:

- **Statements of work and market research reports.** The contracting officers we interviewed at all four agencies stated that they review the statements of work and assign the code that represents the majority of the work. One contracting officer stated that she also reviews the market research report when assigning the NAICS code. All of the contracting officers we interviewed at the four agencies stated that the market research reports usually include the relevant NAICS code. We found evidence of market research for two of the four contracts that we reviewed and found that the market research reports included the NAICS codes assigned to the contracts. Navy and HHS contracting officers were unable to provide evidence of market research for the contracts included in our review. Navy officials stated that the contracting team conducted market research but was unable to find copies of the documents.¹³ The HHS contracting officer stated that he conducted market research for the contract, but did not document it in a market research report. Instead, he noted in the small business coordination form that he reviewed prior or similar acquisitions as part of efforts to locate small business sources.
- **Input from small business specialists.** These four agencies' contracting officers consult with their agencies' small business specialists when deciding the NAICS code for a contract. Each of the four agencies we reviewed required their contracting officers to complete small business coordination forms prior to issuing solicitations for their agencies. When completing the forms, contracting officers must include the NAICS code designation and the corresponding size standard. Small business specialists must review the form before the contracting officer can issue the solicitation. All four agencies provided small business coordination forms related to the selected contract we reviewed. Additionally, each form included the signature of the small business specialist and listed the NAICS code and size standard, as required.

All four of the agencies' small business specialists we interviewed stated that they rarely disagreed with contracting officers on NAICS

¹³The Navy acknowledged that the files should have been maintained, but the current Navy contracting officer explained that the market research predated her involvement with the contract and that those market research documents were either not retained or misplaced. She also noted that the Navy now retains documents electronically.

code assignments. They also noted that they coordinate with contracting officers on the NAICS code early in the acquisition process, for example, during market research. If they are unable to reach agreement on the code assignment, the specialists can elevate their concerns to the SBA PCR assigned to the office. According to SBA officials, the PCR will examine the research and either concur with the decision or file an appeal to the contracting officer.¹⁴ None of the specialists we interviewed had elevated any concerns to their PCR.

- **Contract writing system requirements.** The contracting officers we interviewed at all four agencies stated that they assign a single NAICS code for each solicitation, including for multiple-award contracts, because their contract writing systems and FPDS-NG do not allow them to enter more than one code per contract.¹⁵ While acquisition officials at each agency confirmed that contracting officers can assign only one code per multiple-award contract in their contract writing systems, they noted that contracting officers may list multiple codes for a multiple-award contract in the solicitation.
- **Codes assigned to other contracts.** Contracting officers we interviewed at all four agencies stated that if the solicitation is for a recurring contract, they refer to the previously assigned code.¹⁶ Two of the four contracting officers also consider the codes assigned to other contracts within their agencies that consisted of similar work.
- **The purpose of the order.** To issue an order under a contract, the purpose of the order must be within the scope of the underlying base contract. The four contracts we reviewed all had one NAICS code. The contracting officers we interviewed at all four agencies stated that if an order did not relate to the base award's statement of work or NAICS code, they would award the order through another existing contract or award a new contract. We reviewed 10 orders from each of the four selected contracts and found that all 40 of the orders

¹⁴The PCR also reviews solicitations that are not unilaterally set aside for small business.

¹⁵Agencies' contract writing systems feed into FPDS-NG.

¹⁶NAICS codes are reviewed every 5 years for potential revisions. When OMB's Economic Classification Policy Committee undertook this review for 2017, OMB published a crosswalk showing how codes that were to be updated in 2017 related to the 2012 codes. See 80 Fed. Reg. 46480 (Aug. 4, 2015). If the code assigned to the previous contract is no longer current, a contracting officer can refer to such a crosswalk. OMB adopted the committee's recommendations with one minor exception in 2016. See 81 Fed. Reg. 52584 (Aug. 8, 2016).

appeared to reflect the purpose of the base award and appeared to relate to the assigned NAICS code.

However, the contracting officers we interviewed at two of the four agencies noted some challenges in assigning NAICS codes. They stated that because NAICS code definitions are broad, sometimes more than one code could be assigned to a solicitation. In reviewing the 40 orders associated with the four contracts we selected, we noted that in some instances more than one code could appear to apply to a contract. For example, the purpose of one order was to provide recommendations on design, testing, and evaluation in support of engineering activities. We found that this order could relate to the Research and Development in the Physical, Engineering, and Life Sciences (Except Biotechnology) code that was assigned as well as to the Engineering Services code because both include studies and development using engineering sciences. One contracting officer also noted that assigning the NAICS code is subjective and two different contracting officers could review the same contract and find different codes to be appropriate. We also noted this in reviewing our sample of orders. We found that some orders had similar purposes but were assigned different NAICS codes with different corresponding size standards. For example, as shown in table 1, we found two orders related to the installation of closed-circuit TV systems that had different NAICS codes.

Table 1: Example of Similar Orders with Different NAICS Codes

Order purpose	NAICS code	Size standard (dollars in millions)	NAICS code definition (2012)
<p>The Architect-Engineer will provide design and documentation, to include specifications and drawings, for a new closed circuit TV (CCTV) System The project includes replacing, upgrading, and new installation of: cameras, ..., hardware, software, monitors, recording devices, storage devices, equipment rooms, and cables/wires. The new system shall be an I[ternet] P[rotocol]-based system on a dedicated network, and will be replacing an analog system that is stand alone.</p>	<p>541330 – Engineering Services</p>	<p>15</p>	<p>This industry comprises establishments primarily engaged in applying physical laws and principles of engineering in the design, development, and utilization of machines, materials, instruments, structures, processes, and systems. The assignments undertaken by these establishments may involve any of the following activities: provision of advice, preparation of feasibility studies, preparation of preliminary and final plans and designs, provision of technical services during the construction or installation phase, inspection and evaluation of engineering projects, and related services.</p>

Order purpose	NAICS code	Size standard (dollars in millions)	NAICS code definition (2012)
<p>This Statement of Work (SOW) addresses the installation of intrusion detection and closed circuit video surveillance for ... [several] sites This shall include a site visit, mapping of device locations, acquisition, installation, verifying operation, and warranty for IP based cameras. The existing or core system will require additional installation, device hardware, device upgrade, and installed or upgraded software to provide a complete integrated intrusion detection and standardized video surveillance system.</p>	541512 – Computer Systems Design Services	27.5	<p>This U.S. industry comprises establishments primarily engaged in planning and designing computer systems that integrate computer hardware, software, and communication technologies. The hardware and software components of the system may be provided by this establishment or company as part of integrated services or may be provided by third parties or vendors. These establishments often install the system and train and support users of the system.</p>

Source: GAO analysis of a sample of orders from selected agencies. | GAO-18-76

Note: Bold added by GAO.

Three of the four contracting officers we interviewed stated that there are no unique challenges associated with assigning NAICS codes to ID/IQ contracts compared to other contracts. However, one small business specialist noted that assigning NAICS codes to ID/IQ contracts may be challenging for contracting officers because the statements of work may cover more than one code. One contracting officer we interviewed also stated that it can be challenging to assign NAICS codes to ID/IQ contracts because it is difficult to predict the nature of future orders associated with the base award, especially for research and development contracts.

SBA's 2013 Rule May Clarify NAICS Code Assignments on Multiple-Award Contracts

In 2013, SBA issued a rule on assigning NAICS codes to multiple-award contracts that may further clarify code assignment for contracting officers. The purpose of the rule was to implement the Small Business Jobs Act of 2010, which amended the Small Business Act to allow small business set-asides for parts of multiple-award contracts, for orders placed against multiple-award contracts, and for reserving one or more contract awards

for small business concerns.¹⁷ The final rule clarifies that if a multiple-award contract consists of discrete categories, contracting officers may assign a different NAICS code and corresponding size standard to each category. Additionally, under the final rule, contracting officers may issue orders under each category as long as the category's NAICS code matches the order's NAICS code.¹⁸ SBA officials stated that they developed the rule because contracting officers were unclear on how to assign NAICS codes to orders from multiple-award contracts.

Updates to the FAR and FPDS-NG are required to fully implement the portion of SBA's final rule related to NAICS codes. In a 2016 proposed rule to update the FAR, DOD, GSA, and the National Aeronautics and Space Administration (NASA) proposed changes to implement SBA's 2013 rule and stated that enhancements to federal data systems were in process.¹⁹ In June 2017, GSA officials told us that updates to FPDS-NG would be required because the system does not currently allow agencies to assign a NAICS code to an order that differs from the code assigned to the base contract. They also told us that GSA was working on a new version of FPDS-NG that would allow contracting officers to assign NAICS codes to orders that differ from the code assigned to the base contract. SBA officials told us that this planned change would be responsive to their rule. As of mid-November 2017, the final FAR rule had not been issued, and updates to FPDS-NG will depend on the final rule. The four agencies we interviewed were aware of SBA's 2013 final rule and the 2016 proposed update to the FAR, and stated they would apply the guidance in the rule and update their contract writing systems once the FAR update was finalized.

¹⁷In 2011, DOD, GSA, and the National Aeronautics and Space Administration (NASA) issued an interim rule amending the FAR to implement Section 1331 of the Small Business Jobs Act of 2010 and providing guidance to agencies, clarifying their authority to help small businesses through set-asides and reserves under multiple-award contracts. SBA and the Office of Federal Procurement Policy, which were vested under Section 1331 with authority to issue regulations in consultation with GSA, had requested that DOD, GSA, and NASA issue an interim rule. Of the agencies we reviewed, DOD issued guidance on the interim rule. DHS and HHS officials stated that their agencies did not issue guidance on the interim rule, but noted that contracting officers refer to the FAR when setting aside parts of multiple-award contracts.

¹⁸78 Fed. Reg. 61114 (Oct. 2, 2013), codified at 13 C.F.R. § 121.402(c).

¹⁹In its 2013 rule, SBA acknowledged that changes in NAICS code assignments would require a significant planning and implementation effort and stated that it could take years to implement the changes.

Some Stakeholders Expressed Concerns about NAICS Code Assignments, but Few Appeals Have Been Filed

Some Industry Groups and Firms Expressed Concern That Contracting Officers Assign NAICS Codes Based on Size Standards

Some of the stakeholders we interviewed—three industry groups and five small businesses that had filed NAICS code appeals (appellants)—expressed concern that some contracting officers assign NAICS codes because they want specific size standards, not because they are the most appropriate codes, but several also stated it was difficult to determine how often this occurs. Specifically, the three industry groups and four of the five appellants we interviewed contended that contracting officers in some instances assign NAICS codes that allow them to make an award to a firm that would not be considered a small business under the “appropriate” code. Conversely, an official of one firm we interviewed told us that contracting officers in some instances assign NAICS codes with smaller size standards to limit competition for a contract. Because agencies have a federal mandate to meet small business contracting goals, contracting officers are required to provide maximum practicable opportunity to award contracts to small businesses in support of those goals.

The following are specific concerns that industry groups and firms expressed:

- **Ambiguous and overlapping language.** An official from one firm told us that the language in the NAICS Manual can be ambiguous and noted overlap in the descriptions of certain codes with different size standards. For example, NAICS codes 541330 (Engineering Services) and 541712 (Research and Development in the Physical, Engineering and Life Sciences except Biotechnology) both include engineering, but have different size standards (\$15 million and 1,000 employees, respectively). An official from another firm stated that the broad NAICS code descriptions result in solicitations that describe identical work having different NAICS codes and size standards. One industry group official stated that the practice of assigning a code based on the size standard and not the principal purpose is particularly a concern

for research and development, professional services, and construction contracts. The definitions of the NAICS codes for these industries are broad and there is some overlap. For example, the Professional, Scientific, and Technical Services sector (Sector 54) includes research and development, engineering, legal and accounting, and computer systems design services, among other services. The Construction sector (Sector 23) also includes engineering services in addition to housing construction, water and sewer line construction, and plumbing and heating contractors.

- **Preference for incumbent.** Officials from two firms we interviewed told us that when recompeting an existing contract, the contracting officer may choose the NAICS code that best positions the incumbent company to compete rather than the code that best represents the work. Officials of one of these firms also stated that they are concerned when the NAICS code assigned to an existing contract that is being recompeted has changed and, in their opinion, the body of work to be performed under the new contract remains the same as the existing contract.²⁰
- **Need to select multiple NAICS codes.** In addition, one firm we interviewed stated that it is difficult to predict the code that a contracting officer will use for a procurement. Therefore, the firm selects multiple NAICS codes in its SAM entity registration so contracting officers will consider it for a variety of contracts. The other four firms we interviewed also told us that they selected multiple NAICS codes in SAM. As shown in table 2, a hypothetical firm that has 450 employees and revenue of \$200 million would be a small business under some NAICS codes and large under other codes. Certain NAICS codes such as 541330 (Engineering Services) have exceptions to accommodate military procurement needs.

²⁰SBA regulations once required that contracting officers consider previous government procurement classifications for the same or similar services when making a NAICS code determination. See, e.g., 13 C.F.R. § 121.402(b) (2011). The regulations, however, no longer include that requirement. 76 Fed. Reg. 5680, 5683 (Feb. 2, 2011). SBA explained its decision to delete the reference to prior government procurement classifications by noting that a “repeated error is not persuasive evidence” and that “[e]ach solicitation should be based on the principal purpose of that particular solicitation, and the contracting officer only needs to make a reasonable choice.” 75 Fed. Reg. 9129 (Mar. 1, 2010). Thus, “citations to other procurements . . . do not carry the same weight they would prior to the revision of the [SBA] regulation.” *NAICS Appeal of Dellew Corp.*, SBA No. NAICS-5358, 2012 WL 2365474 at *6 (2012).

Table 2: Example of Firm That Is Small or Large Depending on the NAICS Code

NAICS code (2012)	Name	Size standard	Small business? (Yes/No)
541330	Engineering Services	\$15 million	No
541330 (Exception 1)	Military and Aerospace Equipment and Military Weapons	\$38.5 million	No
541330 (Exception 2)	Contracts and Subcontracts For Engineering Services Awarded under the National Energy Policy Act of 1992	\$38.5 million	No
541330 (Exception 3)	Marine Engineering and Naval Architecture	\$38.5 million	No
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	1,000 employees	Yes
541712	Research and Development in the Physical, Engineering, and Life Sciences (Except Biotechnology)	1,000 employees	Yes
541712 (Exception 2)	Other Aircraft Parts and Auxiliary Equipment	1,250 employees	Yes
541712 (Exception 3)	Guided Missiles and Space Vehicles, Their Propulsion Units and Propulsion Parts	1,250 employees	Yes
541712 (Exception 1)	Aircraft, Aircraft Engine and Engine Parts	1,500 employees	Yes

Source: GAO analysis of a hypothetical firm with multiple 2012 NAICS codes matched to different small business size standards. | GAO-18-76

Note: The hypothetical firm used in this example has 450 employees and revenue of \$200 million.

However, one industry group and some firms stated that it is difficult to determine how often the practice of assigning a code based on the size standard and not the principal purpose occurs. Industry groups and firms also acknowledged that other factors could lead to the assignment of inappropriate NAICS codes. For example, one industry group official stated that human error, not ill intentions, may lead to the assignment of inappropriate codes. In addition, two firms we interviewed cited the inexperience of some contracting officers as a cause. One of these firms also noted that there could be legitimate disagreements about the appropriate NAICS code because individuals can perceive the nature of the work differently, including what is the preponderance of work to be performed. Another industry group official noted that the intended use of NAICS codes is for statistical purposes, not procurement, and as a result, the codes do not always align with procurement needs and the contracting marketplace.²¹ OHA officials acknowledged that assigning codes based on size standards may occur, but noted that it is OHA's role to review the appropriateness of appealed NAICS code assignments, not

²¹According to the Census website, NAICS was designed for statistical purposes. It notes that although NAICS is frequently used for various contracting and other nonstatistical purposes, the requirements for these nonstatistical purposes played no role in the initial development of NAICS or its later revisions.

the contracting officer's intention behind assigning the code. As discussed in more detail later in this report, the standard for OHA's review is whether the NAICS code designation was based on clear error of fact or law.

When we shared stakeholders' concerns about the assignment of NAICS codes with officials at the four agencies we reviewed and SBA, officials at three of the five agencies told us that they did not agree with some of the concerns. For example, DHS officials said that some of the observations—particularly the statement that contracting officers may assign the NAICS code that best positions the incumbent company to compete for the contract—were unfair and could be taken out of context. HHS officials told us they did not believe that contracting officers at HHS assign NAICS codes because they want specific size standards. SBA officials also questioned the stakeholders' statements and pointed to the results of NAICS code appeals as an indication that the practice of assigning NAICS codes based on the size standard was not widespread.

In addition, we analyzed the use of NAICS codes from fiscal years 2009–2016 to determine whether contracting officers used NAICS codes whose size standard increased in 2012 more often than codes whose size standard did not increase. We selected three sectors with size standard increases in 2012 (Sectors 48–49 and 54) for this analysis because these sectors were among the first that SBA reviewed and adjusted.²² We found that the proportion of obligations and new contracts, respectively, related to NAICS codes with size standards that increased in 2012 remained relatively consistent for Sector 54 and increased for Sectors 48–49 after the size increase. See appendix II for more details.

SBA's Process for NAICS Code Appeals Includes Expediting Them

According to OHA officials, OHA expedites NAICS code appeals over other appeals it receives, issuing the decision as soon as practicable because the decision is effectively moot if it is not made before offers are due.²³ They stated that the NAICS code appeal process takes an average of 18 to 30 days to complete, depending on the complexity of the appeal. SBA's process for NAICS code appeals includes (1) determining if

²²Sectors 48–49 are Transportation and Warehousing, and Sector 54 is Professional, Scientific, and Technical Services.

²³If OHA grants the appeal after the date offers are due, OHA's decision will not apply to the pending procurement, but will apply to future solicitations for the same supplies or services.

appeals are timely and within OHA's jurisdiction, (2) determining if the appellant is adversely affected by the assignment, and (3) expediting NAICS code appeals that are accepted. Interested parties filing a NAICS code appeal do not have to follow a particular format, but the appeal must include the following information: the solicitation or contract number; the name, address, and telephone number of the contracting officer; a full and specific statement as to why the NAICS code designation is alleged to be in error, and argument in support of such allegations; and the name, address, and telephone number of the appellant or its attorney.²⁴

Once an appeal is filed, an administrative judge is assigned to adjudicate it. The judge issues a Notice and Order informing the parties of the filing of the appeal petition, establishing the close of record as 15 days after service of the Notice and Order, and informing the parties that OHA must receive any responses to the appeal petition no later than the close of record. Upon receiving notice of the appeal, the contracting officer must place a hold on the solicitation; inform the public about the appeal and the procedures and deadline for interested parties to submit arguments concerning the appeal; and send OHA copies of the solicitation and inform them of any amendments, actions, and developments concerning the procurement in question. When reviewing NAICS code appeals, the judge first considers whether the appeal is timely and within OHA's jurisdiction. SBA regulations define timely appeals as those that are filed within 10 calendar days after issuance of the solicitation or amendment to the solicitation affecting the NAICS code.²⁵ According to OHA officials, because the office has jurisdiction over small businesses only, large businesses cannot file appeals. If the appeal is untimely or outside OHA's jurisdiction, the appeal is dismissed.

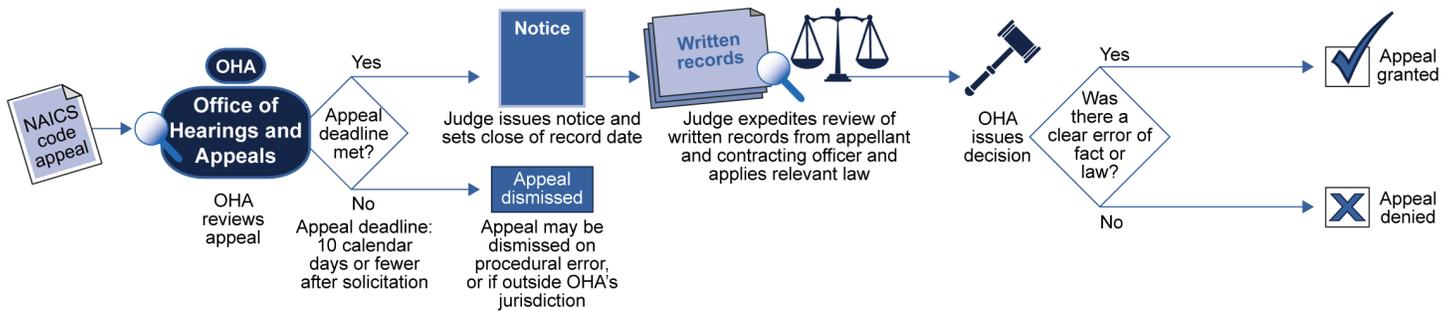
If the appeal is not dismissed, OHA officials told us the judge then reviews the NAICS Manual, SBA regulations on size standards, OHA precedent, and the written records to make a final and independent decision. The standard of review is whether the NAICS code designation was based on clear error of fact or law. If there was no clear error of fact

²⁴An interested party would include a business concern seeking to change the NAICS code designation in order to be considered a small business for the challenged procurement, regardless of whether the procurement is reserved for small businesses or unrestricted.

²⁵SBA may file a NAICS code appeal at any time before offers are due. Of the 62 NAICS code appeals filed in 2014–2016, SBA filed three appeals.

or law, OHA will deny the appeal. If it finds a clear error of fact or law, OHA will grant the appeal (see fig. 2).

Figure 2: Process for Reviewing Appeals of NAICS Codes



NAICS = North American Industry Classification System
OHA = Office of Hearings and Appeals

Source: GAO analysis of OHA documents. | GAO-18-76

We found that OHA’s process for reviewing NAICS code appeals is generally similar to other types of OHA appeals (see table 3). For example, NAICS code appeals and other SBA appeals generally must be filed by an interested party that has been adversely affected. In addition, NAICS code appeals and some other SBA appeals must be filed within 10 calendar or business days.²⁶ NAICS code appeals are different from other SBA appeals in that OHA is adjudicating an action taken by a contracting agency as opposed to a determination made by an SBA official.

²⁶Similarly, bid protests filed with GAO generally must be filed within 10 calendar days after the basis of the protest is known or should have been known (whichever is earlier). A GAO bid protest is a protest of a solicitation or other request by a federal agency for offers for a contract for the procurement of property or services; the cancellation of such a solicitation; an award or proposed award of such a contract; and a termination of such a contract, if the protest alleges that the termination was based on improprieties in the award of the contract.

Table 3: Summary of the NAICS Code Appeal Process and Other Types of Contracting Appeal Processes, 2014–2016

Type of appeal	Decision being appealed	Who can file	Time limit on filing	Number of appeals, 2014–2016
NAICS code appeal process				
NAICS code designation	Appeal of a contracting agency's NAICS code designation	Interested party adversely affected by the code designation or SBA	Within 10 calendar days of issuance of solicitation	62
Other types of contracting appeal processes				
Size determination	Appeal of a formal size determination made by an SBA government contracting area office	Interested party adversely affected by the determination, SBA, or the procuring agency contracting officer	Within 15 calendar days of receiving size determination	219
Service-disabled veteran-owned (SDVO) small business eligibility determination	Appeal of SBA protest determinations related to the status or ownership or control of a SDVO small business concern	Protested concern, the protester, or the contracting officer responsible for the procurement affected by the protest determination	Within 10 business days of receiving protest determination	25
Women-owned small business concern (WOSB) and economically disadvantaged WOSB eligibility determination	Appeal of SBA protest determination related to the status or ownership or control of a WOSB and economically disadvantaged WOSB concern	Protested concern, the protestor, or the contracting officer responsible for the procurement affected by the protest determination	Within 10 business days of receiving the protest determination	2
8(a) business development program determinations	Appeal of SBA determination of eligibility, early graduation, or termination	Applicant or participant firm	Within 45 calendar days of receiving SBA determination being appealed	38

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Small Business Administration appeal processes. | GAO-18-76

Four of the five firms (appellants) that we interviewed to discuss their experience with NAICS code appeals were generally satisfied with the appeals process.²⁷ Of the five appellants, four used a legal counsel and expressed general satisfaction with the time frames for filing a NAICS code appeal. Four of the five appellants noted that filing within the 10 calendar days was not a challenge, two of them indicating that they had known about the code for some time because it was included in the agency's request for information or proposals. Three of the four firms that used a legal counsel also told us the NAICS code filing process was

²⁷The contracting officers we interviewed at four selected agencies did not have any experience with the NAICS code appeal process.

straightforward. However, the remaining appellant said that 10 calendar days was not enough time. In addition, two appellants noted that firms may not file appeals because they are concerned that filing an appeal will affect their ability to receive future awards from the contracting officer.

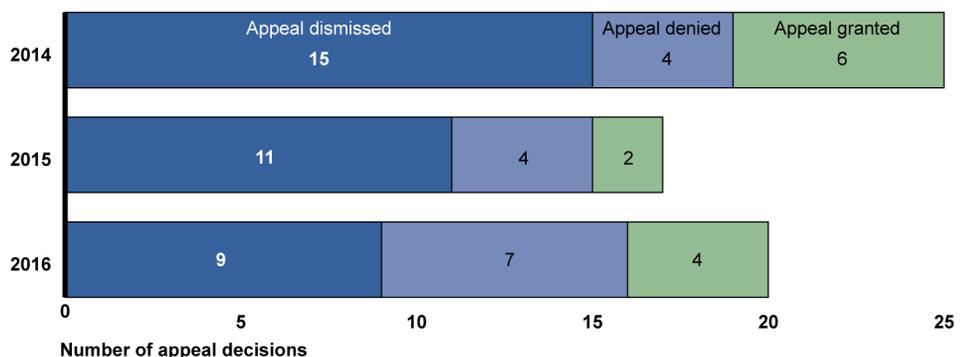
Few NAICS Code Appeals Were Filed, and Most Were Dismissed or Denied

Of the 62 NAICS code appeals filed during calendar years 2014–2016, the majority were dismissed or denied. During this same time period, approximately 1.4 million new federal contracts were awarded, and 284 other types of appeals were filed with OHA.

The majority of NAICS code appeals were dismissed, and less than half of the remaining appeals were granted (see fig. 3).

- Thirty-five appeals were dismissed for procedural reasons. For example, OHA dismissed NAICS code appeals that were not filed before the 10 calendar day deadline.²⁸
- Fifteen appeals were denied, meaning that OHA determined that the NAICS code designation was not based on a clear error of fact or law.
- Twelve appeals were granted, meaning that OHA determined that the NAICS code designation was based on a clear error of fact or law.

Figure 3: Number of NAICS Code Appeal Decisions, 2014–2016



Source: GAO analysis of North American Industry Classification System code appeals. | GAO-18-76

²⁸Other reasons for dismissals of NAICS code appeals include: the contracting officer cancelled the solicitation, the appeal was withdrawn, the contracting officer amended the NAICS code, and the appellant was not authorized to file an appeal.

Agency Comments

We requested comments from DOD, DHS, GSA, HHS, and SBA on a draft of this report. DOD, DHS, and SBA had no comments on the draft report. GSA and HHS provided technical comments, which we incorporated as appropriate.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to DOD, DHS, GSA, HHS, and SBA and appropriate congressional committees. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-8678 or shearw@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.



William B. Shear
Director, Financial Markets and
Community Investment

Appendix I: Objectives, Scope, and Methodology

This report examines (1) what contracting officers consider when assigning North American Industry Classification System (NAICS) codes to federal contracts and the status of efforts to clarify code assignment and (2) stakeholder views on NAICS code assignment and the number and outcomes of appeals filed with the Small Business Administration's (SBA) Office of Hearings and Appeals (OHA).

For our first objective, we reviewed federal laws and regulations related to NAICS code assignment and relevant policies and procedures from the four agencies with the highest indefinite delivery/indefinite quantity (ID/IQ) contract obligations from fiscal years 2011–2015 (the 5 most recent years of Federal Procurement Data System-Next Generation (FPDS-NG) data available when we began our review): Army, Navy, Department of Homeland Security (DHS), and Department of Health and Human Services (HHS).¹ These agencies accounted for approximately \$347 billion in obligations and 47 percent of all ID/IQ obligations in fiscal years 2011–2015. To understand how these selected agencies assign NAICS codes to contracts, we reviewed contract documentation, such as acquisition plans and market research documents, for one ID/IQ contract from each of the agencies (see table 4).

Table 4: Description of Four Selected Contracts Reviewed by GAO, as of September 2015

Agency	Description	Obligations (dollars)	Set-aside type	NAICS code (2012)	Size standard	Number of orders as of September 2015
Army	Development of missile simulation technology	50,552,468	Small business set-aside (total)	541712 – Research and Development in the Physical, Engineering, and Life Sciences (Except Biotechnology)	1,000 employees	132
Navy	Mechanical, electrical, and plumbing design and engineering services	11,198,937	Small business set-aside (total)	541330 – Engineering Services	\$14 million	74

¹For the purposes of our review, we considered Department of Defense (DOD) components, such as the Army, the Navy, and the Air Force, to be separate agencies. Within DOD, the Army and the Navy had the most ID/IQ obligations from fiscal years 2011–2015. FPDS-NG is the system used to collect and report on federal procurements.

Appendix I: Objectives, Scope, and Methodology

Agency	Description	Obligations (dollars)	Set-aside type	NAICS code (2012)	Size standard	Number of orders as of September 2015
Department of Health and Human Services	Installation of closed-circuit television and intrusion detection systems	3,263,822	8(a) sole source	541512 – Computer Systems Design Services	\$25.5 million	10
Department of Homeland Security	Strategic operational and technical plans for disaster response	1,472,849	8(a) sole source	541611 – Administrative Management and General Management Consulting Services	\$14 million	20

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data and agency documentation. | GAO-18-76

We selected the four contracts we reviewed based on (1) whether they had small business set-asides, (2) the NAICS code, and (3) the number of orders. We selected contracts to obtain a mix of assigned NAICS codes and corresponding size standards. We selected contracts awarded in fiscal years 2014 and 2015 with codes from NAICS industry Sector 54 (Professional, Scientific, and Technical Services) because this sector accounted for half of the 10 NAICS codes with the highest ID/IQ obligations from fiscal years 2011–2015 (see table 5). We focused on ID/IQ contracts for our contract review because orders for these contracts are ordered after the base contract is awarded, potentially leading to challenges when assigning the NAICS code.

Table 5: NAICS Codes with Highest Obligations for Indefinite Delivery/Indefinite Quantity (ID/IQ) Contracts, Fiscal Years 2011–2015

Rank	NAICS code	Description (2012)	ID/IQ obligations for fiscal years 2011–2015 (dollars)
1	541330	Engineering Services	88,237,487,562
2	324110	Petroleum Refineries	40,942,114,343
3	236220	Commercial and Institutional Building Construction	40,371,216,189
4	541712	Research and Development in the Physical, Engineering, and Life Sciences (Except Biotechnology)	36,609,688,536
5	336411	Aircraft Manufacturing	31,478,440,485
6	561210	Facilities Support Services	28,925,203,727
7	541512	Computer Systems Design Services	21,704,097,474

Appendix I: Objectives, Scope, and Methodology

Rank	NAICS code	Description (2012)	ID/IQ obligations for fiscal years 2011–2015 (dollars)
8	541519	Other Computer Related Services	21,586,546,978
9	541611	Administrative Management and General Management Consulting Services	18,654,568,509
10	517110	Wired Telecommunications Carriers	16,521,394,502

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data. | GAO-18-76

We interviewed contracting officers, small business specialists, and SBA procurement center representatives (PCR) associated with each contract.² Of the contracting officers who assigned the NAICS codes to the selected contracts, three no longer worked at the agencies. As such, we interviewed the contracting officer currently assigned to the contract. We also interviewed either the small business specialist who reviewed the NAICS code assignment or the specialist currently responsible for the contract or program office.

To understand how orders relate to the base awards and their NAICS codes, we reviewed 10 orders from each contract and compared each order’s purposes to the base award purposes and to the NAICS code definition. We selected a mix of (1) orders that had product and service codes different from the codes assigned to the majority of the contract’s orders or did not contain key words contained in the contract’s statement of work and (2) orders that were the top orders in terms of obligations.³ To determine the status of ongoing efforts to clarify code assignment, we reviewed proposed and final regulatory changes to NAICS code assignment and interviewed officials at SBA and the General Services Administration (the agency responsible for managing the operation, maintenance, and updating of FPDS-NG).⁴

²The PCR for the Navy was invited to the meeting we held with the other PCRs, but was unable to attend. SBA PCRs are among the primary staff who implement SBA’s prime contracting programs, which are intended to increase contracting opportunities for small businesses and help ensure that small businesses receive a fair and equitable opportunity to participate in federal prime contracts.

³Product and service codes are used to describe the products, services, and research and development purchased by the federal government. Because the HHS contract we selected had only 10 orders, we selected all 10 for review.

⁴Specifically, we reviewed 78 Fed. Reg. 61114 (Oct. 2, 2013) and 81 Fed. Reg. 88072 (Dec. 6, 2016).

For our second objective, to understand stakeholders' views on NAICS code assignment, we interviewed officials from three industry groups and five firms that filed NAICS code appeals during calendar years 2014–2016 (the 3 most recent years of data available). We selected three industry groups to interview that were small business trade associations or contracting interest groups with information on their websites about NAICS codes. We interviewed 5 of the 14 firms that filed appeals in calendar years 2014–2016 of NAICS codes in Sector 54 (the sector with the most appeal decisions). We selected these firms to get a variety of results (granted, denied, or dismissed) and focused on firms that had filed multiple appeals or recent appeals.

To identify commonly used NAICS codes and commonly used size standards, we analyzed data from FPDS-NG to identify the top NAICS codes by obligations and by number of contracts awarded in fiscal year 2016. To assess whether contracting officers were more likely to use a NAICS code when the corresponding size standard increased, we analyzed fiscal year 2009–2016 obligations and number of contracts awarded for NAICS codes in three sectors with size standards that SBA increased in 2012.⁵ We assessed the reliability of the FPDS-NG data we used by electronically testing for missing data, outliers, and inconsistent coding, and by comparing the data on selected contracts to contract documentation we obtained, including the NAICS code and whether or not the contract was an ID/IQ contract. We determined that the data were sufficiently reliable for the purposes of identifying trends in NAICS codes assigned.

To understand SBA OHA's process for reviewing NAICS code appeals, we reviewed federal regulations and interviewed OHA officials. For context, we compared OHA's process for NAICS code appeals to its processes for other types of appeals. To identify the number and outcomes of NAICS code appeals, we obtained and analyzed SBA's OHA decisions on NAICS code appeals filed during calendar years 2014–2016. We summarized the year, agency, outcome, and challenged code for each of the decisions in this time period.

We conducted this performance audit from October 2016 to December 2017 in accordance with generally accepted government auditing

⁵We selected Sectors 48–49 (Transportation and Warehousing) and 54 (Professional, Scientific, and Technical Services) for this analysis because these sectors were the first to have increased size standards and the increases occurred during the same time period.

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 in 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: Analysis of Federal Procurement Data System-Next Generation Data on North American Industry Classification System Code Assignments

In this appendix, we present analyses of FPDS-NG data on NAICS codes by obligations and number of contracts awarded. Specifically, we analyzed (1) FPDS-NG data for fiscal year 2016 to determine commonly used NAICS codes and size standards and (2) FPDS-NG data for fiscal years 2009 through 2016 to determine whether selected NAICS codes were used more often when the corresponding size standards increased.

Commonly Used NAICS Codes

Tables 6 and 7 contain data on the top 50 NAICS codes by obligations and number of new contracts awarded, respectively, in fiscal year 2016.

Table 6: Top 50 NAICS Codes by Obligations, Fiscal Year 2016

Rank	NAICS code	Description	Obligations (dollars)
1	336411	Aircraft Manufacturing	44,923,652,391
2	541330	Engineering Services	30,893,769,976
3	541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	28,473,115,968
4	561210	Facilities Support Services	21,315,157,389
5	541512	Computer Systems Design Services	17,728,466,597
6	236220	Commercial and Institutional Building Construction	16,168,836,415
7	336611	Ship Building and Repairing	15,890,652,467
8	336414	Guided Missile and Space Vehicle Manufacturing	14,182,990,496
9	541519	Other Computer Related Services	13,255,642,914
10	524114	Direct Health and Medical Insurance Carriers	12,848,976,130
11	336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	12,839,935,585
12	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	11,751,497,441
13	541611	Administrative Management and General Management Consulting Services	10,959,866,598
14	325412	Pharmaceutical Preparation Manufacturing	10,025,291,102
15	541710 ^a	Research and Development in the Physical, Engineering, and Life Sciences	8,777,479,755
16	541990	All Other Professional, Scientific, and Technical Services	8,485,253,561
17	336412	Aircraft Engine and Engine Parts Manufacturing	6,316,633,429
18	488190	Other Support Activities for Air Transportation	6,296,296,531
19	324110	Petroleum Refineries	5,219,017,524
20	541511	Custom Computer Programming Services	5,143,283,917
21	562910	Remediation Services	4,303,720,542
22	237990	Other Heavy and Civil Engineering Construction	4,079,203,432

**Appendix II: Analysis of Federal Procurement
Data System-Next Generation Data on North
American Industry Classification System Code
Assignments**

Rank	NAICS code	Description	Obligations (dollars)
23	336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	4,034,040,777
24	481212	Nonscheduled Chartered Freight Air Transportation	3,965,730,299
25	561612	Security Guards and Patrol Services	3,852,769,441
26	332993	Ammunition (except Small Arms) Manufacturing	3,723,012,161
27	325411	Medicinal and Botanical Manufacturing	3,524,153,707
28	517110	Wired Telecommunications Carriers	3,187,389,240
29	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	2,925,457,147
30	621111	Offices of Physicians (except Mental Health Specialists)	2,895,364,041
31	541513	Computer Facilities Management Services	2,736,965,226
32	336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	2,686,065,161
33	334111	Electronic Computer Manufacturing	2,496,191,135
34	511210	Software Publishers	2,290,314,913
35	518210	Data Processing, Hosting, and Related Services	2,229,104,394
36	541690	Other Scientific and Technical Consulting Services	2,089,839,915
37	423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers	2,068,843,125
38	561990	All Other Support Services	1,983,718,624
39	237310	Highway, Street, and Bridge Construction	1,964,931,838
40	541711	Research and Development in Biotechnology	1,922,008,860
41	562211	Hazardous Waste Treatment and Disposal	1,921,541,169
42	334290	Other Communications Equipment Manufacturing	1,888,859,955
43	483111	Deep Sea Freight Transportation	1,678,399,940
44	443120	Computer and Software Stores	1,652,630,384
45	339113	Surgical Appliance and Supplies Manufacturing	1,571,919,107
46	561720	Janitorial Services	1,557,302,826
47	424210	Drugs and Druggists' Sundries Merchant Wholesalers	1,549,157,640
48	339112	Surgical and Medical Instrument Manufacturing	1,508,392,389
49	423450	Medical, Dental and Hospital Equipment and Supplies Merchant Wholesalers	1,494,824,006
50	332410	Power Boiler and Heat Exchanger Manufacturing	1,445,703,263

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Note: Contracts with obligations totaling about \$3.2 billion were missing a NAICS code and therefore were excluded from this analysis.

^aThis code is now obsolete. It was replaced with two codes: 541711 (Research and Development in Biotechnology) and 541712 (Research and Development in the Physical, Engineering, and Life Sciences (Except Biotechnology)).

**Appendix II: Analysis of Federal Procurement
Data System-Next Generation Data on North
American Industry Classification System Code
Assignments**

Table 7: Top 50 NAICS Codes by Number of New Contracts Awarded, Fiscal Year 2016

Rank	NAICS code	Description	Number of new contracts awarded
1	339113	Surgical Appliance and Supplies Manufacturing	38,720
2	336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	29,128
3	541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	15,887
4	541330	Engineering Services	13,329
5	339112	Surgical and Medical Instrument Manufacturing	13,018
6	334419	Other Electronic Component Manufacturing	11,828
7	236220	Commercial and Institutional Building Construction	11,767
8	332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	11,709
9	332510	Hardware Manufacturing	11,618
10	811219	Other Electronic and Precision Equipment Repair and Maintenance	11,157
11	511210	Software Publishers	9,169
12	541611	Administrative Management and General Management Consulting Services	9,081
13	541519	Other Computer Related Services	8,921
14	334516	Analytical Laboratory Instrument Manufacturing	8,762
15	332911	Industrial Valve Manufacturing	8,254
16	541990	All Other Professional, Scientific, and Technical Services	8,190
17	721110	Hotels (except Casino Hotels) and Motels	7,870
18	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	6,729
19	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	6,671
20	332991	Ball and Roller Bearing Manufacturing	6,173
21	332996	Fabricated Pipe and Pipe Fitting Manufacturing	6,024
22	561720	Janitorial Services	5,998
23	334519	Other Measuring and Controlling Device Manufacturing	5,739
24	541511	Custom Computer Programming Services	5,620
25	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	5,571
26	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	5,465
27	339991	Gasket, Packing, and Sealing Device Manufacturing	5,134
28	517110	Wired Telecommunications Carriers	5,066
29	332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	4,993
30	238220	Plumbing, Heating, and Air-Conditioning Contractors	4,892
31	311999	All Other Miscellaneous Food Manufacturing	4,796
32	115310	Support Activities for Forestry	4,729

**Appendix II: Analysis of Federal Procurement
Data System-Next Generation Data on North
American Industry Classification System Code
Assignments**

Rank	NAICS code	Description	Number of new contracts awarded
33	561210	Facilities Support Services	4,701
34	335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	4,671
35	611430	Professional and Management Development Training	4,424
36	334417	Electronic Connector Manufacturing	4,378
37	333613	Mechanical Power Transmission Equipment Manufacturing	4,346
38	336390	Other Motor Vehicle Parts Manufacturing	4,287
39	238210	Electrical Contractors and Other Wiring Installation Contractors	4,252
40	333911	Pump and Pumping Equipment Manufacturing	4,235
41	336412	Aircraft Engine and Engine Parts Manufacturing	4,173
42	423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	4,094
43	334111	Electronic Computer Manufacturing	3,859
44	336611	Ship Building and Repairing	3,803
45	541512	Computer System Design Services	3,753
46	333999	All Other Miscellaneous General Purpose Machinery Manufacturing	3,749
47	561612	Security Guards and Patrol Services	3,723
48	332919	Other Metal Valve and Pipe Fitting Manufacturing	3,700
49	337214	Office Furniture (except Wood) Manufacturing	3,700
50	333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	3,569

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Tables 8 and 9 contain data on commonly used revenue-based size standards and employee-based size standards by obligations.

Table 8: Summary of Commonly Used Revenue-Based Size Standards by Obligations, Fiscal Year 2016

2016 size standards (dollars in millions)	Total obligations per size standard for top 50 NAICS codes (dollars)	Number of top 50 NAICS codes with revenue-based size standard
11	4,879,082,665	2
15	43,943,476,489	3
18	1,557,302,826	1
20.5	9,809,120,367	3
27.5	38,864,358,654	4
32.5	8,525,400,925	2

**Appendix II: Analysis of Federal Procurement
Data System-Next Generation Data on North
American Industry Classification System Code
Assignments**

2016 size standards (dollars in millions)	Total obligations per size standard for top 50 NAICS codes (dollars)	Number of top 50 NAICS codes with revenue-based size standard
36.5	22,212,971,685	3
38.5	38,375,989,601	4
	168,167,703,212	22

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Table 9: Summary of Commonly Used Employee-Based Size Standards by Obligations, Fiscal Year 2016

2016 size standards (number of employees)	Total obligations per size standard for top 50 NAICS codes (dollars)	Number of top 50 NAICS codes with employee-based size standard
100	2,068,843,125	1
200	1,494,824,006	1
250	1,549,157,640	1
500	18,941,133,256	3
750	4,906,482,325	3
1,000	38,113,736,085	5
1,250	70,112,015,373	7
1,500	71,369,475,821	7
	208,555,667,631	28

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Tables 10 and 11 contain data on commonly used revenue-based size standards and employee-based size standards by new contracts awarded.

Table 10: Summary of Commonly Used Revenue-Based Size Standards by Number of New Contracts Awarded, Fiscal Year 2016

2016 size standards (dollars in millions)	Total number of new contracts awarded per size standard for top 50 NAICS codes	Number of top 50 NAICS codes with revenue-based size standard
7.5	10,194	2
11	4,424	1
15	39,744	5
18	5,998	1
20.5	14,880	2
27.5	18,294	3
32.5	7,870	1
36.5	11,767	1

Appendix II: Analysis of Federal Procurement Data System-Next Generation Data on North American Industry Classification System Code Assignments

2016 size standards (dollars in millions)	Total number of new contracts awarded per size standard for top 50 NAICS codes	Number of top 50 NAICS codes with revenue-based size standard
38.5	13,870	2
	127,041	18

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Table 11: Summary of Commonly Used Employee-Based Size Standards by Number of New Contracts Awarded, Fiscal Year 2016

2016 size standards (number of employees)	Total number of new contracts awarded per size standard for top 50 NAICS codes	Number of top 50 NAICS codes with employee-based size standard
250	4,094	1
500	41,822	7
750	89,430	8
1,000	55,025	7
1,250	58,774	7
1,500	9,239	2
	258,384	32

Legend: NAICS = North American Industry Classification System

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal year 2016. | GAO-18-76

Use of NAICS Codes with Size Standard Increases in 2012

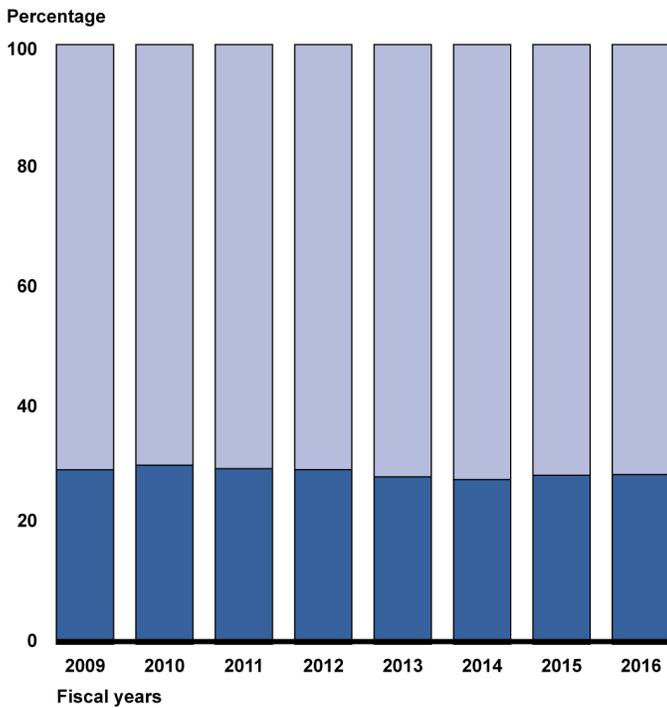
Industry stakeholders we interviewed stated that contracting officers may assign NAICS codes because they want specific and usually higher size standards, not because they are the most appropriate codes. We analyzed the use of NAICS codes from fiscal years 2009–2016 to determine whether contracting officers used NAICS codes whose size standard increased in 2012 more often than codes whose size standard did not increase. We selected three sectors with size standard increases in 2012 (Sectors 48–49 and 54) for this analysis because these sectors were among the first that the Small Business Administration reviewed and adjusted.¹ As shown in figures 4 and 5, the proportion of obligations and new contracts, respectively, with NAICS codes where size standards increased in 2012 remained relatively consistent for Sector 54 and increased for Sectors 48–49 after the size increase.

¹Sectors 48–49 are Transportation and Warehousing, and Sector 54 is Professional, Scientific, and Technical Services.

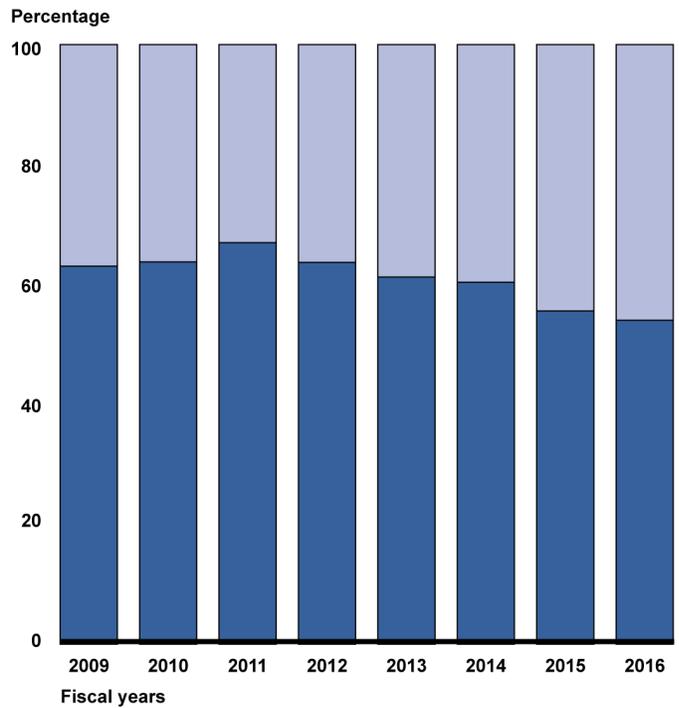
Appendix II: Analysis of Federal Procurement Data System-Next Generation Data on North American Industry Classification System Code Assignments

Figure 4: Analysis of Fiscal Year 2009–2016 Obligations for NAICS Codes in Sector 54 and Sectors 48–49 with Size Standards That Increased in 2012

Sector 54 codes



Sector 48–49 codes



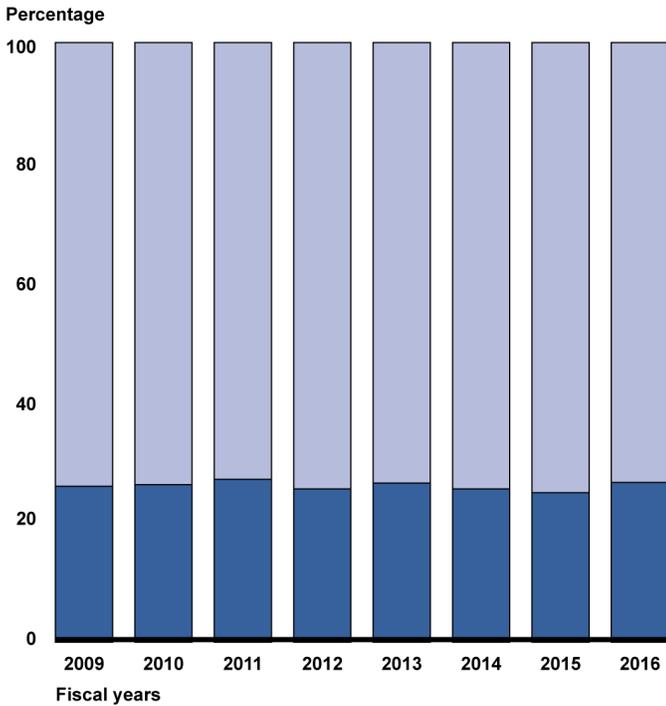
Codes with increased size standards in 2012
 Codes with no increased size standards in 2012

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal years 2009–2016. | GAO-18-76

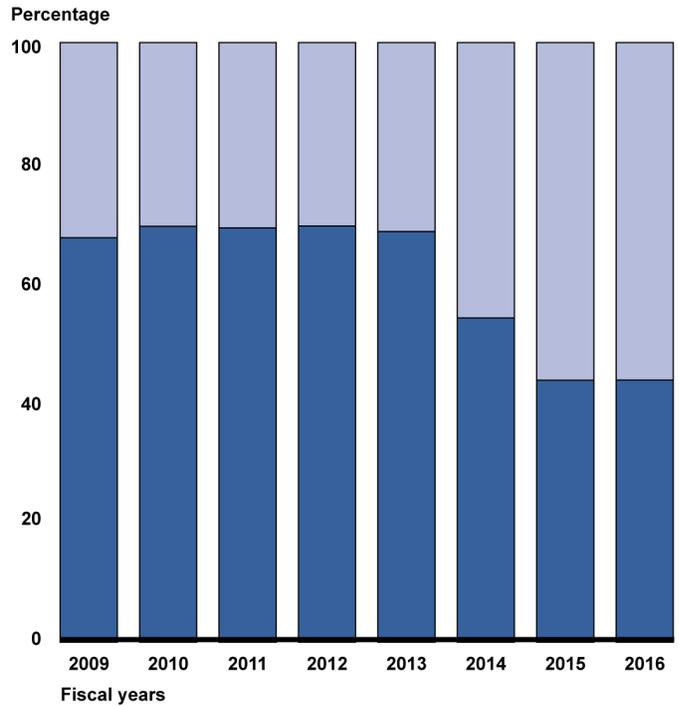
Appendix II: Analysis of Federal Procurement Data System-Next Generation Data on North American Industry Classification System Code Assignments

Figure 5: Analysis of Fiscal Year 2009–2016 New Awards for NAICS Codes in Sector 54 and Sectors 48–49 with Size Standards That Increased in 2012

Sector 54 codes



Sector 48–49 codes



Codes with increased size standards in 2012
 Codes with no increased size standards in 2012

Source: GAO analysis of Federal Procurement Data System-Next Generation data for fiscal years 2009–2016. | GAO-18-76

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

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