



June 2016

DEFENSE FACILITY CONDITION

Revised Guidance Needed to Improve Oversight of Assessments and Ratings

Accessible Version

GAO Highlights

Highlights of [GAO-16-662](#), a report to congressional committees

Why GAO Did This Study

In 2015, the Acting Assistant Secretary of Defense for Energy, Installations, and Environment testified that DOD was accepting significant risk in its budget request for sustaining and recapitalizing facilities needing such work from among its nearly 562,000 facilities, whose plant replacement value DOD estimates as \$880 billion.

House Report 114-102 included a provision for GAO to review DOD's facility sustainment and recapitalization efforts. This report: (1) evaluates the extent to which the services have made—and DOD can monitor—progress in meeting facility policy requirements; (2) identifies how much the services have spent for sustainment, restoration, and modernization, and have reported in deferred maintenance and repairs since fiscal year 2009; and (3) describes personnel's perspectives on the effect of facility conditions on installation missions and quality of life. GAO reviewed policies; analyzed condition ratings, budget documents, and financial reports; interviewed installation officials; and held 16 focus groups at a non-generalizable sample of eight U.S. installations selected based on plant replacement value and other factors.

What GAO Recommends

GAO recommends that DOD revise its guidance to clarify how the services are to indicate when a facility condition rating recorded in DOD's Real Property Assets Database is based on the standardized process. DOD partially concurred, stating that it is taking other actions. GAO continues to believe, as discussed in the report, that the recommendation is valid.

View [GAO-16-662](#). For more information, contact Brian J. Lepore at (202) 512-4523 or leporeb@gao.gov.

June 2016

DEFENSE FACILITY CONDITION

Revised Guidance Needed to Improve Oversight of Assessments and Ratings

What GAO Found

The military services have reported differing levels of progress in meeting Department of Defense (DOD) facility policy requirements, including implementing a standardized process for assessing facility conditions and recording condition ratings based on this process. The services are to implement the standardized process in part by assessing the condition of buildings, pavement, and rail using the same set of software tools. The Navy, Air Force, and Marine Corps have incorporated the standardized process into their procedures for assessing facility conditions across their installations, while the Army has piloted the standardized process at a limited number of installations. However, DOD cannot fully monitor the services' implementation progress due to a lack of clarity in its guidance. For example, DOD guidance directs the services to assign a specific code in the department's Real Property Assets Database to each facility with a condition rating based on the standardized process, but a separate database dictionary shows that this same code is to be used for a different purpose. As a result, DOD lacks assurance that facilities assigned this code have been assessed and rated based on the standardized process. Without revised guidance, DOD will be unable to fully monitor progress made in standardizing facility condition assessments and ratings.

According to DOD, for fiscal years 2009 through 2014 the services annually spent about \$40 billion of the estimated \$51 billion (80 percent) needed to meet estimated facilities sustainment requirements; spent about \$3 billion on facilities restoration and modernization; and reported about \$100 billion in deferred maintenance and repairs. DOD has established a goal for the services to submit annual budget requests for at least 90 percent of the funds needed to meet estimated facilities sustainment requirements. However, the services' operation and maintenance budget requests did not meet that goal in fiscal years 2014 through 2016. DOD officials stated that the services were granted permission in the past few years to submit budget requests that did not meet the 90 percent budgeting goal in order to fund other priorities, but that continuing not to meet the goal increases the risk of facility deterioration in the future.

Public works personnel at the eight installations GAO visited stated that they prioritize maintenance and repairs for facilities that most directly relate to their installations' missions, but also gave examples of facility conditions that are negatively affecting the ability of some installations to efficiently conduct operations. For example, officials at one installation showed GAO a shooting range that was closed due to its exhaust system not working properly, resulting in additional costs to transport personnel to another location for training. Focus group participants and public works personnel at these eight installations also reported that facility conditions affect the quality of life, or overall satisfaction, of installation personnel. Participants reported experiencing problems with facilities' heating and cooling systems, leaking roofs and windows, and mold and mildew.

This is a public version of a sensitive report GAO issued previously. It excludes sensitive information on the relationship between recorded facility condition ratings and reported installation readiness levels.

Contents

Letter		1
	Background	5
	Services Report Varying Progress in Meeting Policy Requirements for Facility Assessments and Conditions, but OSD Cannot Fully Monitor Progress	8
	Services Have Reported Spending Billions for Sustainment, Restoration, and Modernization, and Reported about \$100 Billion Annually in Deferred Maintenance and Repairs	14
	Personnel Reported Prioritizing Mission-Critical Facilities for Repair and Being Affected by Facility Conditions	21
	Conclusions	30
	Recommendation for Executive Action	30
	Agency Comments and Our Evaluation	31

Appendix I: Scope and Methodology	34	
Appendix II: Methodologies for Calculating Facility Condition Ratings and the Recorded Ratings for Fiscal Years 2013 and 2014	39	
Appendix III: Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016	45	
Appendix IV: Comments from the Department of Defense	49	
Appendix V: GAO Contact and Staff Acknowledgments	51	
Appendix VI: Accessible Data	52	
	Agency Comment Letter	52
	Text of Appendix IV: Comments from the Department of Defense	52
	Data Tables	54

Related GAO Products	59
----------------------	----

Tables		
	Table 1: Number of Facilities and Plant Replacement Value in DOD's Inventory as of the End of Fiscal Year 2014	5
	Table 2: DOD's Facility Condition Rating Categories	6

Table 3: Facilities Restoration and Modernization Funding Reported Requested and Spent, by Service, from Fiscal Years 2009 through 2016	18
Table 4: Services' Reported Deferred Maintenance and Repairs Amounts and Respective Percentages of Plant Replacement Value, Fiscal Years 2009 through 2014	19
Data Table for Figure 1: Total Service Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	54
Data Table for Figure 7: Percentage of the Army's Facility Inventory by Condition Rating for Fiscal Years 2013 and 201454	
Data Table for Figure 8: Percentage of the Navy's Facility Inventory by Condition Rating for Fiscal Years 2013 and 201455	
Data Table for Figure 9: Percentage of the Air Force's Facility Inventory by Condition Rating for Fiscal Years 2013 and 201455	
Data Table for Figure 10: Percentage of Marine Corps' Facility Inventory by Condition Rating for Fiscal Years 2013 and 201456	
Data Table for Figure 11: Army's Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	56
Data Table for Figure 12: Navy's Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	57
Data Table for Figure 13: Air Force's Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	57
Data Table for Figure 14: Marine Corps' Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	58

Figures

Figure 1: Total Service Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	16
Figure 2: Damaged Dock at Naval Station Norfolk	23
Figure 3: Portable Air Conditioning Unit at Eglin Air Force Base Education Center	25

Figure 4: Basement-Level Administrative Space Vacated Due to Summer 2015 Flooding at Fort Leavenworth	27
Figure 5: Desk Items with Mold in Training Area at Marine Corps Air Station Cherry Point	28
Figure 6: Barracks Vacated Due to Mold at Eglin Air Force Base	29
Figure 7: Percentage of the Army’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014	40
Figure 8: Percentage of the Navy’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014	41
Figure 9: Percentage of the Air Force’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014	43
Figure 10: Percentage of Marine Corps’ Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014	44
Figure 11: Army’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	45
Figure 12: Navy’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	46
Figure 13: Air Force’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	47
Figure 14: Marine Corps’ Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)	48

Abbreviations

DOD Department of Defense
OSD Office of the Secretary of Defense

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



June 23, 2016

Congressional Committees

In March 2015, the Acting Assistant Secretary of Defense for Energy, Installations, and Environment testified that the Department of Defense (DOD) was accepting significant risk in its fiscal year 2016 budget request for funding to sustain and recapitalize its facilities.¹ DOD manages nearly 562,000 facilities with a combined plant replacement value² that the department estimates at about \$880 billion, and these facilities are to be sustained and recapitalized, as necessary, to ensure that they are in the right condition to support the department's missions. Sustainment comprises the maintenance and repair activities necessary to keep an inventory of facilities in good working order,³ while recapitalization provides for improving facilities through restoration, modernization, and replacement of existing facilities with new ones. Restoration includes repair or replacement of facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accidents, or other causes. Modernization is the alteration or replacement of facilities solely to implement new or higher standards, to accommodate new functions, or to replace building components that typically last more than 50 years.

According to the March 2015 testimony of the Acting Assistant Secretary of Defense for Energy, Installations, and Environment, 24 percent of the

¹Hearing on Alignment of Infrastructure Investment and Risk and Defense Strategic Requirements Before the Subcommittee on Readiness of the House Committee on Armed Services, 114th Congress, Appendix 1 (2015) (Statement of Mr. John Conger, Performing the Duties of Assistant Secretary of Defense (Energy, Installations, and Environment)).

²Plant replacement value is used as a common measure of facility and inventory size, as well as a basis for generating facility condition ratings and estimating recapitalization requirements. Factors that determine a facility's plant replacement value include the facility's size; the average cost for constructing a similar, average-sized facility to current standards; costs for labor, equipment, materials, and currency exchange rates overseas; costs for project planning and design, historical architecture and materials, and overhead; and inflation adjustments.

³Sustainment includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically throughout the life cycle of facilities. This work includes regular roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work.

department's facility inventory was in poor condition, and another 6.5 percent was in failing condition. DOD has attributed these facility conditions to budget constraints that have limited its investment in facilities sustainment and recapitalization. Since 2003 we have issued several reports on DOD's funding for facilities sustainment and recapitalization.⁴ For example, in March 2009 we reported that DOD had not met its goals for funding facilities sustainment and that the services had redirected funds from facilities sustainment to other purposes, thus risking facilities' deterioration and, potentially, their mission capability.⁵ We recommended that DOD summarize and report to Congress the amount of budgeted sustainment funds spent on other purposes, and the department partially concurred. We later concluded that DOD implemented the intent of our recommendation through its actions to monitor the amount of budgeted sustainment funds spent on other purposes and its commitment to provide that information to Congress, if requested.

More recently, the Office of the Secretary of Defense (OSD) issued two memorandums—one in September 2013 and another in April 2014—that established policy requirements for facility assessments, conditions, and funding. The 2013 memorandum required the military services to standardize the process for assessing the condition of their facilities and to record a facility condition rating based on that process for each of their facilities by the end of fiscal year 2017.⁶ The 2014 memorandum called for each service to achieve a minimum standard for its facilities' condition beginning in fiscal year 2016, to develop annual mitigation plans to address failing facilities, and to submit annual budget requests for facilities sustainment at 90 percent or higher of estimated requirements.⁷

⁴For the list of these reports, see the Related GAO Products section at the end of this report.

⁵GAO, *Defense Infrastructure: DOD Needs to Periodically Review Support Standards and Costs at Joint Bases and Better Inform Congress of Facility Sustainment Funding Uses*, [GAO-09-336](#) (Washington, D.C.: Mar. 30, 2009).

⁶The September 2013 memorandum states that the services are to implement the standardized process within 5 years of the date of the memorandum. OSD officials explained that the intent of the memorandum was for implementation to occur by the end of fiscal year 2017, which is stated in implementation guidance that accompanies the memorandum. The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, *Standardizing Facility Condition Assessments* (Sept. 10, 2013).

⁷The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, *Facility Sustainment and Recapitalization Policy* (Apr. 29, 2014).

The 2014 memorandum also stated that the condition of the department's facilities affects both mission effectiveness and quality of life.

House Report 114-102 accompanying a bill for the National Defense Authorization Act for Fiscal Year 2016 included a provision for us to review DOD's facilities sustainment and recapitalization efforts, including progress made in implementing the 2013 and 2014 memorandums. This report: (1) evaluates the extent to which the services have made progress in meeting policy requirements for facility assessments and conditions, and the extent to which OSD is able to monitor progress; (2) identifies how much the services have spent for facilities sustainment, restoration, and modernization, and how much they have reported in deferred maintenance and repairs since fiscal year 2009; and (3) describes personnel's perspectives on the effect of DOD facility conditions on installation missions and quality of life.

To evaluate the extent to which the services have made progress in meeting policy requirements for facility assessments and conditions, and the extent to which OSD is able to monitor progress, we reviewed the policy requirements in OSD's 2013 and 2014 memorandums on facilities sustainment and recapitalization; identified criteria in Standards for Internal Control in the Federal Government for the use of appropriately recorded information to achieve an entity's objectives;⁸ analyzed facility data from DOD's Real Property Assets Database; reviewed service mitigation plans to address failing facilities; interviewed OSD and service officials; and met with public works personnel at eight U.S. installations.⁹ We also assessed the reliability of the data we obtained on facility condition ratings by reviewing relevant documentation, testing the data for

⁸See GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: Nov. 1999). These standards were in effect prior to fiscal year 2016 and cover the time period when OSD's 2013 memorandum was issued and for the facilities data we analyzed. The standards were subsequently updated. The updated standards went into effect on October 1, 2015. See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

⁹We visited two installations per service—Aberdeen Proving Ground, Maryland, and Fort Leavenworth, Kansas (Army); Naval Station Norfolk, Virginia, and Naval Air Station Pensacola, Florida (Navy); Eglin Air Force Base, Florida, and Whiteman Air Force Base, Missouri (Air Force); and Marine Corps Base Camp Lejeune, North Carolina, and Marine Corps Air Station Cherry Point, North Carolina (Marine Corps). We selected a non-probability sample of eight installations to visit; these installations are considered "large sites" by DOD and also met other criteria. For more information, see appendix I.

obvious errors or anomalies, and interviewing knowledgeable officials. We found the data to be sufficiently reliable for our purposes. To identify how much the services have spent for facilities sustainment, restoration, and modernization, and how much they have reported in deferred maintenance and repair since fiscal year 2009 (the last time we reported on DOD facilities sustainment funding levels), we analyzed operation and maintenance budget documents from fiscal years 2009 through 2016;¹⁰ reviewed the services' annual financial reports from fiscal years 2009 through 2014 (the most recent report available), to determine how much deferred maintenance and repair was reported; interviewed OSD and service officials; and met with public works personnel at the eight installations. To describe personnel's perspectives on the effect of facility conditions on installation missions and quality of life, we interviewed public works personnel, toured facilities, and held a total of 16 focus groups with military and civilian personnel at the eight installations we visited. While the information we collected from our focus groups and from the installations we contacted provided context on the issues discussed, it is not generalizable to the entire populations represented by these groups and installations. We provide further details on our scope and methodology, in appendix I.

We conducted this performance audit from May 2015 to June 2016 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.

This report is a public version of a prior sensitive report that we issued in May 2016.¹¹ DOD deemed some of the information in the prior report as

¹⁰Sustainment is funded primarily with operation and maintenance appropriations, while recapitalization—which includes restoration, modernization, and replacement—is funded primarily with both operation and maintenance and military construction appropriations. This report is focused on the operation and maintenance appropriations for sustainment, restoration, and modernization, because the amount of funding specifically requested for recapitalization is not readily identifiable within DOD's military construction budget materials.

¹¹GAO, *Defense Facility Condition: Revised Guidance Needed to Improve Oversight of Assessments and Ratings*, GAO-16-369SU (Washington, D.C.: May 13, 2016).

FOR OFFICIAL USE ONLY, which must be protected from public disclosure. Therefore, this report excludes sensitive information on reported installation readiness levels, including our analysis of the relationship between recorded facility condition ratings and these levels. Although the information in this report is more limited in scope, the overall objectives and methodology for both reports are the same.

Background

DOD has nearly 562,000 facilities in its inventory, which include:

- buildings—roofed and floored facilities enclosed by exterior walls and consisting of one or more levels;
- structures—facilities other than buildings or linear structures, such as towers, storage tanks, wharfs, and piers; and
- linear structures—facilities whose function requires that they traverse land, such as runways, roads, rail lines, pipelines, fences, and electric lines.

Buildings account for the largest portion of DOD’s facilities inventory—nearly 50 percent of the number of facilities in the inventory, and 67 percent of the inventory’s plant replacement value. Table 1 shows the number and plant replacement value of each military service’s facilities inventory.

Table 1: Number of Facilities and Plant Replacement Value in DOD’s Inventory as of the End of Fiscal Year 2014

Dollars in billions

	Buildings		Structures		Linear Structures		Total	
	Number	PRV	Number	PRV	Number	PRV	Number	PRV
Army	138,545	\$216.2	78,902	\$35.9	55,363	\$49.8	272,810	\$301.8
Navy	61,109	136.7	34,788	50.3	15,474	36.3	111,371	223.4
Air Force	50,766	174.3	46,743	35.3	30,371	66.2	127,880	275.9
Marine Corps	26,156	51.0	17,253	9.6	5,719	10.7	49,128	71.4
Washington Headquarters Service	194	6.8	427	.2	165	.1	786	7.0
Total	276,770	\$585.1	178,113	\$131.2	107,092	\$163.1	561,975	\$879.4

Legend: PRV = plant replacement value

Source: DOD’s Base Structure Report – Fiscal Year 2015 Baseline. | GAO-16-662

Note: Numbers may not total due to rounding. Washington Headquarters Service facilities are included in the table, but we did not include them in the scope of this report due to the small number and plant replacement value of their facilities.

According to DOD guidance, each service is to maintain a current inventory count and up-to-date information regarding, among other things, the condition of each facility in its inventory.¹² Condition ratings for service facilities are recorded in DOD's Real Property Assets Database, which is the single authoritative source for all DOD real property inventory. Facility condition ratings are expressed as a percentage (on a scale from 0 to 100) and are to be the ratio of the facility's estimated deferred maintenance and repair costs to the facility's plant replacement value.¹³ Higher deferred maintenance and repair costs will result in lower ratings, while lower costs will result in higher ratings. Table 2 shows the four categories of facility condition ratings.

Table 2: DOD's Facility Condition Rating Categories

Condition Rating	Condition Category
90 to 100 percent	Good condition
80 to 89 percent	Fair condition
60 to 79 percent	Poor condition
0 to 59 percent	Failing condition

Source: DOD. | GAO-16-662

Recognizing that the services were using different methodologies to assess and rate the condition of their facilities, OSD issued a policy memorandum in September 2013 that required the services to implement a standardized process for assessing the condition of all facilities and all facility components (for example, roofing, flooring, air conditioning systems) by the end of fiscal year 2017. For example, the services are to assess the condition of buildings, pavement, and rail using Sustainment Management System software tools developed by the U.S. Army Corps of

¹²Department of Defense Instruction 4165.70, *Real Property Management* (Apr. 6, 2005).

¹³As a formula, a facility condition rating is the estimated deferred maintenance and repair costs of a facility divided by the facility's plant replacement value; the resulting fraction is then subtracted from 1 and multiplied by 100 to express the rating as a percentage.

Engineers.¹⁴ For other types of facilities that cannot be assessed with these software tools, the services are to determine existing physical deficiencies and estimate the cost of maintenance and repairs using established industry cost guides.¹⁵ The memorandum also directed the services to record in DOD's Real Property Assets Database a facility condition rating based on the standardized process for each of their facilities by the end of fiscal year 2017. The memorandum stated that this standardized process for assessing facility condition will ensure that DOD has the consistent and reliable data necessary for sound strategic investment decisions in managing the department's facilities inventory, to include better targeting of funding to those facilities most in need of investment.

OSD issued an additional memorandum in April 2014 that established the following three policies for facility conditions and facilities sustainment funding.¹⁶ First, each service is to achieve an inventory-wide facility condition rating of at least 80 percent (fair condition) beginning in fiscal year 2016. Second, the services are to annually develop mitigation plans for addressing facilities with a condition rating below 60 percent (failing condition). The plans are to provide a recommended action for addressing the failing facility (for example, repair, replace, mothball, or demolish); an estimated cost for the recommended action; and an estimated fiscal year for funding the action. The 2014 OSD memorandum did not require the services to fund the inventory-wide condition rating goal or the plans for addressing failing facilities, citing budgetary challenges facing the department. Third, the memorandum reiterated a goal, which DOD officials stated was first established in fiscal year 2007, that calls for the services to submit annual budget requests for facilities sustainment at 90 percent or higher of the estimated requirements

¹⁴The software tools to be used for assessing the condition of buildings, pavement, and rail are the BUILDER™, ROOFER™, PAVER™, and RAILER™ modules of the Sustainment Management System, which is a suite of web-based software applications to help facility engineers, technicians, and managers decide when, where, and how to best maintain facilities. DOD officials told us that two additional modules are under development—UTILITIES for utility facilities and FUELER for fuel facilities—and that a third is being considered for dams and levees.

¹⁵An example of an established industry cost guide, according to DOD officials, is the American Petroleum Institute's standards for bulk fuel storage.

¹⁶See The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, *Facility Sustainment and Recapitalization Policy* (Apr. 29, 2014).

generated by DOD's facilities sustainment model.¹⁷ The memorandum also stated that sustaining and recapitalizing DOD facilities is essential in order to keep facilities mission-capable; and that facility conditions affect both mission effectiveness and personnel quality of life.

Services Report Varying Progress in Meeting Policy Requirements for Facility Assessments and Conditions, but OSD Cannot Fully Monitor Progress

The services have reported differing levels of progress toward fully implementing a standardized process for assessing facility conditions and recording facility condition ratings based on this process, per the 2013 OSD memorandum. However, the department cannot fully monitor the services' progress in meeting those goals, due to a lack of clarity in OSD guidance. In advance of full implementation of the standardized process, DOD plans to monitor facility conditions and has developed plans for failing facilities—two policy requirements from the 2014 OSD memorandum—based on recorded condition ratings, regardless of the assessment process used.

Services Report Progress in Standardizing Facility Condition Assessments and Ratings

The services have reported differing levels of progress toward meeting the 2013 OSD memorandum requirements to implement a standardized process for assessing facility conditions and to record facility condition ratings based on this process. The Navy and the Air Force civil engineering organizations have incorporated the standardized process into their procedures for how installation personnel are to assess facility conditions, and command officials from both services stated that they expect to meet the fiscal year 2017 goal for full implementation. During our site visits to two Navy installations and two Air Force installations, officials told us that public works personnel are using the standardized process to assess facility conditions at their installations.¹⁸ Officials at

¹⁷DOD's facilities sustainment model has been used by the services since fiscal year 2003 to estimate their annual facilities sustainment requirements. In April 2008 we found that the facilities sustainment model provided a consistent and reasonable framework for preparing estimates of DOD's annual facilities sustainment funding requirements, and we made three recommendations—which DOD implemented—to increase the reliability of the model. For more information, see GAO, *Defense Infrastructure: Continued Management Attention Is Needed to Support Installation Facilities and Operations*, [GAO-08-502](#) (Washington, D.C.: Apr. 24, 2008).

¹⁸Naval Air Station Pensacola officials told us that the Navy's southeast U.S. region uses a facility condition assessment team that travels to Navy installations within that region to assist in assessing facility conditions.

these installations also said that implementing the standardized process is one of several responsibilities for public works personnel; for example, at Naval Station Norfolk, officials stated that other responsibilities include conducting repair projects and coordinating between facility occupants and private contractors to address facility problems. According to the Marine Corps installation command, the Marine Corps expects to meet the fiscal year 2017 goal for implementation and has incorporated the standardized process into its method of using both contractors and installation personnel to assess facility conditions at Marine Corps installations. Marine Corps Air Station Cherry Point officials stated that Marine Corps-contracted teams have assessed the installation's facility conditions, while Camp Lejeune officials stated that their public works personnel have been using the standardized process to assess facilities since 2013, in addition to Marine Corps contracted assessments.

While the other services have reported taking steps to incorporate the standardized process across their installations, the Army has made comparatively more limited progress in implementing the process. For example, as of November 2015, the Army had piloted the standardized process for assessing buildings at only 5 of its more than 200 installations. We visited 1 of those 5 installations—Fort Leavenworth—where officials told us that the Army's Installation Management Command has sent contracted teams to conduct initial assessments using the standardized process. Officials at the other Army installation we visited—Aberdeen Proving Ground—stated that they do not yet use the OSD-directed standardized process, but follow an Army-wide process that calls for installation personnel to assess the condition of buildings and other facilities. These personnel are to be regular users of the facilities they assess and are to receive annual training on conducting condition assessments.¹⁹ Army installation management officials stated that they have requested funding in fiscal years 2017 through 2021 to implement the standardized process at the remaining Army installations, and thus the Army expects to miss the fiscal year 2017 goal for implementation.

¹⁹This Army-wide process for assessing and reporting the condition of Army facilities is referred to as the Installation Status Report-Infrastructure program.

OSD Cannot Fully Monitor the Services' Progress in Implementing the Standardized Process

Although the services have reported progress in implementing the standardized process, OSD cannot fully monitor the services' progress in recording condition ratings based on this process (that is, standardized condition ratings) in DOD's Real Property Assets Database, per the 2013 OSD memorandum requirement, due to a lack of clarity in the department's guidance. Federal standards for internal control state that management needs appropriately recorded information to achieve an entity's objectives.²⁰ To identify which facilities have been assessed using the standardized process, the 2013 OSD memorandum included guidance that directs the services to assign a specific code in the Real Property Assets Database to each facility with a standardized condition rating.²¹ However, according to a separate data dictionary for the database, this same code is to be used by the services for a different purpose—specifically, to indicate that a facility has been physically inspected, which service officials explained is an inspection to confirm the physical existence of the facility and not an assessment of the facility's condition. As a result, OSD lacks assurance that a facility assigned this code has been assessed and rated based on the standardized process, because the code could instead mean that the facility has only been physically inspected to confirm its existence in DOD's inventory.

Based on our analysis of fiscal year 2014 data, we found that 88 percent of Army facilities and 96 percent of Navy facilities had been assigned the database code discussed above. Although this analysis might suggest that nearly all Army and Navy facilities have a standardized condition rating, officials from both services stated that this is not the case. Specifically, Army officials stated that Army facility condition ratings recorded in the database are not yet based on the standardized process but rather on an Army-specific process for assessing facility conditions. The Navy has incorporated the standardized process into its procedures for accessing facility conditions, but Navy officials stated that fiscal year

²⁰See GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: Nov. 1999). These standards were in effect prior to fiscal year 2016 and cover the time period when OSD's 2013 memorandum was issued and for the facilities data we analyzed. The standards were subsequently updated and state that management should internally communicate and use the necessary quality information to achieve an entity's objectives. The updated standards went into effect on October 1, 2015. See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

²¹Specifically, the services are to enter the code "INSP" into the "Asset Review Type Code" data field in DOD's Real Property Assets Database.

2014 condition ratings for Navy buildings were not yet based on the standardized formula required by OSD's 2013 memorandum. Therefore, it is unclear how OSD could use this database code to ensure that Army and Navy facilities have standardized condition ratings.

OSD officials stated that, in addition to monitoring whether a facility has been assigned the database code discussed above, they also will monitor whether a facility has been assigned a second database code that was made available for use in the Real Property Assets Database after the 2013 OSD memorandum was issued.²² According to the database's data dictionary, this second code is to be used to indicate that a facility has undergone a condition assessment, but it does not specify that the condition assessment should be based on the standardized process and not a service-specific process. Furthermore, OSD has not revised its original 2013 guidance to direct the services to use this second database code to indicate that a facility has a standardized condition rating. As a result—and similar to the issue discussed above with the first database code—it is unclear whether facilities that have been assigned the second database code have condition ratings based on the standardized process, as opposed to a service-specific assessment process. For example, Army officials acknowledged that using the second database code would indicate that an Army facility has undergone a condition assessment, but also acknowledged that the Army currently uses an Army-specific process to assess its facilities and does not expect to fully standardize its condition assessments and ratings until fiscal year 2021. Therefore, OSD lacks reasonable assurance that any Army facilities assigned the second database code were assessed and rated based on the standardized process.

Without revising its guidance to provide clear direction on how the services are to indicate that a standardized facility condition rating has been recorded in DOD's Real Property Assets Database, OSD will not have the information it needs to fully monitor progress made in implementing the standardized process. Further, without such standardized facility condition ratings across the services, DOD will not be able to ensure that sound facilities investment decisions are based on comparable, complete, and up-to-date information, and that funding is

²²The second database code discussed here is "COND" and, like the first database code "INSP," is to be entered into the "Asset Review Type Code" data field in DOD's Real Property Assets Database.

appropriately targeted to ensure that facilities remain in good working order and mission capable.

DOD Plans to Monitor Achievement of Its Condition Goal and Has Developed Plans for Failing Facilities Based on Recorded Condition Ratings

In advance of the services' achievement of full implementation of the standardized process, DOD plans to monitor achievement of its facility condition goal and has developed plans for failing facilities based on the condition ratings recorded in DOD's Real Property Assets Database, regardless of the assessment process used. Specifically, OSD officials stated that beginning at the end of fiscal year 2016 they will use recorded condition ratings to monitor whether each service is achieving an inventory-wide facility condition rating of at least 80 percent (fair condition), per the 2014 OSD memorandum. The services have used recorded condition ratings to develop mitigation plans to address failing facilities that have a facility condition rating below 60 percent, also per the 2014 OSD memorandum.

As of fiscal year 2014, condition ratings recorded in the Real Property Assets Database included data based on different methodologies used by the services to assess the condition of their facilities. These condition ratings are subject to change, as the services have continued to implement the standardized process. Appendix II describes methodologies used by the services to calculate facility condition ratings prior to fully implementing the standardized process, as well as the recorded condition of government-owned facilities in each service's inventory at the completions of fiscal years 2013 and 2014.

Based on our analysis of recorded condition ratings for federal government-owned facilities in fiscal year 2014,²³ we found that the Air Force (92 percent), Army (85 percent), and Marine Corps (82 percent) were meeting the goal to achieve an inventory-wide minimum facility condition rating of 80 percent for their facility inventories, while the Navy (79 percent) was nearly meeting the goal. Nonetheless, as the services continue to implement the standardized process and to record facility condition ratings based on that process, their facility condition ratings could change. For example, the Air Force's methodology for calculating facility condition ratings prior to implementing the standardized process

²³According to OSD officials, they will monitor achievement of the 80 percent facility condition rating goal using the recorded condition ratings of those facilities in each service's inventory that are owned by the federal government.

has likely contributed to its overall facility condition rating of 92 percent. According to Air Force officials, the prior method used by the Air Force to rate its facilities was based on submitted work orders for facility repairs; conversely, a facility without a work order was rated at 100 (good condition), regardless of the actual condition of the facility.

The services have also developed mitigation plans to address individual failing facilities (facility condition rating below 60 percent) based on the condition ratings recorded in the Real Property Assets Database. For example, data provided by OSD show that, based on fiscal year 2014 condition ratings, the services submitted plans for approximately 35,000 facilities, at an estimated cost of about \$20 billion to execute those plans. The most common mitigation plans for failing facilities were

- repairing the facility (38 percent),
- reassessing whether the facility is actually in failing condition (20 percent),
- demolishing the facility (14 percent), and
- replacing the facility (13 percent).

OSD officials said that the annual process of reviewing failing facilities provides them a means for overseeing the services in reducing the number of failing facilities. Service officials stated that their focus is on improving those facilities that are most critical to executing missions.

Services Have Reported Spending Billions for Sustainment, Restoration, and Modernization, and Reported about \$100 Billion Annually in Deferred Maintenance and Repairs

From fiscal years 2009 through 2014, the services have reported annually spending,²⁴ in operation and maintenance funding, approximately 80 percent of the funds needed to meet estimated facilities sustainment requirements; reported annually spending about \$3 billion on restoration and modernization activities; and annually reported approximately \$100 billion in deferred maintenance and repairs.

Services Have Reported Annually Requesting and Spending about 80 Percent of Estimated Facilities Sustainment Requirements since Fiscal Year 2009

Since fiscal year 2009 the services have reported annually requesting and spending, in operation and maintenance funding, approximately 80 percent of the funds needed to meet estimated facilities sustainment requirements—about 10 percentage points less than the DOD budgeting goal. As mentioned previously, the 2014 OSD memorandum called for each service to submit budget requests for facilities sustainment at 90 percent or higher of the facilities sustainment model’s estimated requirements. OSD officials stated that the services were granted permission in the past few years to request less than the 90 percent goal in order to fund other department priorities, but that continuing not to meet the budgeting goal will increase the risk of facility deterioration in the future. In March 2015, the Acting Assistant Secretary of Defense for Energy, Installations, and the Environment testified that sustainment represents DOD’s single most important investment in the condition of its facilities.²⁵ We have previously reported that, according to DOD, full

²⁴For the purposes of this report, we use the word “spent or spending” to refer to the amount of operation and maintenance funding obligated by the services for sustainment, restoration, and modernization activities.

²⁵See Hearing on Alignment of Infrastructure Investment and Risk and Defense Strategic Requirements Before the Subcommittee on Readiness of the House Committee on Armed Services, 114th Congress, Appendix 1 (2015) (Statement of Mr. John Conger, Performing the Duties of Assistant Secretary of Defense (Energy, Installations, and Environment)).

funding of sustainment requirements is the most cost-effective approach to managing facilities because it provides the most performance over the longest period for the least investment.²⁶

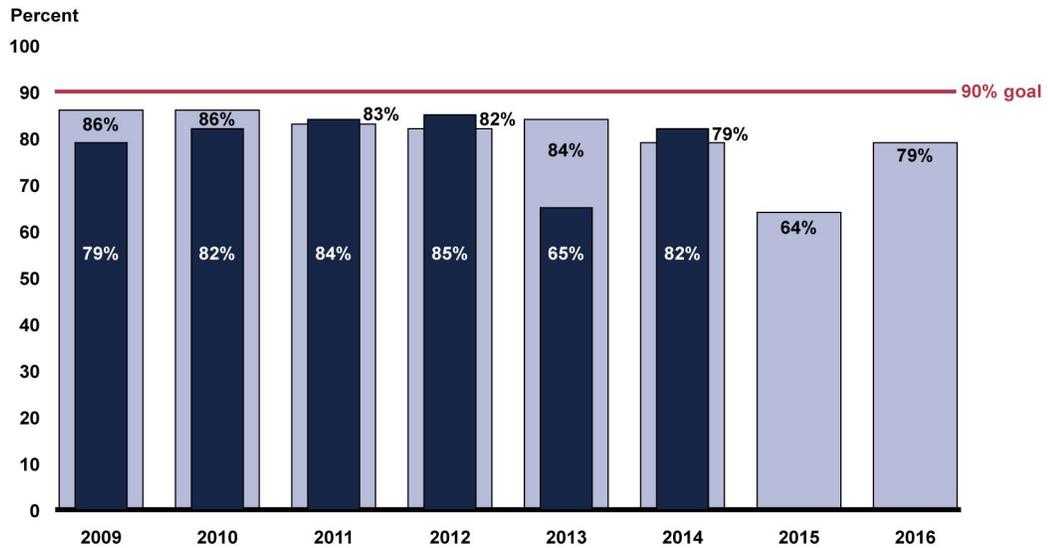
For fiscal years 2009 through 2016, the services reported collectively requesting, in operation and maintenance funding, on average 80 percent (\$56 billion for those years) of the facilities sustainment model's estimated requirements (of \$70 billion for those years), and those requests were collectively less than the 90 percent budgeting goal in each fiscal year. OSD and service officials added that they are able to supplement their operation and maintenance budget requests for sustainment with other funding not in their budget requests, such as host nation support at overseas bases.

Additionally, for fiscal years 2009 through 2014, the services reported collectively spending on average 79 percent (\$40 billion for those years) of the facilities sustainment model's estimated requirements (of \$51 billion for those years). DOD officials stated that sustainment funding has occasionally been redirected to other priorities, such as unexpected restoration and modernization projects resulting from a natural disaster. As discussed earlier in this report, we have previously recommended that DOD summarize and report to Congress the amount of budgeted sustainment funds spent on other purposes, and DOD has taken actions to implement that recommendation.²⁷ Figure 1 shows the amount the services reported collectively requesting and spending, in operation and maintenance funding, on facilities sustainment for fiscal years 2009 through 2016, as compared with the estimated requirements for sustainment and DOD's 90 percent goal.

²⁶ [GAO-09-336](#) and [GAO-08-502](#).

²⁷ [GAO-09-336](#).

Figure 1: Total Service Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)



	2009	2010	2011	2012	2013	2014	2015	2016
Estimated requirements	7,776.7	8,229.3	8,431.4	8,584.0	8,671.6	9,298.8	9,272.7	9,372.4
Requested	6,699.0	7,107.0	6,973.0	7,078.0	7,309.0	7,301.2	5,899.5	7,415.2
Spent	6,123.0	6,724.0	7,057.0	7,291.8	5,670.8	7,619.4	—	—

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD’s operation and maintenance budget account. The amount of facilities sustainment funding spent in fiscal years 2015 and 2016 was not available at the time of our review. Additionally, the amount of funding that was appropriated for sustainment was not available in DOD’s budget documents for each fiscal year, so we were unable to fully determine the extent to which the amount of sustainment funding appropriated each year was a factor in whether the services spent more or less than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also be a factor in whether the services spent more or less than requested.

The following list itemizes how much facilities sustainment funding each service, in operation and maintenance funding, reported requesting for fiscal years 2009 through 2016 and spending for fiscal years 2009 through 2014, as a percentage of estimated facilities sustainment requirements for those years.

- The Army requested 82 percent and spent 70 percent of estimated facilities sustainment requirements. The Army’s operation and maintenance budget request twice met DOD’s 90 percent budgeting goal—in fiscal years 2012 and 2013.

-
- The Navy requested 83 percent and spent 84 percent of estimated facilities sustainment requirements. The Navy's operation and maintenance budget request met DOD's 90 percent budgeting goal three times—in fiscal years 2009, 2010, and 2011.
 - The Air Force requested 76 percent and spent 85 percent of estimated facilities sustainment requirements. The Air Force's operation and maintenance budget request was less than DOD's 90 percent budgeting goal in fiscal years 2009 through 2016.
 - The Marine Corps requested 81 percent and spent 92 percent of estimated facilities sustainment requirements. The Marine Corps' operation and maintenance budget request was less than DOD's 90 percent budgeting goal in fiscal years 2009 through 2016.

In some years the services reported spending more operation and maintenance funding on sustainment than they requested. The amount of funding that was appropriated for sustainment was not available in DOD's budget documents for each fiscal year we reviewed, so we were unable to fully determine the extent to which appropriated amounts were a factor in whether the services spent more than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also contribute to the services spending more than requested. For more information on how much each service requested and spent in operation and maintenance funding on facilities sustainment since fiscal year 2009, see appendix III.

Public works personnel at the eight installations we visited described for us the process the services have used to allocate sustainment funding to installations. Specifically, each year the installations are allocated funds to conduct sustainment activities, and in most cases that funding is based on a percentage of the facilities sustainment model's estimated requirements for each installation. Installations also received additional sustainment funding during the fiscal year, when available. For example, according to documentation provided by Naval Air Station Pensacola officials, the installation initially received 64 percent (or \$24 million) of the facilities sustainment model's estimated requirements (of \$37.3 million) in fiscal year 2015. The installation then received approximately another \$5 million during the fiscal year for a total of about \$29 million in sustainment funding, which was still less than the facilities sustainment model's estimated requirement for fiscal year 2015. Elsewhere in fiscal year 2015, documentation provided by Eglin Air Force Base personnel shows that the installation received 73 percent of estimated sustainment

requirements, while Army officials at Fort Leavenworth told us that they received approximately 60 percent of estimated requirements.

Services Have Reported Annually Spending about \$3 Billion on Restoration and Modernization since Fiscal Year 2009

For fiscal years 2009 through 2014, the services reported annually spending on average about \$3 billion (totaling more than \$18 billion across those years) in operation and maintenance funding on facilities restoration and modernization (see table 3).

Table 3: Facilities Restoration and Modernization Funding Reported Requested and Spent, by Service, from Fiscal Years 2009 through 2016

Dollars in millions

Service	Category	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Army	Requested	\$503	\$0	\$713	\$203	\$667	\$643	\$358	\$563
	Spent	\$959	\$574	\$913	\$645	\$1,098	\$1,373	—	—
Navy	Requested	305	258	340	617	627	501	274	632
	Spent	410	330	495	789	622	624	—	—
Air Force	Requested	551	799	806	1,001	716	813	547	850
	Spent	1,769	1,574	1,319	1,195	965	1,435	—	—
Marine Corps	Requested	366	132	71	259	244	117	86	131
	Spent	373	124	89	282	288	183	—	—
Total	Requested	\$1,725	\$1,189	\$1,930	\$2,080	\$2,254	\$2,075	\$1,266	\$2,176
	Spent	\$3,511	\$2,602	\$2,816	\$2,911	\$2,972	\$3,615	—	—

Legend: FY = fiscal year

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD's operation and maintenance budget account. Numbers may not total due to rounding. The amount of facilities restoration and modernization funding spent in fiscal years 2015 and 2016 was not available at the time of our review.

In total over these fiscal years, the services reported spending about \$7 billion (or 64 percent) more than they had requested for restoration and modernization. For example, the Army reported spending \$2.8 billion more on facilities restoration and modernization than it requested, and the Air Force reported spending \$3.6 billion more than it requested. Service officials explained that the additional restoration and modernization funding was transferred from other budget accounts that had available funding. For example, Navy officials stated that during this timeframe when they reported being able to spend more on restoration and modernization than requested, it was by moving available funds from Navy readiness accounts to the restoration and modernization account.

Public works personnel at the eight installations we visited described for us the process the services have used to allocate restoration and modernization funding to installations. Specifically, particular projects across installations compete for funding and are approved by service headquarters based on their priorities. Officials stated that they assembled a priority list with each of their restoration and modernization projects. Marine Corps Headquarters approved \$12.8 million in funding at Marine Corps Air Station Cherry Point for 3 restoration and modernization projects from the installation's fiscal year 2016 project list (out of 10 projects on the list). Conversely, Fort Leavenworth officials stated that they did not receive any funds for the 5 projects on their fiscal year 2015 priority list because projects from other Army installations were deemed a higher priority by the Army's Installation Management Command.

Services Have Annually Reported about \$100 Billion in Annual Deferred Maintenance and Repairs since Fiscal Year 2009

For fiscal years 2009 through 2014, the services reported on average approximately \$100 billion per year in annual deferred maintenance and repairs—which are maintenance and repairs that were not performed when they should have been or were scheduled to be performed and, therefore, are put off or delayed to a future date.²⁸ As a percentage of the services' facility plant replacement value, the Navy has reported, on average, the highest amount of deferred maintenance and repairs (27 percent), followed by the Army (15 percent), the Air Force (10 percent), and the Marine Corps (4 percent). Table 4 shows the services' reported deferred maintenance and repair amounts and those amounts' respective percentages of plant replacement value for fiscal year 2009 through 2014.

Table 4: Services' Reported Deferred Maintenance and Repairs Amounts and Respective Percentages of Plant Replacement Value, Fiscal Years 2009 through 2014

Dollars in millions

²⁸The services' reported deferred maintenance and repair amounts include three categories: category 1 comprises buildings, structures, and utilities that are enduring and required to support an ongoing mission, including multi-use heritage assets; category 2 comprises buildings, structures, and utilities that are excess to requirements or planned for replacement or disposal, including multi-use heritage assets; and category 3 comprises buildings, structures, and utilities that are heritage assets, which means they have historical, natural, cultural, educational, or artistic significance or significant architectural characteristics and also include building, structures, and utilities that are eligible for or listed on the National Register of Historic Places.

	FY 2009		FY 2010		FY 2011		FY 2012		FY 2013		FY 2014	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Army	\$32,012	16	\$39,015	16	\$37,027	14	\$37,247	15	\$36,726	15	\$36,788	15
Navy	32,170	26	39,180	28	38,617	28	40,286	29	36,240	25	39,480	23
Air Force	18,623	7	23,492	16	23,707	10	25,056	11	19,895	8	25,778	10
Marine Corps	1,215	3	1,213	2	1,212	2	1,090	2	4,933	10	2,781	5
Total	\$84,020	13	\$102,900	18	\$100,562	14	\$103,679	15	\$97,794	14	\$104,827	14

Legend: FY = fiscal year

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: These amounts include all three categories of deferred maintenance and repairs. Numbers may not total due to rounding.

Each service reports its total deferred maintenance and repairs in annual financial reports. Those annual reports do not include information on the specific maintenance and repair projects that have been deferred, but they do explain each service's method for calculating deferred maintenance and repairs. For example, the fiscal year 2014 financial reports explained how each service calculated its deferred maintenance and repair amounts based on service-specific methods used to assess facility conditions, as discussed earlier in this report. OSD officials stated that they expect the calculations for deferred maintenance and repairs to be consistent once the services have fully implemented the standardized process for assessing the condition of their facilities and calculated facility condition ratings based on that process, per the 2013 OSD memorandum requirements. As a result, deferred maintenance and repair amounts could change in future financial statements as the services complete implementation of the standardized process.

Separate from the total amounts of deferred maintenance and repairs that the services report annually, public works personnel at the eight installations we visited told us that they maintain an installation-specific list of maintenance and repair projects, which include deferred projects. For example, Army officials at Fort Leavenworth stated that any sustainment projects that are not completed in one fiscal year roll over for completion into the next fiscal year, and eventually sustainment projects that have been put off long enough could result in restoration and

modernization projects.²⁹ Navy officials at Naval Air Station Pensacola stated that they have deferred maintenance projects totaling \$216 million, and that this backlog is addressed as funding becomes available. Air Force officials at Whiteman Air Force Base stated that there is a growing list of deferred maintenance and repairs, and provided documentation showing that currently there are 20 projects on the list, valued at approximately \$31 million. Marine Corps officials at Marine Corps Air Station Cherry Point stated that they have 11 repair projects ready to be executed in fiscal year 2016 which they have not yet been able to begin due to lack of funding.

Personnel Reported Prioritizing Mission-Critical Facilities for Repair and Being Affected by Facility Conditions

Public works personnel at each of the eight installations we visited stated that they prioritize maintenance and repair for the facilities that most directly relate to the installation's mission, but they provided some examples of facility conditions negatively affecting the ability of the installations to efficiently conduct operations. Additionally, focus group participants and public works personnel at the eight installations we visited reported that facility conditions affect the quality of life, or overall satisfaction, of installation personnel.

Installation Personnel at Selected Installations Reported Prioritizing Mission-Critical Facilities for Repair

Public works personnel at each of the eight installations we visited stated that they prioritize for maintenance and repairs of the facilities that are critical to conducting their installations' missions. For example, Marine Corps Air Station Cherry Point personnel stated that they focus on mission-critical facilities such as hangars and airfields and added that mission readiness had not been negatively affected by facility conditions. Eglin Air Force Base personnel also told us that installation facilities most critical to the installation's missions—which include testing and evaluating weapons systems and training pilots—receive first priority for maintenance and repairs, and that mission readiness had not been degraded by facility conditions. Additionally, Army officials at Fort Leavenworth stated that the installation's mission to train and educate soldiers had not been negatively affected by facility conditions, and public

²⁹We have previously reported that, according to DOD, needed sustainment work that is not performed will eventually result in damaged facilities, shortened facility service lives, and increased future costs for facility restoration; see [GAO-08-502](#).

works personnel at Naval Station Norfolk told us that their top priorities include mission-critical facilities.

Public works personnel at the installations we visited told us that they are kept informed of facility conditions that could affect their installations' missions. For example, officials at Naval Station Norfolk and Naval Air Station Pensacola stated that the Navy uses facility management specialists who, among other things, serve as liaisons between facility occupants and public works personnel in order to request that repair work be conducted on a facility when problems arise. Personnel described similar approaches used to notify public works of problems at other service installations, including Marine Corps Base Camp Lejeune, Eglin Air Force Base, and Aberdeen Proving Ground.

However, public works personnel at the installations we visited did provide some examples of facility conditions negatively affecting the ability of their installations to efficiently conduct operations. For example, Naval Station Norfolk officials showed us a small boat repair shop that has limited use because an area where they conduct repairs had to be used to store spare parts relocated from the second floor of the shop, which had been closed because it was deemed unable to support the weight of those parts. As a result, small boats have had to be repaired outside the shop or elsewhere on the installation. Additionally, Naval Station Norfolk officials showed us a dock that had been used to receive barges that transport heavy equipment and machinery. Because of damage to the dock, the facility has been temporarily closed until repairs can be made, which officials estimated would take 2 to 3 years (see figure 2). While barges are able to be received elsewhere at Naval Station Norfolk, the installation will have reduced capacity to load and unload barges until the dock is repaired.

Figure 2: Damaged Dock at Naval Station Norfolk



Source: GAO. | GAO-16-662

At Whiteman Air Force Base, public works personnel showed us an indoor shooting range used to provide firearms training to installation personnel. The range was closed in spring 2015 because three instructors reportedly developed asthma symptoms from exposure to copper dust from fired bullets. The facility's exhaust system was not properly venting the copper dust, which officials attributed to the design of the facility—specifically, it was originally an outdoor range that was modified by being enclosed to provide shelter to installation personnel, and this led to the ventilation problem. As a result, personnel have either had to be transported to an Army National Guard base about 100 miles away for training—increasing the total training time from 1 day to 2 days and resulting in additional transportation costs—or have had their training deferred. Additionally, Naval Air Station Pensacola officials told us that the installation has a training facility for rescue swimmers, which generates heavy waves for the swimmers' training. However, one of the facility's generators is no longer operational, and that condition has reduced the intensity of the waves and degraded the level of training the facility can provide. Public works personnel have requested funding from Navy headquarters to address this issue and said that, until repairs are

made, training may need to be conducted in open water, which would require additional resources, including boats and helicopters.

Installation Personnel at Selected Installations Reported That Facility Conditions Affect Quality of Life

According to focus group participants and public works personnel at the eight installations we visited, facility conditions affect the quality of life, or overall satisfaction, of installation personnel. Participants in each of the 16 focus groups told us that the condition of the facilities they work in and use affects their quality of life, either positively or negatively. Also, public works personnel stated that they are routinely informed of issues that affect personnel quality of life, and that these issues are taken into consideration when repair projects are planned and funding priorities are determined.

Participants in 14 of 16 focus groups stated that some condition or conditions of installation facilities had a positive effect on their quality of life. For example, personnel expressed satisfaction with those facilities that were new or recently renovated. A participant at a Marine Corps installation expressed satisfaction with the participant's office building because it was renovated 2 years ago. A participant at an Army installation stated that the participant's office building was in very good condition, and a participant at a Navy installation expressed being satisfied with the installation's gymnasium. Additionally, a participant at an Air Force installation said that visiting the installation's hospital was an enjoyable experience because of its condition.

Participants in each of the 16 focus groups stated that some condition or conditions of installation facilities had a negative effect on their quality of life. For example, participants reported experiencing problems with facilities' heating and cooling systems, leaking roofs and windows, and mold and mildew. During our tours of installation facilities, public works officials also provided examples of how these types of facility conditions negatively affect quality of life.

- Heating and Cooling – Participants in each of the focus groups reported having issues with heating and air conditioning systems, causing it to be either too hot during the summer or too cold during the winter. For example, at a Navy installation a participant stated that in the summer they needed fans to cool the space and in the winter they needed additional clothing to warm up because the boiler went down or the air conditioning unit went down. At an Army installation a participant stated that in the office building the participant had been working in, the heating and air conditioning unit had not been working

reliably for about 2 years—despite multiple attempts to repair it—and space heaters had to be used in the winter. An Air Force installation participant stated that the building’s heating, ventilation, and cooling unit leaked water through the wall into the participant’s office. During a tour of an educational facility at Eglin Air Force Base, officials told us that because the building’s cooling system provides air conditioning only to certain portions of the building, they have installed a portable air conditioning unit to cool the building during the summer (see figure 3).

Figure 3: Portable Air Conditioning Unit at Eglin Air Force Base Education Center



Source: GAO. | GAO-16-662

-
- **Roof and Window Leaks** – Participants in 15 out of the 16 focus groups reported having issues with leaking roofs or windows, sometimes leading to water damage. For example, at one Marine Corps installation a participant said that a challenge at the participant's work site is having the roof leak. The participant stated that water drips out of the ceiling into light fixtures and has caused ceiling tiles to fall on people's desks. Participants stated that these types of roof and window leaks typically occurred when there was rainy weather. For example, at one Navy installation a participant stated that the windows constantly leak any time they have a significant rain storm, so they have to clean up the floor due to the leaking windows and water coming into the building. Additionally, while touring Fort Leavenworth, officials showed us an office building where the basement had been flooded due to rain causing a drainage pipe to back up. The drainage pipe had previously serviced a parking lot on top of which this part of the building had been constructed. Officials stated that personnel who were using this part of the building to develop Army training materials had to be moved to another location (see figure 4).

Figure 4: Basement-Level Administrative Space Vacated Due to Summer 2015 Flooding at Fort Leavenworth



Source: GAO. | GAO-16-662

- **Mold and Mildew** – Participants in 15 out of 16 focus groups reported having issues with mold or mildew in installation facilities. Participants stated that these issues often resulted from the problems with the heating and cooling systems and the water damage caused by leaking roofs and windows. For example, at one Marine Corps installation a participant stated that after the air conditioning unit was turned off in a barracks, mold and mildew accumulated in the rooms. The participant said that when the Marines who had occupied the barracks returned from deployment they found that their uniforms and personal items were covered with mold and mildew. They submitted a claim for the government to replace these items. Participants stated that they believe the mold contributed to health issues in some cases. For example, at one Air Force installation a participant stated that mold was growing in their work building and had caused almost all of the occupants to get sick, while another participant reported having developed a rash that this participant attributed to mold. Additionally, while on a tour at Marine Corps Air Station Cherry Point, officials

showed us a classroom inside of a hangar where mold had been found on picture frames, wall shelves, and desk items (see figure 5).

Figure 5: Desk Items with Mold in Training Area at Marine Corps Air Station Cherry Point



Source: GAO. | GAO-16-662

Officials at Eglin Air Force base stated that in May 2014 they had to evacuate a dormitory that had the capacity to hold 576 airmen and provide alternative living arrangements due to mold and other problems, at an estimated cost of \$157,000 per month in extra housing allowances (see figure 6).

Figure 6: Barracks Vacated Due to Mold at Eglin Air Force Base



Source: GAO. | GAO-16-662

Public works personnel at the installations we visited told us that they are routinely made aware when facility conditions are affecting personnel quality of life. For example and as described earlier in this report, officials at installations such as Naval Station Norfolk, Marine Corps Base Camp Lejeune, Eglin Air Force Base, and Aberdeen Proving Ground told us that they have personnel who serve as liaisons between facility occupants and the public works department for the purpose of reporting facility repairs that are needed. Additionally, installation personnel can provide comments on facility conditions through DOD's customer feedback website. Repair projects to address quality of life issues are included in the installations' regular process for identifying which projects to execute

based on service and installation priorities and available funding. For example, officials at Marine Corps Air Station Cherry Point stated that they plan to request funding for repairs to an administrative building for fiscal year 2018 to address water intrusion through the walls and floors that causes mold and mildew in the bathrooms. An official stated that until this funding is received they are spending approximately \$250,000 per year to maintain the building, which includes repairs to the building's roof, windows, and electrical system.

Conclusions

The size and scope of DOD's facilities inventory is significant—the department manages and operates nearly 562,000 facilities that have a combined plant replacement value that DOD estimates at \$880 billion. An accurate understanding of the condition of those facilities is essential in order for DOD to make informed decisions on funding sustainment and recapitalization activities to ensure facilities remain in good working order. Recognizing that the services had been assessing and rating the condition of their facilities using different methodologies, the department established a standardized process for assessing and rating facility conditions and directed the services to implement this process by the end of fiscal year 2017. DOD expects that standardized facility condition ratings will assist the department in targeting its limited resources to those facilities most in need of attention. The individual services have reported varying levels of progress in implementing this process, with some being further along than others. However, DOD cannot fully monitor that progress due to a lack of clarity in its guidance. By revising its guidance to clarify how the services are to indicate that a standardized facility condition rating has been recorded in DOD's Real Property Assets Database, the department will be in a better position to monitor the services' implementation progress and know when condition ratings have been fully standardized. Standardized condition ratings will ultimately help to ensure the department has complete, comparable, and up-to-date information for making facility investment decisions.

Recommendation for Executive Action

To improve OSD's oversight of the services' progress in implementing the standardized process for assessing facility conditions and recording facility condition ratings based on that process, we recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment revise its guidance to clarify how—either in DOD's Real Property Assets Database or by some other mechanism—the services are to indicate when a facility condition rating recorded in DOD's Real Property Assets Database is based on the standardized process.

Agency Comments and Our Evaluation

We provided a draft of the sensitive version of this report to DOD for comment. In its written comments, reproduced in appendix IV, DOD partially concurred with our recommendation that the Assistant Secretary of Defense for Energy, Installations, and Environment revise its guidance to clarify how—either in DOD’s Real Property Assets Database or by some other mechanism—the services are to indicate when a facility condition rating recorded in DOD’s Real Property Assets Database is based on the standardized process.

DOD stated that OSD conducts periodic implementation reviews with the services to ensure that they are making appropriate progress in implementing the 2013 policy memorandum, and that these reviews use data directly from the Sustainment Management System, since that system reflects real-time data and is more reliable for program management oversight. DOD further stated that OSD does not use the Real Property Assets Database to manage or oversee the services’ progress in inspecting their facilities. However, as stated in our report, DOD considers the Real Property Assets Database to be its single authoritative source for all DOD real property inventory, and OSD’s 2013 memorandum directed the services to record in the Real Property Assets Database a standardized condition rating for each of their facilities by the end of fiscal year 2017, and to assign a specific code in the database to each facility with a standardized condition rating. As we also discuss in the report, the Sustainment Management System is not used for all facilities and therefore cannot provide DOD a comprehensive method for monitoring implementation of the standardized process for condition ratings. OSD’s 2013 memorandum directed the services to assess the condition of buildings, pavement, and rail using the Sustainment Management System software tools. However, for those facilities that cannot be assessed with these software tools, the memo directed that the services determine existing physical deficiencies and estimate the cost of maintenance and repairs using established industry cost guides. As a result, OSD will be unable to fully rely upon data in the Sustainment Management System to oversee the services’ progress in assessing facilities and recording their condition ratings.

Further, as DOD stated in its comments, the Real Property Assets Database reflects an annual snapshot of DOD’s facility inventory, and the resulting consolidation of data is used to meet reporting requirements to external entities. For example, OSD uses the database as its source for annually reporting real property information to the Office of Management and Budget and the General Services Administration through the Federal Real Property Profile, to include information on facility condition.

Therefore, it is important for OSD to have assurance that data recorded in the Real Property Assets Database are consistent and reliable, which is what DOD aims to achieve through implementing the standardized process.

Finally, DOD stated in its comments that the 2013 memorandum gave the services 5 years—until fiscal year 2017—to inspect their facility inventories using the Sustainment Management System. DOD also stated that during this transition period, facility condition ratings in the Real Property Assets Database may reflect both the standardized assessment process and previously used assessment processes. However, we found that according to the Army—whose facilities account for approximately \$302 billion in estimated plant replacement value, which is more than any of the other military services—the Army does not expect to meet that goal and may not fully implement the Sustainment Management System until fiscal year 2021. Therefore, it may take at least 4 additional years before the facility condition ratings in the Real Property Assets Database fully reflect the use of the standardized assessment process. Thus, we continue to believe that DOD needs to revise its guidance in order for DOD to fully monitor the services' implementation progress.

We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; the Secretaries of the Army, Navy, and Air Force; and the Commandant of the Marine Corps, and the Assistant Secretary of Defense for Energy, Installations, and Environment. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-4523 or leporeb@gao.gov. GAO staff who made key contributions to this report are listed in appendix V.



Brian J. Lepore
Director
Defense Capabilities and Management

List of Committees

The Honorable John McCain
Chairman

The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Mac Thornberry
Chairman

The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Mark Kirk
Chairman

The Honorable Jon Tester
Ranking Member
Subcommittee on Military Construction, Veterans' Affairs, and Related
Agencies
Committee on Appropriations
United States Senate

The Honorable Charlie Dent
Chairman

The Honorable Sanford Bishop
Ranking Member
Subcommittee on Military Construction, Veterans' Affairs, and Related
Agencies
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

To evaluate the extent to which the services have made progress in meeting policy requirements for facility assessments and conditions, and the extent to which the Office of the Secretary of Defense (OSD) is able to monitor progress, we reviewed OSD's September 2013 memorandum on standardizing facility condition assessments, which directed the services to standardize how they assess and rate the condition of their facilities and provided guidance on, among other things, how the services were to indicate in DOD's Real Property Assets Database that a standardized facility condition rating had been recorded.¹ We identified criteria in Standards for Internal Control in the Federal Government for the use of information to achieve an entity's objectives.² We also reviewed OSD's 2014 memorandum on facilities sustainment and recapitalization to determine what policies OSD had established for facility condition.³ We analyzed facility data from DOD's Real Property Assets Database for fiscal years 2013 and 2014 (the most recent data available at the time of our report) to, among other things, determine the extent to which DOD was meeting requirements set out in the 2013 and 2014 policy memorandums.⁴ We assessed the reliability of the data we obtained on facility condition ratings by reviewing relevant documentation, testing the data for obvious errors or anomalies, and interviewing knowledgeable officials; we found the data to be sufficiently reliable for our purposes. Additionally, we obtained and reviewed the services' mitigation plans to address failing facilities, as called for in the 2014

¹The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, *Standardizing Facility Condition Assessments* (Sept. 10, 2013).

²See GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: Nov. 1999). These standards were in effect prior to fiscal year 2016 and cover the time period when OSD's 2013 memorandum was issued and for the facilities data we analyzed. The standards were subsequently updated. The updated standards went into effect on October 1, 2015. See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

³The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, *Facility Sustainment and Recapitalization Policy* (Apr. 29, 2014).

⁴We also obtained facility condition data from OSD for fiscal years 2010 through 2012, but we did not include these data in our analysis because the data provided did not match information reported by DOD in its Base Structure Reports for those years. OSD officials stated that the Base Structure Reports are extractions from the Real Property Assets Database for public release, and they will not necessarily match each other every year; we were able to match the fiscal years 2013 and 2014 data from the Real Property Assets Database to information in the Base Structure Reports for those years.

memorandum.⁵ Lastly, to obtain additional information on the progress made in implementing the standardized process and how progress was monitored, we interviewed OSD and service officials knowledgeable about facilities sustainment and recapitalization, as well as public works personnel at eight U.S. installations.

We selected a non-probability sample of eight installations to visit based on the following factors: (1) the installation was considered a “large site,” with a plant replacement value of at least \$1.876 billion, according to DOD’s 2015 Base Structure Report;⁶ (2) two installations per service (Army, Navy, Air Force, and Marine Corps) were selected; (3) the installation was located in the continental United States; (4) the installation was not classified as a joint base; (5) the installation was geographically close to another installation to reduce individual site visits, when possible; and (6) the installation had some failing facilities based on fiscal year 2014 condition ratings. Based on these factors, we chose to visit Aberdeen Proving Ground, Fort Leavenworth, Naval Station Norfolk, Naval Air Station Pensacola, Eglin Air Force Base, Whiteman Air Force Base, Marine Corps Base Camp Lejeune, and Marine Corps Air Station Cherry Point.

To identify how much the services have spent for facilities sustainment, restoration, and modernization, and how much they have reported in deferred maintenance and repair since fiscal year 2009 (the last time we reported on DOD facilities sustainment funding levels), we analyzed the operation and maintenance budget request documents for facilities sustainment, restoration, and modernization for fiscal years 2009 through 2016 to determine how much the services requested and spent during

⁵The 2014 OSD memorandum did not require the services to fund to the inventory-wide condition rating goal or the plans for addressing failing facilities, citing budgetary challenges facing the department.

⁶ Department of Defense, *Base Structure Report – Fiscal Year 2015 Baseline – A Summary of the Real Property Inventory*, as of September 30, 2014.

those fiscal years.⁷ We also obtained the facilities sustainment model's estimated funding requirements for fiscal years 2009 through 2016, and compared the amount of facilities sustainment funding requested by the services against DOD's goal that each service request at least 90 percent of the estimated sustainment requirements, each year. Additionally, we reviewed the services' annual financial reports for fiscal years 2009 through 2014 (the most recent reports available) to determine how much deferred maintenance and repairs were reported for those fiscal years. We obtained additional information through interviews with OSD and service officials knowledgeable about sustainment, restoration, and modernization funding, and about deferred maintenance and repairs. Lastly, we met with public works personnel at the eight installations to discuss issues related to each installation's sustainment, restoration, and modernization funding and any deferred maintenance and repairs.

To describe personnel's perspectives on the effect of facility conditions on installation missions and quality of life, we interviewed public works officials at the eight installations we visited on what they knew about how facility conditions affect installation missions and personnel quality of life at the installations. Additionally, officials at each of the eight installations provided us with a tour of installation facilities in varying levels of condition. Lastly, we conducted 16 focus groups with military and civilian personnel at the eight installations we visited to obtain their perspectives of how the condition of installation facilities affects their quality of life. For each focus group, we used a series of semi-structured questions to learn how the facilities the participants live in, work in, and use on the installation affect their quality of life. We defined facilities as buildings the participants use on the installation as well as physical surfaces such as roads, pavements, and runways. We defined quality of life as overall satisfaction on the installation (to include their health, safety, and morale). We conducted one pretest focus group and made some revisions to the focus group guide accordingly. Methodologically, focus groups are not

⁷Sustainment is funded primarily with operation and maintenance appropriations, while recapitalization—which includes restoration, modernization, and replacement—is funded primarily with both operation and maintenance and military construction appropriations. This report is focused on the operation and maintenance appropriations for sustainment, restoration, and modernization, because the amount of funding specifically requested for recapitalization is not readily identifiable within DOD's military construction budget materials. For the purposes of this report, we use the word "spent" to refer to the amount of funding obligated by the services for sustainment, restoration, and modernization activities.

designed to (1) demonstrate the extent of a problem or to generalize results to a larger population, (2) develop a consensus to arrive at an agreed-upon plan or make decisions about what actions to take, or (3) provide statistically representative samples or reliable quantitative estimates. Instead, they are intended to generate information about the reasons for the focus group participants' attitudes on specific topics and to offer insights into their concerns about and support for an issue. The projectability of the information produced by our focus groups is limited, since the information includes only the responses of those military and civilian personnel responses from the 16 selected groups and therefore only includes their specific experiences with the facilities they have used. Other personnel who did not participate in our focus groups or who are located at different installations may have different experiences. Due to these limitations, we did not rely entirely on focus groups, but rather used multiple methodologies to corroborate and support our conclusions—to include interviewing public works personnel and touring facilities at each of the eight installations we visited, as described above.

We visited or contacted the following offices and locations during our review. Unless otherwise specified, these organizations are located in or near Washington, D.C.:

Office of the Secretary of Defense

- Office of the Assistant Secretary of Defense for Energy, Installations, and Environment
- Office of the Under Secretary of Defense (Comptroller)
- Office of the Secretary of Defense Cost Assessment and Program Evaluation

Army

- Office of the Assistant Chief of Staff for Installation Management
- United States Army Corps of Engineers, Construction Engineering Research Laboratory, Champaign, Illinois
- U.S. Army Installation Management Command, Fort Sam Houston, Texas
- Aberdeen Proving Ground, Aberdeen, Maryland
- Fort Leavenworth, Fort Leavenworth, Kansas

Navy

- Office of the Deputy Chief of Naval Operations (Fleet Readiness and Logistics), Fleet Readiness Division
- Commander, Navy Installations Command
- Naval Facilities Engineer Command
- Naval Station Norfolk, Norfolk, Virginia
- Naval Air Station Pensacola, Pensacola, Florida

Air Force

- Headquarters, Department of the Air Force, Logistics and Installations
- Air Force Civil Engineer Center, San Antonio, Texas
- Eglin Air Force Base, Eglin Air Force Base, Florida
- Whiteman Air Force Base, Whiteman Air Force Base, Missouri

Marine Corps

- Marine Corps Installation Command
- Marine Corps Base Camp Lejeune, Camp Lejeune, North Carolina
- Marine Corp Air Station Cherry Point, Cherry Point, North Carolina

We conducted this performance audit from May 2015 to June 2016 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: Methodologies for Calculating Facility Condition Ratings and the Recorded Ratings for Fiscal Years 2013 and 2014

The following sections describe (1) methodologies used by the services to calculate facility condition ratings prior to fully implementing the standardized process called for in the 2013 OSD policy memorandum;¹ and (2) the condition of government-owned facilities in each service's inventory as recorded in DOD's Real Property Assets Database at the completions of fiscal years 2013 and 2014.

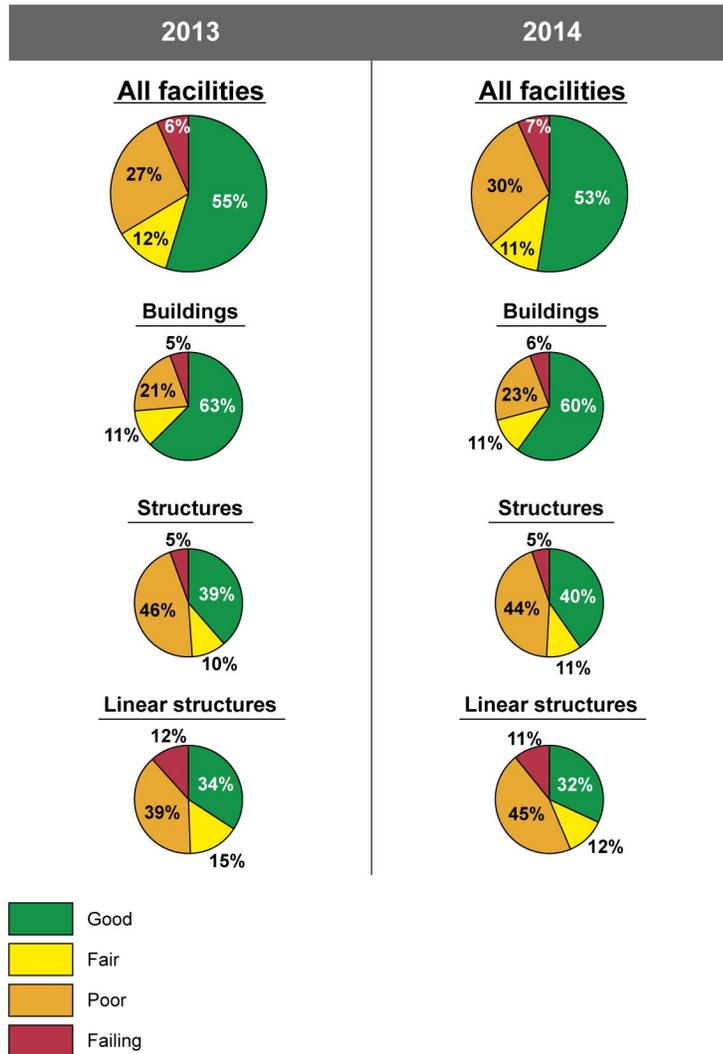
Army

Personnel at Army installations are responsible for assessing the condition of Army facilities. These personnel are to be regular users of the facilities they assess and are to receive annual training on conducting condition assessments.² The occupant's assessment is entered into an Army database, where this information is used to calculate a condition rating for facilities. Army officials stated that these condition ratings are recorded in DOD's Real Property Assets Database. Figure 7 shows the recorded condition of government-owned facilities in the Army's inventory at the completions of fiscal years 2013 and 2014.

¹The Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, Standardizing Facility Condition Assessments (Sept. 10, 2013).

²This Army-wide process for assessing and reporting the condition of Army facilities is referred to as the Installation Status Report-Infrastructure program.

Figure 7: Percentage of the Army's Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014



Source: GAO analysis of Department of Defense data. | GAO-16-662

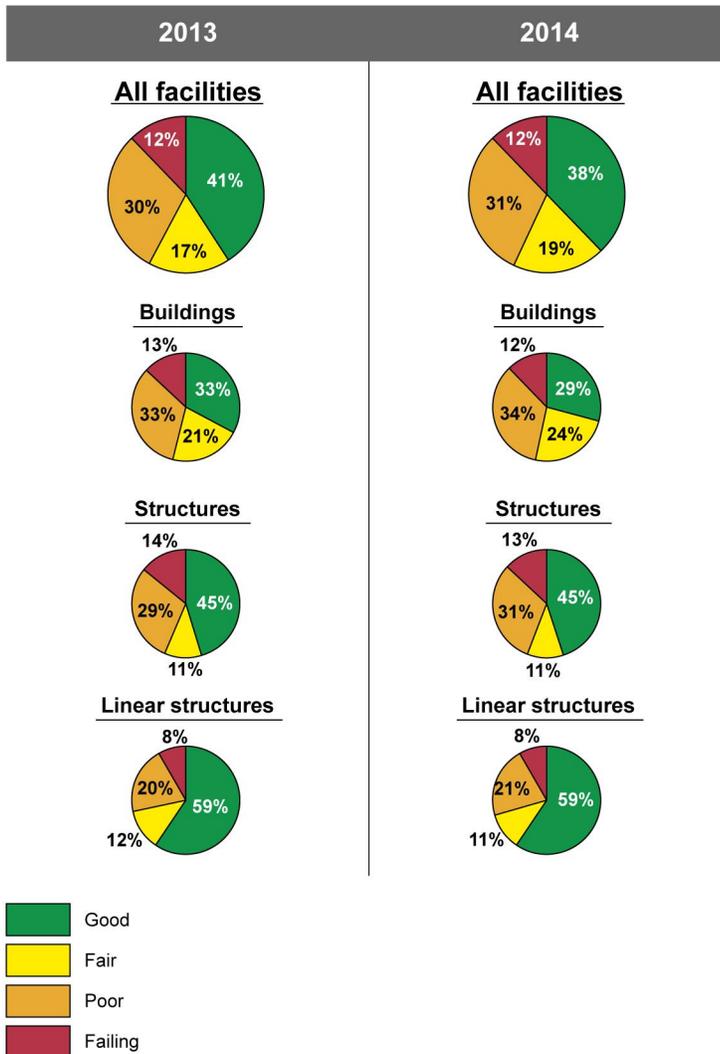
Note: These percentages apply to facilities in the Army's inventory that are owned by the U.S. government and are in terms of plant replacement value. Numbers may not total to 100 percent due to rounding.

Navy

Public works personnel at Navy installations are responsible for assessing the physical condition of facilities. Navy officials stated that they use the standardized process for assessing the condition of buildings, but that the condition ratings for Navy buildings as of fiscal year 2014 were based on a weighted average of the physical condition ratings

for each of the buildings' components and not yet based on the estimated deferred maintenance and repair costs for each building, as required by OSD's 2013 memorandum. Figure 8 shows the recorded condition of government-owned facilities in the Navy's inventory at the completions of fiscal years 2013 and 2014.

Figure 8: Percentage of the Navy's Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014



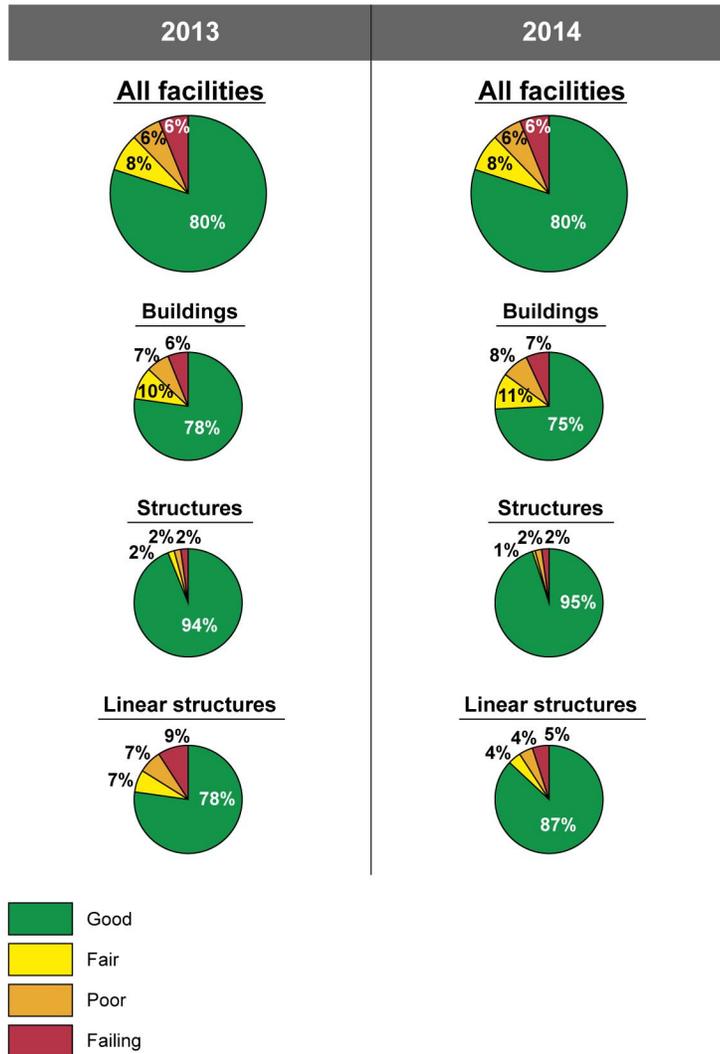
Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: These percentages apply to facilities in the Navy's inventory that are owned by the U.S. government and are in terms of plant replacement value. Numbers may not total to 100 percent due to rounding.

Air Force

Air Force officials stated that condition ratings in DOD's Real Property Assets Database may reflect the prior method used by the Air Force to rate their facilities, which was based on work orders submitted to public works personnel at installations for facility repairs. As a result, a facility without a work order was rated at 100, regardless of the actual condition of the facility. The Air Force expects to replace this method as it continues to implement the standardized process. Figure 9 shows the recorded condition of government-owned facilities in the Air Force's inventory at the completions of fiscal years 2013 and 2014.

Figure 9: Percentage of the Air Force's Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014



Source: GAO analysis of Department of Defense data. | GAO-16-662

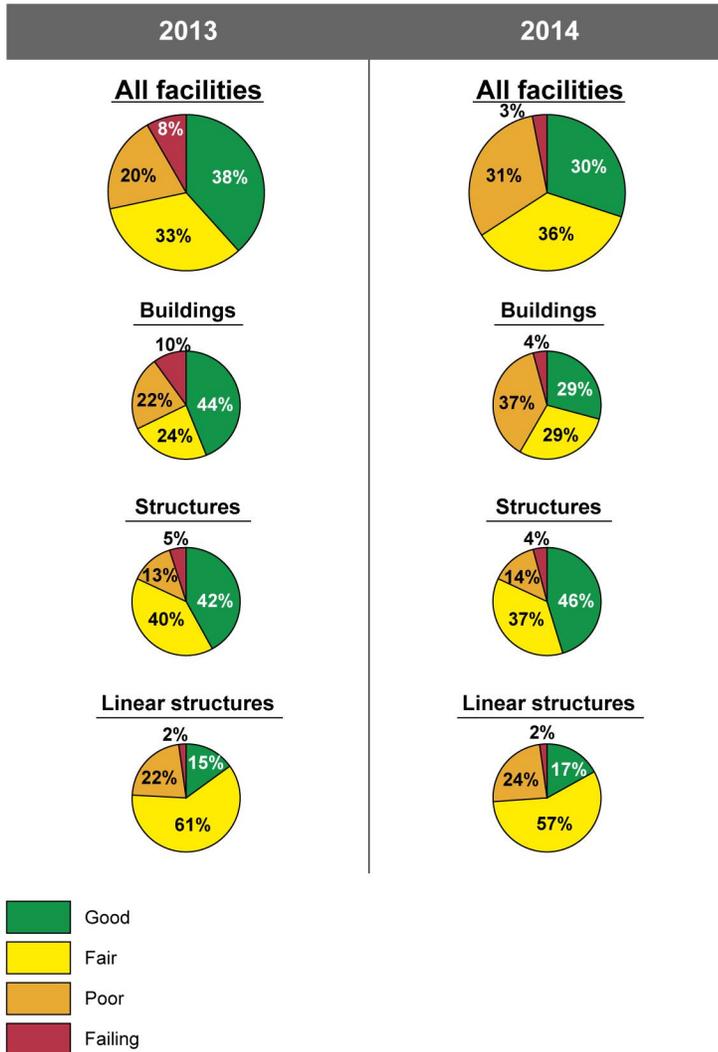
Note: These percentages apply to facilities in the Air Force's inventory that are owned by the U.S. government and are in terms of plant replacement value. Numbers may not total to 100 percent due to rounding.

Marine Corps

According to the Marine Corps installation command, the Marine Corps uses contractors and installation personnel to assess the condition of their installation facilities. Officials stated that, similar to the Navy, the Marine Corps has been recording a different type of rating produced by the standardized process, but that it started recording standardized facility

condition ratings in fiscal year 2015. Figure 10 shows the recorded condition of government-owned facilities in the Marine Corps' inventory at the completions of fiscal years 2013 and 2014.

Figure 10: Percentage of Marine Corps' Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014



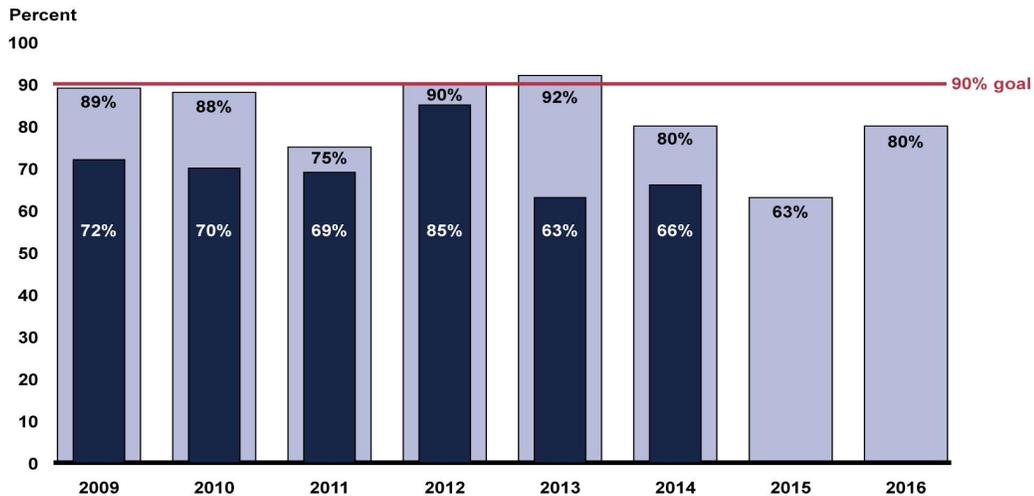
Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: These percentages apply to facilities in the Marine Corps' inventory that are owned by the U.S. government and are in terms of plant replacement value. Numbers may not total to 100 percent due to rounding.

Appendix III: Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016

Figures 11 through 14 show the amounts that each service reported requesting and spending,¹ in operation and maintenance funding, on facilities sustainment for fiscal years 2009 through 2016, as compared with the estimated requirements generated by DOD’s facilities sustainment model for each fiscal year, as well as DOD’s goal for the services to annually request at least 90 percent of those estimated requirements.

Figure 11: Army’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)



	2009	2010	2011	2012	2013	2014	2015	2016
Estimated requirements	3,150.0	3,430.0	3,480.2	3,505.6	3,626.1	3,865.0	3,834.9	3,686.3
Requested	2,791.0	3,034.0	2,623.0	3,146.0	3,325.0	3,082.1	2,404.2	2,931.4
Spent	2,265.0	2,397.0	2,393.0	2,975.7	2,273.5	2,533.3	—	—

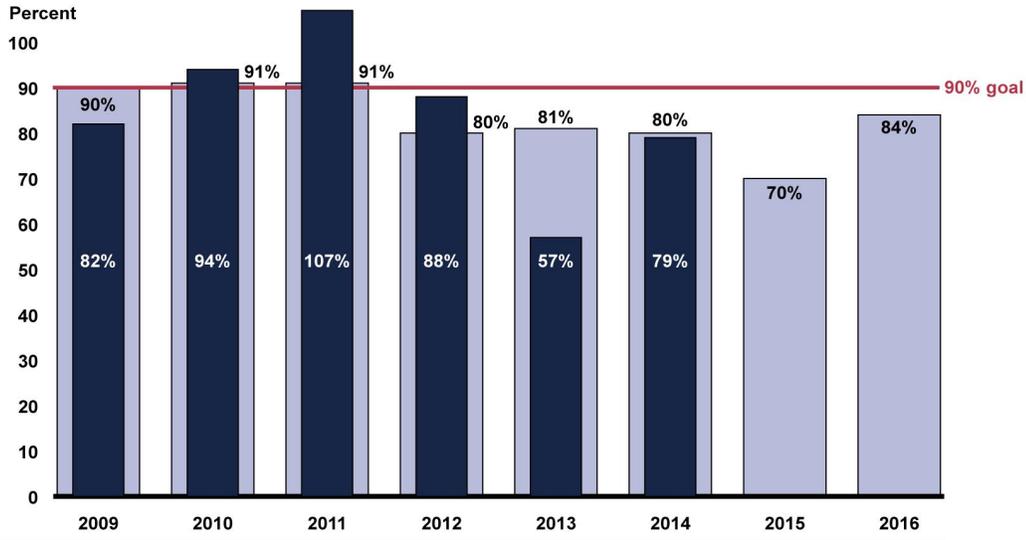
Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD’s operation and maintenance budget account. The amount of facilities sustainment funding spent in fiscal years 2015 and 2016 was not available at the time of our review. Additionally, the amount of funding that was appropriated for sustainment was not available in DOD’s budget documents for each fiscal year, so we were unable to fully determine the extent to which the amount of sustainment funding appropriated each year was a factor in whether the services spent more or less than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also be a factor in whether the services spent more or less than requested.

¹For the purposes of this report, we use the word “spent” to refer to the amount of operation and maintenance funding obligated by the services for sustainment activities.

**Appendix III: Facilities Sustainment Reported Funding—Required, Requested, and Spent—
for Fiscal Years 2009 through 2016**

Figure 12: Navy’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)



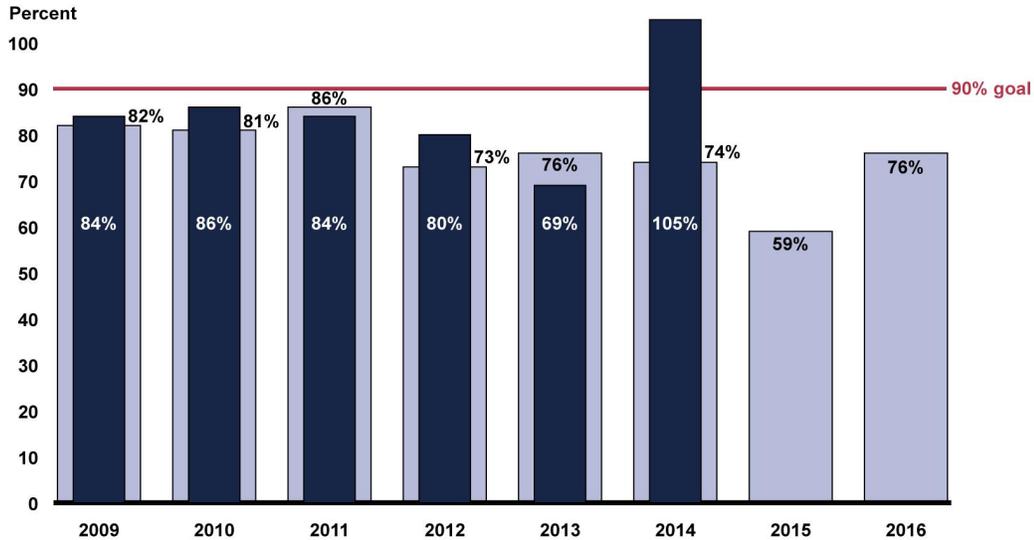
	2009	2010	2011	2012	2013	2014	2015	2016
Estimated requirements	1,551.1	1,601.1	1,685.9	1,743.2	1,817.3	1,901.3	1,797.1	1,879.8
Requested	1,389.0	1,459.0	1,541.0	1,402.0	1,473.0	1,521.1	1,257.4	1,578.7
Spent	1,274.0	1,510.0	1,797.0	1,530.0	1,031.4	1,498.4	—	—

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD’s operation and maintenance budget account. The amount of facilities sustainment funding spent in fiscal years 2015 and 2016 was not available at the time of our review. Additionally, the amount of funding that was appropriated for sustainment was not available in DOD’s budget documents for each fiscal year, so we were unable to fully determine the extent to which the amount of sustainment funding appropriated each year was a factor in whether the services spent more or less than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also be a factor in whether the services spent more or less than requested.

Appendix III: Facilities Sustainment Reported Funding—Required, Requested, and Spent— for Fiscal Years 2009 through 2016

Figure 13: Air Force’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)



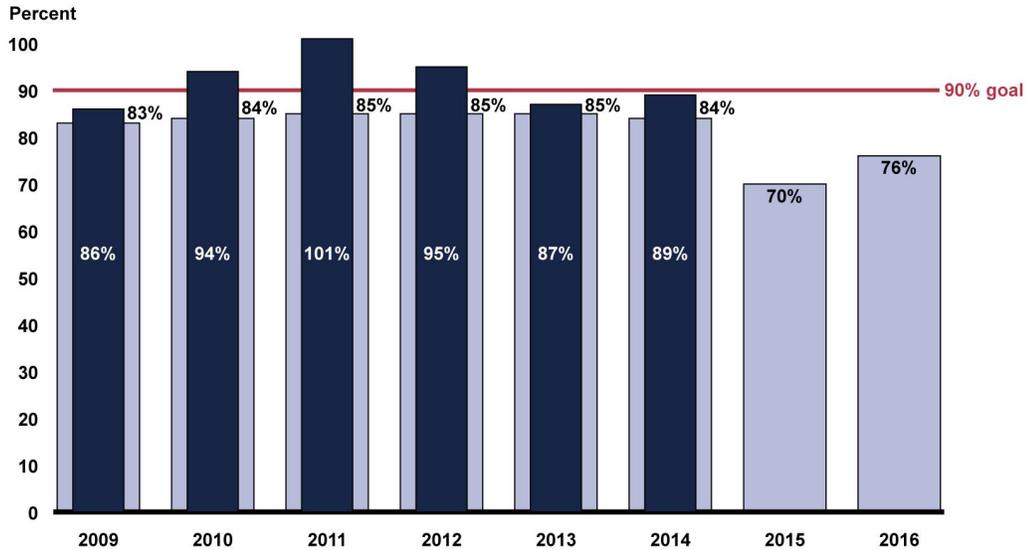
	2009	2010	2011	2012	2013	2014	2015	2016
Estimated requirements	2,480.0	2,540.0	2,606.5	2,637.5	2,504.9	2,755.0	2,924.6	3,021.3
Requested	2,027.0	2,061.0	2,251.0	1,937.0	1,896.0	2,043.5	1,739.1	2,308.1
Spent	2,071.0	2,197.0	2,199.0	2,121.0	1,735.2	2,891.9	—	—

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD’s operation and maintenance budget account. The amount of facilities sustainment funding spent in fiscal years 2015 and 2016 was not available at the time of our review. Additionally, the amount of funding that was appropriated for sustainment was not available in DOD’s budget documents for each fiscal year, so we were unable to fully determine the extent to which the amount of sustainment funding appropriated each year was a factor in whether the services spent more or less than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also be a factor in whether the services spent more or less than requested.

Appendix III: Facilities Sustainment Reported Funding—Required, Requested, and Spent— for Fiscal Years 2009 through 2016

Figure 14: Marine Corps’ Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)



	2009	2010	2011	2012	2013	2014	2015	2016
Estimated requirements	595.6	658.2	658.9	697.8	723.3	777.5	716.0	785.2
Requested	492.0	553.0	558.0	593.0	615.0	654.5	498.8	597.0
Spent	513.0	620.0	668.0	665.1	630.7	695.8	—	—

Source: GAO analysis of Department of Defense data. | GAO-16-662

Note: The funding represented in this figure is from DOD’s operation and maintenance budget account. The amount of facilities sustainment funding spent in fiscal years 2015 and 2016 was not available at the time of our review. Additionally, the amount of funding that was appropriated for sustainment was not available in DOD’s budget documents for each fiscal year, so we were unable to fully determine the extent to which the amount of sustainment funding appropriated each year was a factor in whether the services spent more or less than requested. Furthermore, subject to law and DOD financial management regulations, DOD has the authority to transfer funds between appropriation accounts and to reprogram funds within an appropriation account, which could also be a factor in whether the services spent more or less than requested.

Appendix IV: Comments from the Department of Defense



ENERGY,
INSTALLATIONS,
AND ENVIRONMENT

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

APR 15 2016

Mr. Brian Lepore
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

The public version of
this report is numbered
GAO-16-662.

Dear Mr. Lepore:

This is the Department of Defense (DoD) response to the GAO Draft Report 16-369C, "Defense Facility Condition: Revised Guidance Needed to Improve Oversight of Assessments and Ratings" dated March 14, 2016 (GAO Code 100115). The singular recommendation in this report is as follows:

To improve OSD's oversight of the services' progress in implementing the standardized process for assessing facility conditions and recording facility condition ratings based on that process, we recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment revise its guidance to clarify how - either in DoD's Real Property Assets Database or by some other mechanism - the services are to indicate when a facility condition rating recorded in DoD's Real Property Assets Database is based on the standardized process.

We partially concur with the GAO; our facility condition ratings should be based on a standardized process. However, the Sustainment Management System (SMS) is the standardized process already in use.

The Office of the Assistant Secretary of Defense for Energy, Installations, and Environment (OASD(EI&E)) does not use the Real Property Assets Database (RPAD) to manage or oversee the Military Services' progress in inspecting their respective facility inventories. The RPAD reflects an annual snapshot of the DoD's facility inventory and the resulting consolidation of data is used for reporting to external entities such as the Office of Management and Budget or Congress.

For day-to-day management and oversight of facility condition, the Military Services and OASD(EI&E) offices use the SMS. In September 2013, the Under Secretary of Defense for Acquisition, Technology and Logistics issued facility inspection policy designating SMS as the single facility inspection tool/process for DoD. Among many other data elements that the Services and OSD can query, the SMS contains the date of the latest inspection and condition data on each facility component inspected. The facility inspection policy gave the Military Services five years to inspect their facility inventories using the SMS. During this transition period, assets tracked in the RPAD may have Facility Condition Index (FCI) scores that reflect both SMS processes and previously used processes.

The Department instituted an annual review of all assets that fall below 60 percent FCI regardless of the process used to arrive at the FCI. OASD(EI&E) is also conducting periodic implementation reviews with the Military Services to ensure they are making appropriate progress implementing the facility inspection policy. These reviews use data directly from the SMS and not the RPAD since the SMS reflects real time data and is more reliable for program management oversight.

Thank you for the opportunity to respond. We continue to appreciate the good working relationship that exists between our staffs and look forward to continuing this in the future. Our point of contact is Captain Steve Donley, at 703-571-9082, or stephen.j.donley.mil@mail.mil.

Sincerely,



Peter Potochney
Deputy Assistant Secretary of Defense (Basing)
Performing the Duties of the Assistant Secretary of Defense
(Energy, Installations, and Environment)

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Brian J. Lepore, (202) 512-4523 or leporeb@gao.gov

Staff Acknowledgments

In addition to the contact named above, Gina Hoffman (Assistant Director), Tracy Barnes, Ronald Bergman, Justin Fisher, Chaneé Gaskin, Amie Lesser, Geoffrey Peck, Michael Silver, Cheryl Weissman, and Nell Williams made key contributions to this report.

Appendix VI: Accessible Data

Agency Comment Letter

Text of Appendix IV: Comments from the Department of Defense

Page 1

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

3400 DEFENSE PENTAGON

WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS, AND ENVIRONMENT

Mr. Brian Lepore

Director, Defense Capabilities and Management

U.S. Government Accountability Office

441 G Street, N.W.

Washington, DC 20548

Dear Mr. Lepore:

This is the Department of Defense (DoD) response to the GAO Draft Report 16-369C, "Defense Facility Condition: Revised Guidance Needed to Improve Oversight of Assessments and Ratings" dated March 14, 2016 (GAO Code 100115). The singular recommendation in this report is as follows:

To improve OSD's oversight of the services' progress in implementing the standardized process for assessing facility conditions and recording facility condition ratings based on that process, we recommend that the

Assistant Secretary of Defense for Energy, Installations , and Environment revise its guidance to clarify how - either in DoD's Real Property Assets Database or by some other mechanism - the services are to indicate when a facility condition rating recorded in DoD's Real Property Assets Database is based on the standardized process.

We partially concur with the GAO; our facility condition ratings should be based on a standardized process. However, the Sustainment Management System (SMS) is the standardized process already in use.

The Office of the Assistant Secretary of Defense for Energy, Installations, and Environment (OASD(EI&E)) does not use the Real Property Assets Database (RPAD) to manage or oversee the Military Services' progress in inspecting their respective facility inventories. The RPAD reflects an annual snapshot of the DoD's facility inventory and the resulting consolidation of data is used for reporting to external entities such as the Office of Management and Budget or Congress.

For day-to-day management and oversight of facility condition, the Military Services and OASD(EI&E) offices use the SMS. In September 2013, the Under Secretary of Defense for Acquisition, Technology and Logistics issued facility inspection policy designating SMS as the single facility inspection tool/process for DoD. Among many other data elements that the Services and OSD can query, the SMS contains the date of the latest inspection and condition data on each facility component inspected. The facility inspection policy gave the Military Services five years to inspect their facility inventories using the SMS. During this transition period, assets tracked in the RPAD may have Facility Condition Index (FCI) scores that reflect both SMS processes and previously used processes.

Page 2

The Department instituted an annual review of all assets that fall below 60 percent FCI regardless of the process used to arrive at the FCI. OASD(EI&E) is also conducting periodic implementation reviews with the Military Services to ensure they are making appropriate progress implementing the facility inspection policy. These reviews use data directly from the SMS and not the RPAD since the SMS reflects real time data and is more reliable for program management oversight.

Thank you for the opportunity to respond. We continue to appreciate the good working relationship that exists between our staffs and look forward to continuing this in the future. Our point of contact is Captain Steve Donley, at 703-571 -9082, or stephen.j.donley.mil@mail.mil.

Sincerely,

Peter Potochney

Deputy Assistant Secretary of Defense (Basing)

Performing the Duties of the Assistant Secretary of Defense (Energy, Installations, and Environment)

Data Tables

Data Table for Figure 1: Total Service Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)

	Spent(in percent)	Requested(in percent)
"2009"	79	86
"2010"	82	86
"2011"	84	83
"2012"	85	82
"2013"	65	84
"2014"	82	79
"2015"	N/A	64
"2016"	N/A	79

Data Table for Figure 7: Percentage of the Army’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014

	Condition Category	2013	2014
All facilities	Good	55	53
	Fair	12	11
	Poor	27	30
	Failing	6	7
Buildings	Good	63	60
	Fair	11	11
	Poor	21	23
	Failing	5	6
Structures	Good	39	40
	Fair	10	11
	Poor	46	44
	Failing	5	5
Linear structures	Good	34	32

	Condition Category	2013	2014
	Fair	15	12
	Poor	39	45
	Failing	12	11

Data Table for Figure 8: Percentage of the Navy’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014

	Condition Category	2013	2014
All facilities	Good	41	38
	Fair	17	19
	Poor	30	31
	Failing	12	12
Buildings	Good	33	29
	Fair	21	24
	Poor	33	34
	Failing	13	12
Structures	Good	45	45
	Fair	11	11
	Poor	29	31
	Failing	14	13
Linear structures	Good	59	59
	Fair	12	11
	Poor	20	21
	Failing	8	8

Data Table for Figure 9: Percentage of the Air Force’s Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014

	Condition Category	2013	2014
All facilities	Good	80	80
	Fair	8	8
	Poor	6	6
	Failing	6	6
Buildings	Good	78	75
	Fair	10	11
	Poor	7	8

	Condition Category	2013	2014
Structures	Failing	6	7
	Good	94	95
	Fair	2	1
	Poor	2	2
	Failing	2	2
	Good	78	87
	Fair	7	4
	Poor	7	4
Linear structures	Failing	9	5

Data Table for Figure 10: Percentage of Marine Corps' Facility Inventory by Condition Rating for Fiscal Years 2013 and 2014

	Condition Category	2013	2014
All facilities	Good	38	30
	Fair	33	36
	Poor	20	31
	Failing	8	3
Buildings	Good	44	29
	Fair	24	29
	Poor	22	37
	Failing	10	4
Structures	Good	42	46
	Fair	40	37
	Poor	13	14
	Failing	5	4
Linear structures	Good	15	17
	Fair	61	57
	Poor	22	24
	Failing	2	2

Data Table for Figure 11: Army's Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)

	Spent(in percent)	Requested(in percent)
"2009"	72	89

	Spent(in percent)	Requested(in percent)
"2010"	70	88
"2011"	69	75
"2012"	85	90
"2013"	63	92
"2014"	66	80
"2015"	N/A	63
"2016"	N/A	80

Data Table for Figure 12: Navy’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)

	Spent(in percent)	Requested(in percent)
"2009"	82	90
"2010"	94	91
"2011"	107	91
"2012"	88	80
"2013"	57	81
"2014"	79	80
"2015"	N/A	70
"2016"	N/A	84

Data Table for Figure 13: Air Force’s Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)

	Spent(in percent)	Requested(in percent)
"2009"	84	82
"2010"	86	81
"2011"	84	86
"2012"	80	73
"2013"	69	76
"2014"	105	74
"2015"	N/A	59
"2016"	N/A	76

Data Table for Figure 14: Marine Corps' Facilities Sustainment Reported Funding—Required, Requested, and Spent—for Fiscal Years 2009 through 2016 (in \$millions)

	Spent(in percent)	Requested(in percent)
"2009"	86	83
"2010"	94	84
"2011"	101	85
"2012"	95	85
"2013"	87	85
"2014"	89	84
"2015"	N/A	70
"2016"	N/A	76

Related GAO Products

Facilities Modernization: DOD Guidance and Processes Reflect Leading Practices for Capital Planning. [GAO-15-489](#). Washington, D.C.: July 27, 2015.

High Risk Series: An Update. [GAO-11-278](#). Washington, D.C.: February 2011.

Defense Infrastructure: DOD Needs to Periodically Review Support Standards and Costs at Joint Bases and Better Inform Congress of Facility Sustainment Funding Uses. [GAO-09-336](#). Washington, D.C.: March 30, 2009.

Defense Infrastructure: Continued Management Attention Is Needed to Support Installation Facilities and Operations. [GAO-08-502](#). Washington, D.C.: Apr. 24, 2008.

Defense Infrastructure: Issues Need to Be Addressed in Managing and Funding Base Operations and Facilities Support. [GAO-05-556](#). Washington, D.C.: June 15, 2005.

Defense Infrastructure: Changes in Funding Priorities and Strategic Planning Needed to Improve the Condition of Military Facilities. [GAO-03-274](#). Washington, D.C.: February 19, 2003.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (<http://www.gao.gov>). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to <http://www.gao.gov> and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).
Subscribe to our [RSS Feeds](#) or [E-mail Updates](#).
Listen to our [Podcasts](#) and read [The Watchblog](#).
Visit GAO on the web at www.gao.gov.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: <http://www.gao.gov/fraudnet/fraudnet.htm>

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Katherine Siggerud, Managing Director, siggerudk@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548