



November 2018

DEFENSE REAL PROPERTY

DOD Needs to Take Additional Actions to Improve Management of Its Inventory Data

Accessible Version

GAO Highlights

Highlights of [GAO-19-73](#), a report to congressional requesters

Why GAO Did This Study

DOD manages a portfolio of real property assets that as of fiscal year 2016 reportedly included about 568,000 facilities with a combined plant replacement value of about \$1 trillion and 27.2 million acres of land. DOD requires the military services and Washington Headquarters Services to collect and maintain information about each of the assets in their inventories to assist the department with management decision making.

In May 2017, the House Armed Services Committee, Subcommittee on Readiness, asked GAO to review DOD's management and use of its real property data. This report evaluates (1) how accurately and completely RPAD reflects DOD's real property assets, (2) DOD's processes to ensure accuracy and completeness in recording and reporting real property data, and (3) DOD's actions to ensure it has addressed risks that may affect the use of real property information for managing its assets. GAO analyzed the RPAD and military services' data for fiscal years 2014-2016; reviewed documentation; conducted site visits; and interviewed DOD officials.

What GAO Recommends

GAO is making six recommendations to improve DOD's real property data, including fully monitoring recording processes; developing and implementing corrective actions for identified data discrepancies; and developing a strategy to address risks associated with data quality and information accessibility. DOD concurred or partially concurred with all draft recommendations. In response, GAO agreed to combine two recommendations.

View [GAO-19-73](#). For more information, contact Brian J. Lepore at (202) 512-4523 or leporeb@gao.gov or William J. Cordrey at (404) 679-1873 or cordreyw@gao.gov.

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What GAO Found

GAO found that the Department of Defense's (DOD) Real Property Assets Database (RPAD) contained inaccurate data and lacked completeness, although certain data that GAO reviewed had improved their accuracy since fiscal year 2014. RPAD is a department-wide database of real property data annually compiled by the Office of the Secretary of Defense from the inventories of the military services and DOD's Washington Headquarters Services, which manages real property in the National Capital region. DOD uses RPAD to report on DOD's real property to Congress and other federal agencies, such as the Office of Management and Budget and the General Services Administration to assist in managing federal real property.

DOD has weaknesses in its processes for recording and reporting real property data that have led to inaccurate and incomplete information. GAO and others found military services have not consistently recorded real property transactions (i.e., acquisition of, change to, and disposal of a real property asset) and physical inventories of assets. GAO also found that the military services have not corrected identified discrepancies in their data systems, such as missing entries for utilization and facility condition and overdue asset reviews. GAO reviewed records of 120 facilities with identified discrepancies in fiscal year 2015 RPAD data and compared them to the records in the respective data system in 2017 and found that 61 discrepancies remained. The military services had corrected the data in the remaining 59 reviewed facilities in their data systems. DOD's efforts to prepare for an upcoming financial audit have helped identify issues and improve accuracy of some data. However, if DOD does not require the military services to fully monitor recording processes and implement corrective actions to resolve data discrepancies, the department will continue to have incomplete and inaccurate real property data and unreliable RPAD information.

DOD has not addressed three risks that can adversely affect its ability to use its information to manage its real property. Specifically, DOD (1) has unfilled real property positions limiting its capacity to manage its data, (2) lacks a department-wide approach to improving its data quality, and (3) has not identified how it will complete implementation of an effort to improve access to data. These risks exist, in part, because DOD has not developed a strategy that identifies and addresses risks with accompanying time frames and performance metrics. If DOD does not develop a strategy that identifies and addresses risks to data quality and information accessibility, DOD may miss the opportunity to reasonably ensure that the information needed for effective decision making by DOD, Congress, and other federal agencies is available to meet real property accountability and reporting objectives.

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Abbreviations

DAIS	Data Analytics and Integration Support
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
FIAR	Financial Improvement and Audit Readiness
OSD	Office of the Secretary of Defense
RPA	Real Property Asset
RPAD	Real Property Assets Database
WHS	Washington Headquarters Services

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November 13, 2018

The Honorable Joe Wilson
Chairman
The Honorable Madeleine Z. Bordallo
Ranking Member
Subcommittee on Readiness
Committee on Armed Services
House of Representatives

The Honorable Mark Meadows
Chairman
Subcommittee on Government Operations
Committee on Oversight and Government Reform
House of Representatives

The Department of Defense (DOD) manages a portfolio of real property assets that reportedly included about 568,000 facilities with a combined plant replacement value of about \$1 trillion and nearly 27.2 million acres of land in fiscal year 2016.¹ In January 2018, the Under Secretary of Defense (Comptroller) testified that reform efforts within DOD, such as those occurring in real property management, were dependent upon accurate data and that not having accurate data complicates those efforts.² Each of the military services and DOD's Washington Headquarters Services (WHS) maintains its own data systems that

¹Department of Defense, *2016 Real Property Data Fast Facts*, (Feb. 21, 2017). Assets include all real property types—buildings, structures, linear structures, and land. DOD uses facilities to refer to buildings, structures, and linear structures. DOD does not calculate a replacement value for land.

²*Department of Defense Update on the Financial Improvement and Audit Remediation (FIAR) Plan*: Hearing before the House Committee on Armed Services, 115th Congress (Jan. 10, 2018) (testimony of The Honorable David L. Norquist, Under Secretary of Defense (Comptroller) and Chief Financial Officer). In February 2017, Secretary of Defense Mattis directed the establishment of cross-functional teams in eight areas, including real property management, to seek improved mission effectiveness and efficiencies.

include information about each of the real property assets.³ The information collected and maintained in these systems includes whether an asset is owned or leased, its size, and for certain types, the asset's value, percentage of space utilized, and condition, among other characteristics.

DOD annually compiles this information into a consolidated database, called the Real Property Assets Database (RPAD), which represents the data at the end of the fiscal year. DOD uses RPAD to report to the General Services Administration's Federal Real Property Profile Management System, which is a database of real property under the custody and control of executive branch agencies. The military services and WHS are to collect and maintain information on each of their real property assets to report in annual financial statements. Furthermore, the military services and WHS must manage their portfolios of real property assets in part to identify their needs for sustainment, restoration, and modernization of their facilities.

For more than 20 years, we have identified opportunities for DOD to improve the quality of the information that it collects on its real property to better inform decision making about these assets.⁴ For example, in 1997, we added DOD's defense support infrastructure to our list of high-risk areas in the federal government—due in part to long standing challenges it faces in managing its infrastructure—to include the need to improve the quality of its information in its inventory data systems.⁵ In our most recent High Risk Update in February 2017, we reported that DOD had shown some improvement in the accuracy and completeness of real property data, but needed to fully implement its planned actions to help the department assess its goals and efforts, among other things. Further, we identified the collection of reliable real property data to support decision

³The DOD components authorized to hold a legal interest in real property on behalf of the United States are the Departments of Air Force, Army, and Navy and the Washington Headquarters Services. They acquire, manage, and dispose of all real property within the DOD. The Washington Headquarters Services primarily manages real property in the National Capital Region.

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

⁵GAO, *High Risk Series: Defense Infrastructure*, [GAO/HR-97-7](#) (Washington, D.C.: February 1997).

making as a long-standing challenge that federal agencies, including DOD, continue to face.⁶

Further, our prior work on DOD's real property information on RPAD reported accuracy and completeness issues with the data compiled from the military services' data systems. DOD has begun to implement actions in response to our recommendations but has not fully completed the corrective actions. For example, in June 2016 we reported that the military services had not yet fully implemented a department-wide process to standardize facility condition assessments and rates.⁷ The Navy and the Air Force have since adopted a standardized process, and Army installation management officials stated they sought funding through 2021 to implement the standardized process at all Army installations. In addition, in September 2011, we reported that DOD's RPAD for fiscal year 2010 reported data on the percentage of space utilized for fewer than half of DOD's total inventory of facilities, and that much of the data were outdated and did not reflect the true usage of the structures.⁸ Since then, DOD provided guidance for measuring, maintaining, and reporting utilization consistently throughout DOD, as we recommended. As the guidance is implemented, DOD will fully address our recommendation and officials expect improvement in the accuracy and completeness of utilization data.

In May 2017, the House Armed Services Committee, Subcommittee on Readiness, requested that we evaluate the progress that the Office of the Secretary of Defense (OSD) and the military services have made toward maintaining complete and accurate inventories of their real property assets and toward using real property inventory data to make sound decisions regarding defense support infrastructure management. For this report, we evaluated the extent to which (1) RPAD accurately and completely reflects DOD's real property assets; (2) DOD has processes to help ensure the accuracy and completeness in recording and reporting real property data; and (3) DOD has addressed the risks that may affect use of real property information for managing its assets.

⁶GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017).

⁷GAO, *Defense Facility Condition: Revised Guidance Needed to Improve Oversight of Assessments and Ratings*, [GAO-16-662](#) (Washington, D.C.: June 23, 2016).

⁸GAO, *Excess Facilities: DOD Needs More Complete Information and a Strategy to Guide Its Future Disposal Efforts*, [GAO-11-814](#) (Washington, D.C.: Sept. 19, 2011).

For all objectives, we reviewed DOD's policies, procedures, and other documents related to real property management and accountability.⁹ We also conducted site visits to 12 installations (3 from each military service).¹⁰ We selected the non-generalizable sample of installations based on criteria that considered (1) four U.S. geographic regions, (2) geographic distance between each installation, and (3) variation in the range of tests of the fiscal year 2015 RPAD data in a number of data elements for entries that did not comply with DOD's requirements for inventory information. In this report, we use discrepancies to refer to data entries that do not comply with DOD's requirements for inventory information as well as entries in two or more data sets that should match but do not. During these visits, we interviewed real property officials at each location and obtained documentary and testimonial evidence related to differences in existing and inventoried real property and processes to ensure accuracy and completeness in real property data. We also observed and collected data on specific facilities to compare to information recorded in the data system of the military services and RPAD. We selected a non-generalizable sample of 120 facilities (10 at each site) for current record review in the military services' data systems. The selections were based on variation of discrepancies among five data elements within RPAD and variation in facility type (building, structure, and linear structure).¹¹ We also observed some of these facilities to compare to the information that was recorded in the data systems. These

⁹DOD Directive (DODD) 4165.06, *Real Property* (Oct. 13, 2004) (certified current Nov. 18, 2008); DOD Instruction (DODI) 4165.14, *Real Property Inventory (RPI) and Forecasting* (Jan. 17, 2014) (incorporating Change 1, Nov. 14, 2017); DODI 4165.70, *Real Property Management* (Apr. 6, 2005); Air Force Instruction 32-9005, *Real Property Accountability and Reporting* (Mar. 4, 2015); Army Regulation 405-45, *Real Property Inventory Management* (Nov. 1, 2004); Secretary of the Navy Instruction 5200.42, *Accountability and Management of Department of the Navy Property* (Apr. 22, 2015); Washington Headquarters Services, *Facilities Services Directorate: Standard Operating Procedures, Real Property Program Office* (March 2016), among others.

¹⁰The 12 installations visited were: Los Angeles Air Force Base, California; Robins Air Force Base, Georgia; Scott Air Force Base, Illinois; Rock Island Arsenal, Illinois; Schofield Barracks, Hawaii; Yuma Proving Ground, Arizona; Marine Corps Air Station Yuma, Arizona; Marine Corps Base Hawaii, Hawaii; Marine Corps Supply Facility Blount Island, Florida; Joint Base Pearl Harbor-Hickam, Hawaii; Naval Air Station Jacksonville, Florida; and Naval Station Great Lakes, Illinois. We did not include WHS in our site visits because it manages a small number of assets when compared to the number of assets managed by the military services.

¹¹The five data elements tested were: operational status code, asset review date, plant replacement value, utilization rate, and facility condition. For more information on the data elements, see the Background section of this report. We did not include land within the scope of our review.

data only represent the facilities selected and are not representative of all facilities at all installations. We also interviewed officials from the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment, Washington Headquarters Services, the Air Force, the Army, the Navy, and the Marine Corps.

For objective one, we obtained end-of-year data sets of real property information from three sources: (1) OSD's compiled RPAD, (2) submissions to OSD from the military services and WHS, and (3) military services' inventories, which we refer to as the three types of data sets. We obtained the most recently available full year data for 3 years—fiscal years 2014 through 2016.¹² We used RPAD data to conduct tests related to accuracy among five data elements for facilities for fiscal years 2014 through 2016 to identify the extent to which entries comply with DOD's inventory requirements, such as entries that were missing, out of range, or overdue, and compared each year's results to identify changes in the magnitude of those discrepancies.¹³ We selected these five data elements because they are among the most frequently used by decision makers. These tests of compliance with the inventory requirements identify a number of discrepancies that may exist in the five data elements. Because our tests were limited to five data elements, our results are not generalizable. Additional testing would be necessary to determine the full extent that discrepancies and other inaccuracies exist in all of the data elements.

Next, we assessed documentary evidence and obtained testimonial statements about completeness issues with RPAD and we compared the number of facilities and their reported total plant replacement value in each of the three data sets for fiscal years 2014 through 2016 to describe any differences between the data sets that should have been identical.¹⁴

¹²RPAD data for fiscal year 2017 was not included in our test as this information was not available when we began our review.

¹³The data elements included operational status, asset review, plant replacement value, utilization, and facility condition. For detailed information on the data elements, see the Background section of this report.

¹⁴We obtained two data sets each from the Army and Navy (which includes the Marine Corps). The first was the data set provided to OSD for inclusion in the RPAD and the second was a copy of the inventory before using OSD's verification and validation tool. For the Air Force, we were able to obtain the data set provided to OSD but the Air Force was unable to provide a copy of their end of year inventory for fiscal years 2014 through 2016 because it did not archive copies for these years.

We assessed the reliability of the data from the three types of data sets through interviews, review of related documentation, and data testing, and found those data sufficiently reliable to describe issues related to the accuracy and completeness of the RPAD.

For objective two, we reviewed relevant DOD documents and conducted interviews with officials at OSD, WHS, and the military services to obtain information and identify any challenges that DOD had identified with the processes. We also obtained documentary evidence related to inventory testing, data monitoring through testing, and reporting of real property since fiscal year 2014. We compared this testimonial and documentary evidence to DOD and military services' policies and procedures and federal internal control standards.¹⁵

For our third objective, we evaluated actions taken by DOD to enhance how it uses real property data since fiscal year 2014 and to identify any risks that may affect how DOD can use this information. We reviewed documentation including OSD and military service actions to improve data quality, workforce plans for real property, and data requests from various users across the department. This included reviewing documents related to OSD's planned expansion of a business information platform to include required real property inventory information. Additionally, we conducted interviews with officials from OSD to determine what actions they have taken to enhance how they use department-wide information on real property and risks to the department's ability to use real property data. We interviewed military service officials at installation management offices and real property offices during our site visits at 12 installations to identify specific actions they have taken to help ensure they can use real property information and any risks related to using that information. We assessed the information collected in documentation and interviews against guidance on risk management from DOD and the Office of Management and Budget.¹⁶

¹⁵GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

¹⁶Department of Defense, *Department of Defense Risk, Issue, and Opportunity Management Guide for Defense Acquisition Programs* (January 2017); Office of Management and Budget, Office of Management and Budget Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control* (July 15, 2016); and Office of Management and Budget Circular No. A-11, *Preparation, Submission, and Execution of the Budget*, § 270 (July 2017).

We conducted this performance audit from May 2017 to November 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Roles and Responsibilities for DOD Real Property

The Under Secretary of Defense for Acquisition and Sustainment has overall responsibility and oversight for DOD's real property and provides overarching guidance and procedures for real property management.¹⁷ The Assistant Secretary of Defense for Energy, Installations, and Environment, assists with developing policy and guidance for real property inventory and serves as the focal point for all matters related to the inventory of real property assets.¹⁸ The military services and WHS are responsible for implementing policies, programs, and procedures in accordance with OSD's guidance to maintain an accurate and complete real property inventory. They are also responsible for ensuring that real property requirements are being met when other DOD components, such as defense agencies and DOD field activities, utilize real property under their jurisdiction. The defense agencies and DOD field activities are responsible for confirming that all real property assets that they occupy, operate, or maintain are contained within the real property inventory and for reconciling any real property data, when needed, with their supporting military service or WHS.¹⁹

¹⁷DODD 4165.06. DOD's Acquisition, Technology and Logistics organization was restructured Feb. 1, 2018, into two organizations: Acquisition and Sustainment, and Research and Engineering, each with an Under Secretary of Defense, in accordance with the National Defense Authorization Act for Fiscal Year 2017 (Pub. L. No. 114-328, § 901) (2016). The Assistant Secretary of Defense for Energy, Installations, and Environment reports to the Under Secretary of Defense for Acquisition and Sustainment.

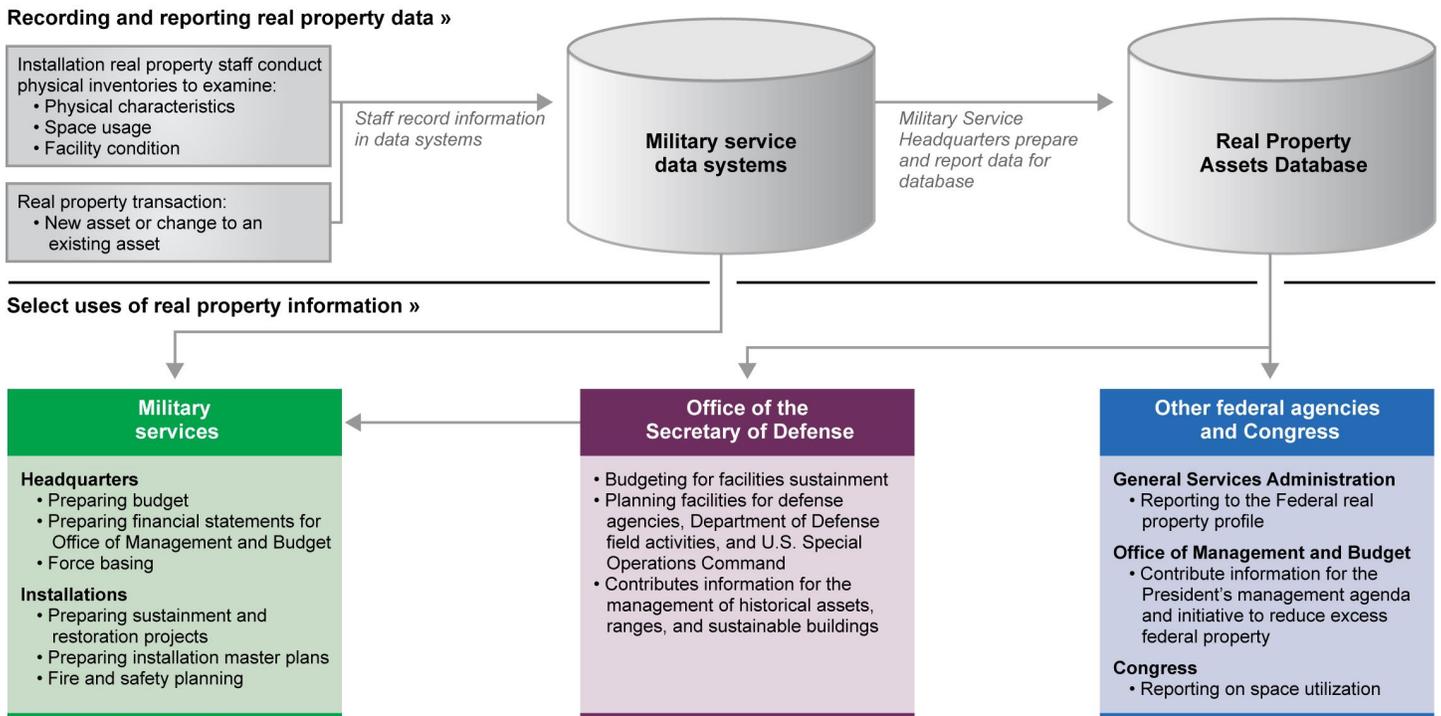
¹⁸DODI 4165.14.

¹⁹DODI 4165.14.

Real Property Inventory Data

Real property inventory data are used at the installation, military service, and OSD levels for the recording, planning, managing, and reporting of DOD real property assets, as shown in figure 1.

Figure 1: Department of Defense Real Property Data and Its Uses



Source: GAO analysis of Department of Defense information. | GAO-19-73

Installation level. Real property officials are to record transactions to document new acquisitions, changes to existing facilities, and disposals and to collect information—including physical characteristics, space usage, and facility condition—on the real property at each installation. Officials are to enter this information into corresponding military service or WHS real property data systems.²⁰ Installation officials stated they use

²⁰The Air Force is currently using the Automated Civil Engineering System, but is transitioning to a new data system known as TRIRIGA. The Army uses the General Fund Enterprise Business System, the Navy (including the Marine Corps) uses the internet Naval Facilities Asset Data Store, and WHS uses TRIRIGA as their respective data systems to maintain real property.

real property information for a variety of purposes such as prioritizing facilities for sustainment and restoration projects, preparing installation master plans, and conducting fire and safety planning.

Service level. Military service headquarters and WHS use inventory information to oversee and manage their real property needs across their installations. For example, according to officials, these data inform how they use property to support their missions and to budget for required sustainment, restoration, or construction of real property. In addition, this information is used to account for real property asset holdings that are included in financial statements prepared to meet federal financial reporting requirements.

OSD level. OSD requires that the military services and WHS submit their real property inventories to be compiled into a department-wide data set—RPAD.²¹ The OSD focal point is responsible for providing information from the RPAD to assist various OSD offices with responsibilities for budget and mission planning. For example, the information is used in budgeting for sustainment of facilities. Additionally, OSD offices use the information in mission planning for certain DOD components—defense agencies, DOD field activities, and U.S. Special Operations Command—and for certain types of facilities, including sustainable buildings, historic property, and ranges. Moreover, OSD uses this information to meet reporting requirements outside of DOD. These include reports to Congress on the utilization of DOD’s facilities. All executive branch federal agencies are required to annually submit real property data to the General Services Administration to compile into the Federal Real Property Profile. DOD also reports information to the Office of Management and Budget on disposals and square footage of certain types of purposes to meet report requirements for the National Strategy for the Efficient Use of Real Property.²²

OSD provides annual guidance that gives specific requirements for content and format for the military services’ RPAD submissions, including

²¹DODI 4165.14.

²²The Office of Management and Budget oversees the National Strategy for the Efficient Use of Real Property, whose goal is to freeze growth in the federal real property inventory, improve efficient use of the existing inventory, and ultimately reduce the size of the inventory.

data elements and any associated business rules.²³ For fiscal year 2016, OSD required 216 data elements to be maintained in RPAD and provided a data dictionary, called the Real Property Information Model, which defines these elements. OSD also has a process to verify and validate the data the military services and WHS submitted annually to the RPAD that includes OSD using a verification and validation tool to determine whether each data element has an entry that is in the correct format and complies with established business rules. When data anomalies are discovered with the data, OSD provides the data back to the submitting organization for review and correction as necessary. The military services and WHS certify annually that the real property information submitted to OSD accurately reflects each of their inventories.

Some key real property data elements are significant for planning and reporting on real property assets:

- **Operational status.** A code used to identify the current operational status of the real property asset, such as whether the site location of the asset is active, the existence of the asset, and the usage of the asset.
- **Asset review.** A date used to document any type of review of an asset. DOD requires that each facility be physically inventoried on a cycle—every 5 years for non-historic facilities and every 3 years for historic facilities.²⁴
- **Plant replacement value.** A calculation of the cost to replace the current physical plant (facilities and supporting infrastructure) using today's construction costs (labor and materials) and standards (methodologies and codes).
- **Utilization rate.** A percentage (on a scale 0 to 150) used to represent the extent to which a real property asset is used by the primary user for the current program based on its design purpose.²⁵ DOD has not established cutoff points to determine unutilized, underutilized, and

²³Business rules define the conditions that the data contained in RPAD and the military services' data systems must meet, such as the data must be in the same format or must contain the same kind of information. For example, some data elements must contain dollar amounts, and some must contain dates—each of these within specified parameters.

²⁴For a list of data elements that should be validated during a physical inventory, see appendix I. Land is not included in this requirement.

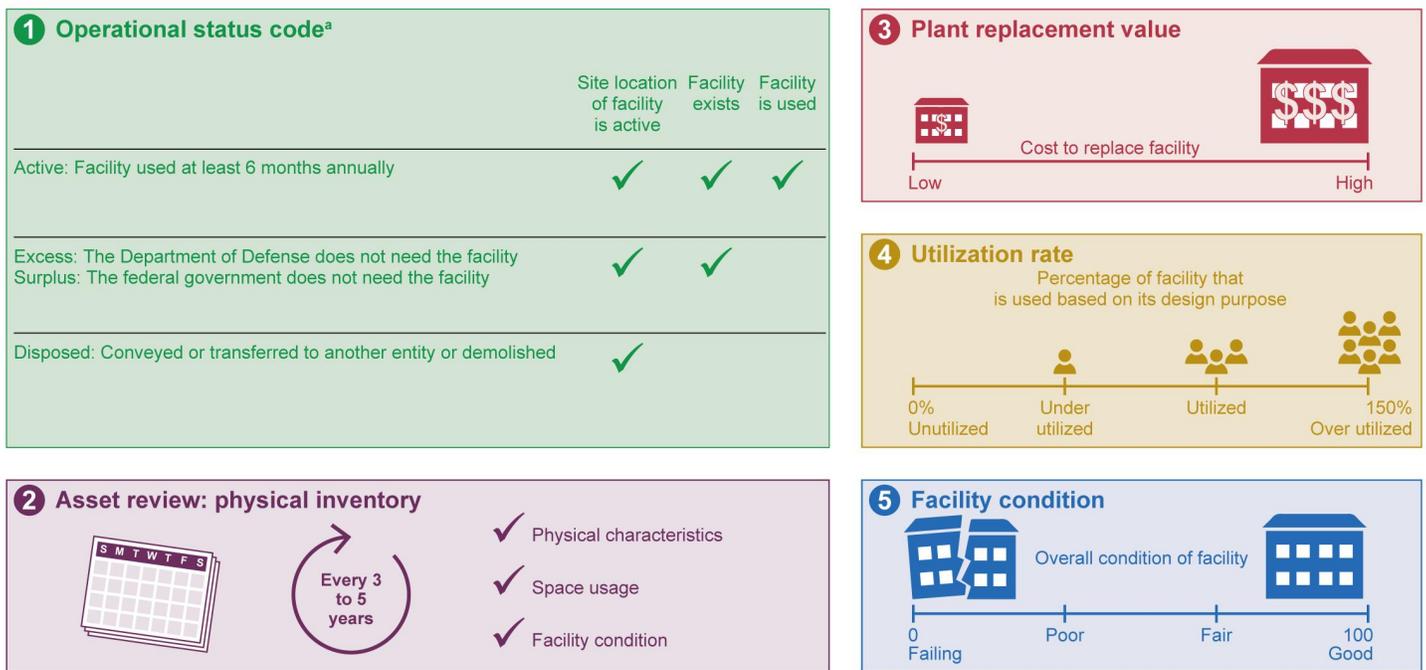
²⁵Utilization rate calculations do not include shared use of space by secondary users.

utilized real property. However, according to OSD officials, DOD considers a utilization rate of 101 to 150 as over utilized, meaning an asset’s available space is not sufficient to meet the primary user’s space requirement.

- Facility condition.** A measure of a facility’s physical condition that is expressed as a percentage (on a scale of 0 to 100). Factors used to calculate the facility condition include the facility’s estimated deferred maintenance and repair costs and the facility’s plant replacement value. DOD guidance states a condition of 0 to 59 is failing; 60 to 79 is poor; 80 to 89 is fair; and 90 to 100 is good.

Figure 2 displays these real property data elements.

Figure 2: Key Data Elements from the Department of Defense’s Real Property Inventory Information



Source: GAO analysis of Department of Defense guidance. | GAO-19-73

^aDOD has other operational codes that are not listed.

Real Property and Financial Management

DOD has undertaken several financial management improvement initiatives over the years to address deficiencies in business systems, processes, and controls through its Financial Improvement and Audit

Readiness (FIAR) Plan.²⁶ The FIAR Plan guidance includes 40 of the data elements required to be reported to OSD and maintained in RPAD within the scope of the effort.²⁷ As part of the department's FIAR effort, each of the military services developed individual plans to prepare their management processes, such as their accountability systems and procedures for real property, which would be tested during financial audit. The military services' real property efforts to prepare for financial audit have included developing manuals, monitoring activities such as testing of the implementation of real property procedures, and implementation of corrective actions to address identified deficiencies in the processes and procedures.

DOD's Real Property Asset Database Contained Inaccurate Data and Lacked Completeness, Although Certain Data We Reviewed Improved

DOD's RPAD has data quality issues specific to accuracy of certain data elements and completeness of the dataset, although certain data we reviewed improved since fiscal year 2014. Accuracy of data elements and completeness of RPAD are important to OSD, other federal agencies, and Congress because they use this information to determine facility sustainment funding and to understand DOD's utilization of its real property as a means to identify potential excess property for disposal, among other things.

²⁶Pub. L. No. 111-84, § 1003(a), (Oct. 28, 2009), as amended. Until the enactment of the National Defense Authorization Act of Fiscal Year 2018 in December 2017, DOD was required to develop and maintain a FIAR Plan that among other things, listed the costs and actions associated with (1) correcting the financial management deficiencies that impaired DOD's ability to prepare timely, reliable, and complete financial management information; (2) ensuring that DOD's financial statements were validated as ready for audit no later than September 30, 2017, and the statement of budgetary resources was validated as ready for audit by September 30, 2014; and (3) ensuring that the audit of DOD's fiscal year 2018 financial statements occurred no later than March 31, 2019.

²⁷Department of Defense, *Financial Improvement and Audit Readiness (FIAR) Guidance* (April 2017).

Accuracy of Certain Data in RPAD Improved but Other Data Did Not Comply with Information Requirements

We found that accuracy of certain data in the selected set of key data elements we reviewed improved while other data contained discrepancies that resulted in inaccuracies in RPAD for fiscal years 2014 through 2016. For some data we reviewed, the magnitude of such discrepancies decreased while others increased from fiscal year 2014 to fiscal year 2016.²⁸ Specifically, we found:

- **Operational status.** For operational status codes that are not an active status, such as an asset that was determined to be excess or surplus, or disposed, OSD's business rules require a corresponding date that documents when the status was determined or when a disposal was completed.²⁹ If the corresponding date is not provided, then the operational status cannot be verified as correct. Our analysis of operational status from fiscal year 2014 through fiscal year 2016 found improvements in data on surplus and disposed facilities. The percentage of surplus and disposed facilities without a valid date improved from 37.5 percent to 0 percent and 3.3 percent to 0.3 percent, respectively. However, the percentage of excess facilities without a valid date increased from 22.7 percent to 47.9 percent.
- **Asset review date.** All facilities are required to have a date that documents a physical inventory; these reviews are to be conducted at least every 5 years, unless a historic asset. The percentage of facilities with a review date older than 5 years improved from 34.1 percent in fiscal year 2014 to 22.1 percent in fiscal year 2016. RPAD in fiscal year 2016 indicated that 143,420 facilities had a physical inventory date that was older than 5 years, which suggests that the information for these facilities may not be accurate because the information has not been updated within the required time frame. According to real property installation officials, overdue dates can occur because the physical inventory was either not conducted or the information from the physical inventory was not entered into the military services' data systems. The percentage of facilities with a

²⁸Our review tested whether the data fields contained entries that met OSD inventory requirements for facilities. We did not test for the accuracy of data entries that met the inventory requirements. Our analyses excluded data on land.

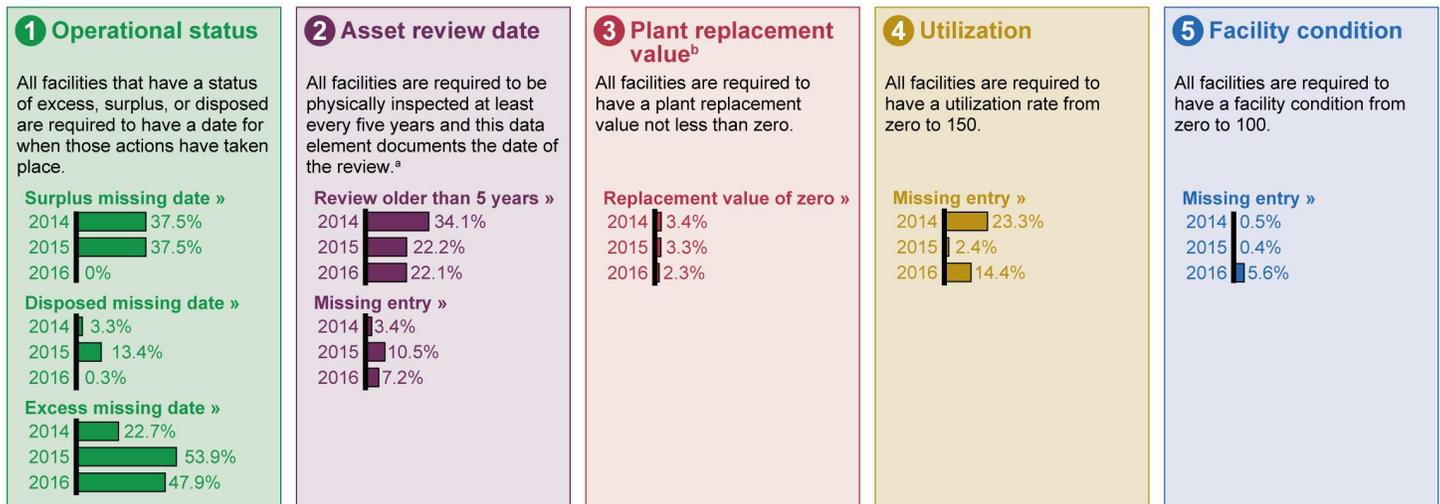
²⁹The majority of facilities in RPAD have an operational status of active.

missing review date increased from 3.4 percent in fiscal year 2014 to 7.2 percent in fiscal year 2016.

- **Plant replacement value.** All facilities are required to have a plant replacement value not less than zero, meaning it cannot be a negative number. For all 3 fiscal years, none of the facilities had a negative plant replacement value and missing entries were an insignificant number. The business rules allow for values of zero though these entries may potentially create problems for other data elements that use plant replacement value as part of their calculation. For example, plant replacement value is a denominator in the formula used to calculate facility condition index. If a plant replacement value is zero, the facility condition index cannot be determined. The percentage of facilities with a plant replacement value of zero declined from 3.4 percent in fiscal year 2014 to 2.3 percent in fiscal year 2016.
- **Utilization rate.** All facilities are required to have a utilization rate from 0 to 150. The percentage of facilities missing a utilization rate improved from 23.3 percent in fiscal year 2014 to 2.4 percent in fiscal year 2015 before increasing to 14.4 percent in fiscal year 2016. As such, in fiscal year 2016, about 93,600 facilities did not have an indication of the utilization and this information was not available to users of RPAD.
- **Facility condition index.** All facilities are required to have a facility condition from 0 to 100. The percentage of facilities that had missing facility condition entries increased from 0.5 percent in fiscal year 2014 to 5.6 percent in fiscal year 2016.

Figure 3 displays our analysis of discrepancies between the information requirements and data entries in RPAD.

Figure 3: Discrepancies Identified in the Department of Defense’s Real Property Assets Database for Fiscal Years 2014 through 2016



Source: GAO analysis of Department of Defense data. | GAO-19-73

^aHistoric assets are required to be physically inspected at least every 3 years.

^bAlthough 0 is allowed by the business rules, such entries may create problems for other data elements that use plant replacement value as part of their calculation. For example, plant replacement value is a denominator in the formula used to calculate facility condition index. If a plant replacement value is 0, the facility condition index cannot be determined.

RPAD Was Incomplete as It Did Not Include All of DOD’s Existing Real Property Assets

RPAD did not include all of DOD’s existing real property assets in fiscal years 2014 through 2016, resulting in an incomplete data set.³⁰ Specifically, we found (1) the military services have not recorded all assets that existed and reflected previously disposed facilities that no longer existed as active in their respective data systems, (2) the military services did not report all assets in the RPAD submission to OSD that were recorded in each military service’s data system, and (3) OSD did not include all assets reported by the military services in RPAD, as shown in figure 4.

³⁰Completeness assesses whether the data set includes all facilities that it should and is up to date.

Figure 4: Reporting Process and Comparison of Existing Assets Included in Data Systems, Submissions, and Real Property Assets Database



Source: GAO analysis of Department of Defense data. | GAO-19-73

We and others found instances of facilities that existed that the military services did not record in their data systems and of disposed facilities that no longer existed but were still reflected as active in RPAD. During our 12 site visits, officials at two installations stated that there were real property assets on their installations that were not recorded in their real property data system at the time of our visit. For example, real property officials at an Army installation identified over 2,000 existing assets—primarily linear structures—that were not in the inventory.³¹ Real property officials at a Marine Corps installation acknowledged that they were aware of assets that were not recorded in the data system but did not know the quantity of these. The officials stated they were in the process of reconciling the real property inventory with the assets in existence on the installation. In May 2018, Marine Corps Headquarters officials stated they plan to send real property officials to this location from other installations to assist with entering identified assets into the inventory. With the additional support, the officials expect the reconciliation to be completed in fiscal year 2019, 3 years earlier than initially planned.

Moreover, in our review of 120 facilities during site visits, we found that 6 of the facilities had been disposed of but were recorded as active in the

³¹DOD defines a linear structure as a facility whose function requires that it traverse land, such as a road, pipeline, or fence.

fiscal year 2015 RPAD data of the Air Force and Army. For example, all four of the Army's disposals occurred previous to fiscal year 2015 but were not entered into the data system until fiscal year 2016. The changes were made and reflected in the inventory submission for fiscal year 2016. Also, one of the Air Force's assets, fencing, had been disposed of years ago with the housing project that it enclosed, but was not included in the original disposal documentation. The real property installation officials had identified this omission when reviewing the list of assets that we selected for our review and began documenting the disposal prior to our site visit.

DOD reported in its 2017 Agency Financial Report that material weaknesses in its internal controls over real property resulted in, among other things, that the department could not substantiate that all existing assets were recorded in the military services data systems.³² Similar to our site visit results, the Navy Office of Financial Operations also reported in June 2017 that 15 of 650 real property assets tested from a non-generalizable sample were reported to have been disposed of, but were not recorded as disposed of or removed from the Navy's data system.³³

Additionally, we found RPAD did not include some facilities that were in the military services' data systems. The number and total plant replacement value across these three data sets should be identical, but were not in each of the 3 years that we reviewed. This means information on the excluded real property was not available to users of RPAD or to the Federal Real Property Profile. Specifically,

- **The military services did not report all facilities in their data systems to OSD for inclusion into RPAD.** Our analysis found the Army, Navy, and Marine Corps did not report to OSD between approximately 40,900 facilities (6.1 percent) and 103,600 facilities (15.9 percent) of the facilities included in their data systems in fiscal years 2014 through 2016. If all of these facilities still existed during

³²Under Secretary of Defense (Comptroller), *Agency Financial Report, Fiscal Year 2017* (Nov. 9, 2017). A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the DOD's financial statements will not be prevented, or detected and corrected, on a timely basis.

³³Department of the Navy, Office of Financial Operations, *Real Property Accumulated Depreciation, Navy General Fund Real Property Facility Built Date (FBD) Validation and Analysis* (Washington, D.C.: June 30, 2017).

those years, these unreported facilities had a total plant replacement value that ranged from \$12.8 billion to \$56.5 billion during the 3 fiscal years.³⁴ We could not include the Air Force in this analysis because it was not able to provide its end-of-year real property inventory for fiscal years 2014 through 2016. Air Force officials stated that their contractor did not archive copies of the end-of-year real property inventory for these years but would begin to do so for fiscal year 2017.

- **OSD did not include all facilities reported by the military services and WHS in RPAD.** Additionally, our analysis showed that the number of facilities OSD did not include in RPAD ranged from about 3,300 facilities (0.5 percent) to 19,400 facilities (2.6 percent) of the facilities reported by the military services and WHS in fiscal years 2014 through 2016.³⁵ If all of these facilities still existed during those years, the total plant replacement value of the unreported facilities ranged from \$3.4 billion to \$21.6 billion.

OSD and military service officials agreed that accuracy and completeness issues with real property have been a long standing issue, but stated recent audit efforts associated with FIAR should result in some improvements of the data. For example, military service installations officials stated that they are working to reconcile differences between existing real property and information in their data systems to include adding existing assets that are not in the data system and correcting information on disposed assets. Moreover, military service officials stated that they have emphasized conducting timely physical inventories and require installations to report on the currency of their physical inventories. According to officials, when reporting real property to OSD and when OSD consolidates this information into RPAD, assets with significant errors in their records are excluded to improve the accuracy of the information in the data set. The officials explained as the accuracy of the data improves through physical inventories, fewer assets will be excluded in the reporting process, which will improve completeness of RPAD.

³⁴By fiscal year, the facilities not reported totaled: 89,682 (14.3 percent) with a plant replacement value of \$35.2 billion in fiscal year 2014; 103,622 facilities (15.9 percent) with the plant replacement value of \$56.5 billion in fiscal year 2015; and 40,944 facilities (6.1 percent) with the plant replace value of \$12.8 billion in fiscal year 2016.

³⁵By fiscal year, the facilities not included totaled: 8,882 facilities (1.3 percent) with a plant replacement value of \$3.4 billion in fiscal year 2014; 3,317 facilities (0.5 percent) with a plant replacement value of \$19.0 billion in fiscal year 2015; and 19,401 facilities (2.6 percent) with the plant replacement value of \$21.6 billion in fiscal year 2016.

However, as we describe further in this report, the audit efforts will not correct all identified accuracy and completeness issues.

Deficiencies Exist in DOD's Processes for Recording and Reporting Real Property Data

DOD's processes for recording and reporting real property data have deficiencies that contribute to inaccuracies and incompleteness in the RPAD data. Specifically, we identified inconsistencies in the military services' recording of real property transactions and physical inventories of assets. In addition, we found the military services have not corrected identified discrepancies in their real property data reported to OSD in the annual RPAD submissions.³⁶

DOD Has Processes for Recording and Reporting Real Property Data

According to a DOD instruction, OSD must establish, issue, and maintain data requirements for DOD's real property inventory.³⁷ As such, DOD requires that the military services maintain an accurate and complete record of their real property, regardless of the organization using or funding the real property.³⁸ The real property accountable officers at each installation must implement processes to ensure that all real property transactions are auditable and that information recorded, including physical inspections, is accurate, complete and retained in accordance with applicable laws and regulations. OSD also requires that the military services report their real property data for RPAD following OSD requirements and that they utilize OSD's verification and validation tool to identify discrepancies between data entries and DOD's real property information requirements.³⁹

³⁶We reviewed WHS's processes for recording and reporting real property data and found these were adequately designed to reasonably ensure its real property inventory is complete and accurate.

³⁷DODI 4165.14, encl. 2, paras 2a-e.

³⁸DODI 4165.14, encl. 2, para 4c.

³⁹DODI 4165.14, encl. 2, paras 2i and 4f.

OSD and the military services have developed some procedures to implement these policies. For example, OSD established an annual reporting process, to include defining the specific content and format for the submission of information. Moreover, the military services have developed written procedures that clarify how specific transactions should be conducted. For example, the Marine Corps has developed detailed guidance on control processes for appropriately documenting disposed assets. The Navy has developed procedures for conducting physical inventories. The Army has defined roles and responsibilities for accounting for real property, including changes to facility function (i.e., category code). Lastly, the Air Force has developed overall policies and procedures for accounting for real property that defines the roles and responsibilities of accountable officials.

Military Services Did Not Consistently Record Real Property Data

The processes for recording real property information include documenting and entering into the data system when transactions—acquisition of, change to, and disposal of a real property asset—or physical inventories occur. To document a transaction or physical inventory, real property installation officials are expected to complete the required supporting records.⁴⁰ According to *Standards for Internal Control in the Federal Government*, appropriately designed control activities could include requiring documentation should be completed within a reasonable time frame after the event occurs.⁴¹ Then, the officials are to promptly enter the updated information into the real property data system.

DOD also requires a review of each real property asset record, including a physical inventory of each real property asset every 5 years for non-historic assets or every 3 years for historic assets.⁴² Physical inventories

⁴⁰DODI 4165.14, encl. 3, para 1b.

⁴¹[GAO-14-704G](#). Reasonable time frames are the maximum amount of time allowed before real property transactions or physical inventories are documented and entered into the real property data system. For example, the Navy considers 30 days as a reasonable time frame to appropriately document and enter into the data system when an asset has been acquired or disposed. Similarly, the Air Force considers within 10 days to document and enter acquisitions and within 30 days to enter changes detected from physical inventories in its data system as reasonable time frames.

⁴²DODI 4165.14, encl. 3, para. 6.

help ensure current and accurate information on assets are reflected in the military services' data systems. Furthermore, the *Standards for Internal Control in the Federal Government* require agencies to design control activities to achieve objectives, to monitor activities, and to remediate identified deficiencies on a timely basis. Such activities could include appropriately documenting and accurately and timely recording transactions, and implementing procedures to help ensure that processes are monitored and evaluated for deficiencies on an ongoing basis, corrective actions are determined for any identified deficiencies, and these actions are completed and documented to correct deficiencies on a timely basis.⁴³

Real Property Transactions

We and the military services identified that transactions were not being consistently documented with required supporting records or entered into the military services' data systems within reasonable time frames. Specifically, during our site visits to 12 military services' installations, officials at 5 installations stated that they were experiencing delays with documenting and entering into the data system some transactions. According to the officials, this occurred due to challenges with obtaining required information from contractors, heavy workloads, and staff shortages.

Moreover, the military services found through testing in 2017 that they did not consistently document transactions with required supporting records or enter real property transactions into the data system. The military services conducted these tests as part of their preparation for financial statement audits to identify deficiencies in the recording of real property transactions.⁴⁴ The military services were then to develop corrective action plans and remedy any identified deficiencies prior to the department's audit of the fiscal year 2018 financial statements. Specifically,

- The *Air Force* conducted tests in March 2017 and reported that of 271 assets tested, 171 did not have appropriate supporting records. The

⁴³GAO-14-704G, Principles 10.03 (Design of Appropriate Types of Control Activities), 16.04 (Internal Control System Monitoring), 16.09 (Evaluation of Results), 17.05 (Evaluation of Issues) & 17.06 (Corrective Actions).

⁴⁴The military services tested assets from defined populations that did not represent all of the assets for which they have accountability.

Air Force also reported in a separate test of 27 assets that 17 of these were not timely or accurately recorded.⁴⁵

- The *Army* conducted tests in October 2017 and reported that more than half of the assets selected did not pass its testing for one or more of the 9 key data elements associated with plant replacement value.⁴⁶ Lack of adequate supporting records was the most common reason for test failure.
- The *Navy* conducted tests in October 2017 and identified documentation issues or key elements that were not timely or accurately entered into its data system for 11 out of 58 assets tested.⁴⁷
- The *Marine Corps* conducted tests in July 2017 and identified documentation issues or key elements that were not timely or accurately entered into its data system for 20 of 55 assets tested.⁴⁸

Physical Inventories

We and the military services have identified that real property installation officials do not consistently document or enter physical inventory information into the military services' data systems.

We found during our site visits to 12 military service installations that for 21 facilities out of 106 facilities tested, real property installation officials had not entered physical inventory information in the military services' data system within the last 5 years.⁴⁹ The 21 facilities we reviewed included 16 from the Air Force (with 2 reflected as being last inventoried

⁴⁵Department of the Air Force, *Air Force Financial Improvement & Audit Readiness, Real Property Corrective Action Plan Validation: Findings and Recommendations* (Mar. 31, 2017).

⁴⁶Department of the Army, Assistant Chief of Staff for Installation Management, *Real Property Audit Readiness, Phase II Plant Replacement Value Data Element Testing Results* (Dec. 7, 2017). The Army's report of results did not identify the number of assets that were included in the testing.

⁴⁷Department of the Navy, Naval Facilities Engineering Command, *Real Property Phase I Report of Testing: Round 5 Internal Controls Sustainment* (Oct. 27, 2017).

⁴⁸United States Marine Corps, *Financial Improvement and Audit Readiness Methodology, Assertion Work Product, Aggregated Control Point Test Results and Conclusions* (2017).

⁴⁹During the reviews, we found 14 of these assets were disposed of and were not included in our examination of physical inventory dates.

in January 1934 or October 1992), 4 from the Army, and 1 from the Marine Corps (which showed as being been last inventoried in November 2003).

The military services also identified similar inconsistencies with recording physical inventories in testing of their real property assets as part of their preparation for financial statement audits:

- The *Air Force* conducted tests in March 2017 and reported that installation officials, for 89 out of 281 assets tested, did not have complete supporting records or did not timely provide the most recent physical inventory checklist that reconciled with the Air Force's data system.⁵⁰
- The *Army* conducted tests in September 2016 and reported 1 of the 5 installations tested did not have adequate supporting records for asset changes identified in physical inventories.⁵¹
- The *Navy* conducted tests in June 2017, and reported 5,918 of the 34,104 assets tested had not had a physical inventory for more than 5 years.⁵² Furthermore, in October 2017, the Navy reported that 9 of 41 assets it tested did not have supporting records that the inventory was performed per DOD requirements for timeliness.⁵³
- The *Marine Corps* had an external auditor conduct tests in September 2017 and reported that installation officials could not support the last physical inventory performed for 83 of 998 assets tested.⁵⁴

⁵⁰Department of the Air Force, *Air Force Financial Improvement & Audit Readiness, Real Property Corrective Action Plan Validation: Findings and Recommendations* (Mar. 31, 2017).

⁵¹Department of the Army, Workpaper Internal Control Testing – Physical Inventory (September 2016).

⁵²Department of the Navy, Naval Facilities Engineering Command, *Financial Improvement Audit Readiness Program, Justification of Navy General Fund Real Property Alternative Valuation Methodology* (June 30, 2017).

⁵³The Department of the Navy, Naval Facilities Engineering Command, *Real Property Phase I Report of Testing, Round 5 Internal Controls Sustainment* (Oct.27, 2017).

⁵⁴United States Marine Corps, United States Marine Corps Fiscal Year 2017 Financial Statement Audit Notification of Finding and Recommendation NFR #2017-FIN-041 (September 2017).

The military services did not fully monitor recording processes on an ongoing basis, including evaluating whether or the extent to which activities are being carried out and remediating any identified deficiencies.⁵⁵ We found that this occurred in part due to the military services not being required to conduct ongoing monitoring of the processes used for recording real property transactions and physical inventories. According to military service officials, they conduct monitoring of recording and have begun developing corrective action plans as part of the recent audit readiness effort that are based on the *Financial Improvement and Audit Readiness Guidance*.⁵⁶ However, this guidance aimed principally at improving financial reporting addresses 40 of the 216 data elements required to be maintained in RPAD. DOD has not determined to what extent the remaining data elements are a priority for other management purposes beyond financial reporting. Accordingly, the remaining 176 data elements, or approximately 80 percent, are not required to be monitored.⁵⁷ For example, the recording of RPAD-required data elements for dates that support an operational status of excess, surplus, and disposed or document when a facility was built are not included in current monitoring efforts. The monitoring of the recording of only about 20 percent of the required data elements in RPAD results in inaccurate and incomplete data not being systemically evaluated and corrective actions not being taken to resolve the issues. Unless the military services are required to monitor on an ongoing basis the processes used for recording all required real property information, DOD will continue to have data quality issues related to accuracy and completeness in the military services' data systems that will be reflected in RPAD.

Military Services Have Not Corrected Identified Discrepancies Reported in Their RPAD Submissions

The military services have not corrected identified discrepancies in their real property data reported to OSD in the annual RPAD submissions. OSD provided the military services with a verification and validation tool

⁵⁵Monitoring is the activities management establishes and operates to assess the quality of performance over time and to promptly resolve the findings of audits and other reviews.

⁵⁶Department of Defense, *Financial Improvement and Audit Readiness Guidance* (April 2017).

⁵⁷Not all 216 data elements are applicable to every asset as the requirements vary depending on DOD's legal interest and the type of asset, among others.

to identify data that does not comply with information requirements. Specifically, from fiscal years 2014 through 2016, the military services used OSD's verification and validation tool to identify discrepancies and submitted reports summarizing the results to OSD, but have not corrected all discrepancies identified by the tool. According to real property installation officials, they have not been directed by headquarters to correct discrepancies in their data systems that were identified in their annual RPAD submission. Our review of 120 assets during the 12 installation site visits confirmed that 61 assets with discrepancies in five key data elements tested in the fiscal year 2015 RPAD data set continued to have these discrepancies in 2017.

Based on our analysis, the military services have not corrected identified discrepancies in part because OSD's guidance for annual RPAD reporting does not define which data elements were most significant to the department's decision making and should be a priority for correction. Furthermore, we found that the guidance does not require the military services to develop and implement corrective action plans to remediate discrepancies in significant data elements in their data systems that are identified by OSD's verification and validation tool. According to OSD and military service officials, identifying significant data elements could assist with streamlining and prioritization of efforts to improve data quality. In addition, OSD officials agreed that requiring the services to develop and implement corrective action plans would benefit data quality, but stated there are challenges with the verification and validation tool that would need to be addressed to leverage its full potential. By OSD not defining significant data elements and coordinating corrective action plans to remediate discrepancies, the military services may continue to submit information with discrepancies from year to year in some data elements and will miss an opportunity to improve the accuracy of inventory data.

DOD Has Not Addressed Risks to Its Ability to Use Information to Manage Its Real Property

DOD has not addressed three risks—unfilled real property positions to manage its data, lack of a department-wide approach to improving data quality, and a limited plan for the implementation of its expanded data platform—that diminish its ability to use real property information to manage its real property.

Unfilled Real Property Positions

We found that DOD has not addressed how it will overcome unfilled real property positions throughout the department, which poses a risk to data quality. For example, real property installation officials at 10 of 12 installations we visited told us that they had unfilled real property positions, including real property accountable officers, engineers, realty specialists, planners, and space management analysts. Real property installation officials told us that their unfilled real property positions contributed to workload backlogs and prevented them from sufficiently maintaining their real property data. The Army, Marine Corps, and Navy completed various workforce plans that found they did not have a sufficiently sized workforce to adequately maintain their real property data:

- **Army:** In March 2015, the Army completed a workforce analysis that found current authorized manning documents are short 223 real property positions of the total 495 positions required to perform these functions, which include real property accountable officers and realty specialists.
- **Marine Corps:** In August 2016, the Marine Corps identified that it had an immediate need for 20 real property accountable officer positions to effectively maintain its real property data. According to Marine Corps officials, they have since filled 19 of the 20 positions.
- **Navy:** For its fiscal year 2018 planning, the Navy identified a need for 63 real property positions—ranging from real property accountable officers to geospatial specialists—to meet real property requirements.

The Air Force has not identified the workforce it needs to maintain quality data on its real property, but Air Force officials told us in May 2018, that they are beginning efforts to better understand their workforce needs.

OSD and military service officials stated that they continually face challenges due to unfilled real property positions. However, they do not expect to fill all of their authorized positions because senior leadership has prioritized staffing at other offices and military service officials stated that they face challenges in finding qualified applicants for open positions. Despite the recognized needs, DOD has not outlined how it plans to overcome challenges related to its unfilled real property positions. According to an OSD official, OSD cannot direct the military services to fill their real property positions; however, OSD has not coordinated with the military services to identify opportunities to overcome unfilled positions.

Potential opportunities may include using available staff more efficiently or evaluating opportunities to better address how they will manage unfilled positions.

Lack of a Department-wide Approach to Improving Data Quality

Absent a department-wide approach to improving data at various levels within DOD, military service headquarters have individually initiated actions to improve data quality for certain data elements. These efforts are largely uncoordinated and result in inconsistent approaches to address similar data quality risks and may contribute to inefficient use of resources and accuracy issues in the real property data. For example, military service headquarters officials told us they have taken action to improve data quality when they do not receive specific guidance from OSD, including communicating priorities to installations and developing contracts to improve select data elements. We found instances where the military services took different actions to improve their information on utilization rates prior to OSD issuing a memorandum to have a standardized approach to determine this information.⁵⁸ For example, the Army developed a database to record space authorization information for each asset. The Marine Corps used a contract to obtain space utilization information at certain installations. Moreover, a Marine Corps headquarters official stated in some cases that after Marine Corps headquarters implemented its own policy and provided guidance to the installations to fill a gap that OSD issued guidance with a different approach. The official stated that the Marine Corps had spent financial resources on a contract to improve a data element that they later had to categorize in a different way due to OSD guidance. Also, real property installation officials at a Marine Corps installation stated that their headquarters had made large-scale changes to the records of their housing assets due to a new approach to determine specific data elements for those assets, which resulted in inaccuracies. Officials noted that headquarters later retracted that approach and restored the records.

In addition, we observed in our review of real property records during the site visits that real property installation officials did not apply the same criteria for determining an asset's operational status for the codes of disposed, closed, and nonfunctional that resulted in inaccuracies. Navy

⁵⁸Office of the Assistant Secretary of Defense, Energy, Installations, and Environment Memorandum, *Real Property Policy Update for Reporting Utilization of Real Property Assets* (Dec. 19, 2016).

regional command officials provided written guidance and a decision support tool for determining appropriate codes for operational status to help improve accuracy within this data element. However, according to real property installation officials, the Air Force and Army did not have similar guidance. OSD and military service officials agreed that better coordination among OSD and the military services would assist their effort to improve data quality.

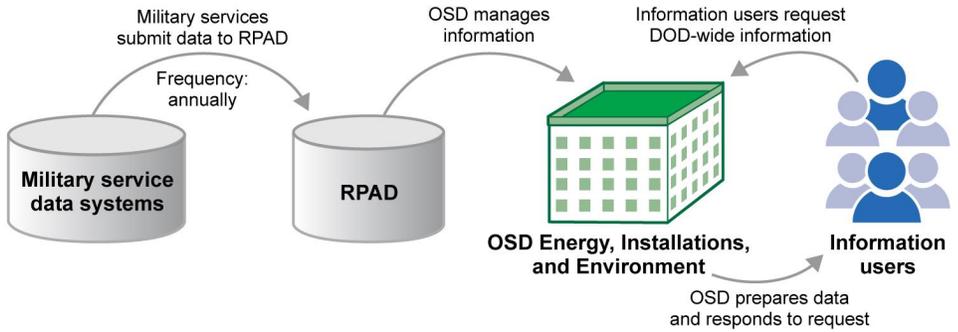
Limited Plan for Implementation of OSD's Expanded Data Platform

OSD has not fully identified how it will complete implementation of a new module for real property within its expanded data platform, known as the Data Analytics and Integration Support platform, and DOD faces a risk to information accessibility as it may not fully realize the anticipated benefits of the effort. OSD currently uses the platform for generating unique identification numbers for its real property assets and as a dashboard for tools related to military construction planning. However, OSD has neither outlined how it will accomplish its stated objectives and goals for expansion of this platform as OSD's new data system for real property, nor has it set time frames for the expansion. In September 2017, OSD modified its contract for updating the Data Analytics and Integration Support platform, but that contract does not specify when full implementation of the expansion to include a new module for real property will occur.

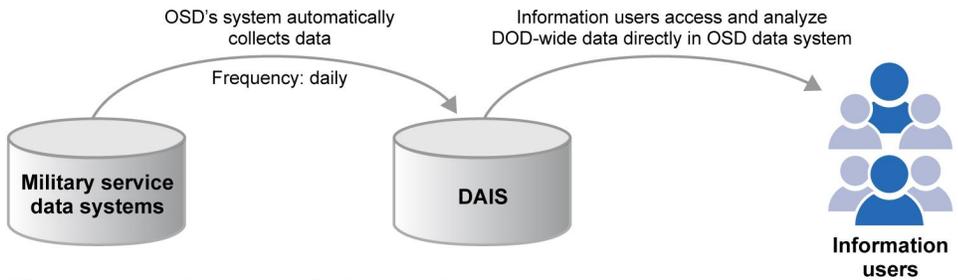
OSD is planning to expand the use of the Data Analytics and Integration Support platform to make it a near real-time, department-wide information source of required real property information accessible to a greater number of users who manage real property. If implemented, this expanded platform would replace DOD's annual data call to the military services for end-of-year real property information to compile into the RPAD. Further, the expanded platform would interface daily with the military service data systems. This would provide near real-time information to users for the department-wide management of DOD's real property. According to OSD officials, users could also access real property information themselves and run their own data analyses when OSD expands this platform to replace the annual data call to the military services. Figure 5 displays a comparison of RPAD to the proposed expansion of the Data Analytics and Integration Support platform.

Figure 5: Comparison of Real Property Assets Database (RPAD) to the Proposed Expansion of the Data Analytics and Integration Support (DAIS) Platform

RPAD »



DAIS »



DAIS Data Analytics and Integration Support platform
 DOD Department of Defense
 OSD Office of the Secretary of Defense
 RPAD Real Property Assets Database

Source: GAO analysis of Department of Defense documents. | GAO-19-73

OSD officials told us that the military services will need to ensure their data systems can fully interface with the Data Analytics and Implementation Support platform for full integration to occur. Specifically, the officials stated that the Army’s data system can fully interface with OSD’s expanded platform, but the Navy wants to test how its data system would interface with the platform before it can fully connect. In addition, officials noted that the Air Force’s current data system is the least compatible with OSD’s expanded data platform because it is currently working to design and implement a new data system for real property. OSD and Air Force, Marine Corps, and Navy officials noted that they are aware the military service data systems are not fully integrated with OSD’s expanded data platform.

Guidance from DOD and the Office of Management and Budget note that risk management is integral to effective program management.⁵⁹ The *Standards for Internal Control in the Federal Government* states management should define objectives clearly such as through specific and measurable terms that allow for the assessment of performance toward achieving those objectives and that management should identify, analyze, and respond to risks related to achieving defined objectives.⁶⁰ The office of the Assistant Secretary of Defense for Energy, Installations, and Environment is responsible for providing the guidance and procedures for implementing real property management policy, including ensuring the information is available to determine if an asset is used effectively.⁶¹ One way an organization can manage risk is by developing a risk management strategy that identifies risks to program objectives, and includes time frames and performance metrics for addressing those risks.

DOD has taken some actions that when fully implemented should result in some improvements to select data elements and the potential to enhance information accessibility. However, in part, DOD's weaknesses with quality information on real property and accessibility to this information continue to exist because DOD has not developed a strategy that identifies and addresses risks, such as those previously described, and includes time frames and performance metrics. OSD and military service officials agreed that a strategy for addressing risks would help the department to further its effort to improve the quality and accessibility of the information. Developing and implementing such a strategy would

⁵⁹Department of Defense, *Department of Defense Risk, Issue, and Opportunity Management Guide for Defense Acquisition Programs* (January 2017). Although this guidance is specific to the defense acquisition context, the guide identifies the principles of risk management as a means to understand, anticipate, and mitigate risks before they become issues and pursue opportunities that may benefit program outcomes. Office of Management and Budget, Office of Management and Budget Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control* (July 15, 2016) and Office of Management and Budget Circular No. A-11, *Preparation, Submission, and Execution of the Budget*, § 270 (July 2017).

⁶⁰[GAO-14-704G](#).

⁶¹DODI 4165.70. Although the current version of DODI 4165.70 states this is the responsibility of the Deputy Under Secretary of Defense (Installations and Environment), under the Under Secretary of Defense for Acquisition, Technology, and Logistics, the National Defense Authorization Act for Fiscal Year 2017 directed that Acquisition, Technology, and Logistics be restructured February 1, 2018, into two organizations: Acquisition and Sustainment, and Research and Engineering, each with an Under Secretary of Defense (Pub. L. No. 114-328, § 901) (2016). The Under Secretary of Defense for Acquisition and Sustainment is now responsible for this function.

allow the department to take key steps toward improving its information for managing its real property. Without a strategy for improving the quality of the data and information used to manage its real property, DOD, Congress, the Office of Management and Budget, and the General Services Administration will not have information needed for effective decision making and do not have reasonable assurance that risks to data quality and information accessibility are being managed appropriately. Specifically, information would be limited in decision making related to improving space management at installations, to adequately sustaining DOD's real property assets, and to accurately generating financial statements.

Conclusions

DOD's efforts to reform its real property management is complicated by not having quality data on its large inventory of assets—over 568,000 facilities with an estimated combined plant replacement value of about \$1 trillion. An accurate and complete inventory of its assets is essential for DOD to make informed management decisions about its real property. The department has taken action to improve data quality of some data elements through financial improvement and audit readiness efforts. However, deficiencies in the processes for recording and reporting real property data continue to lead to inaccurate and incomplete information. The military services do not require monitoring of the recording of all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are carried out and remediating any identified deficiencies. In addition, OSD has not defined which data elements were significant to the department's decision making and which should be a priority for correction. Also, the military services do not have plans to correct the discrepancies in significant data elements in their data systems that are identified by OSD's verification and validation tool. Without taking actions to address these deficiencies, DOD will continue to have inaccurate and incomplete real property data and unreliable information in RPAD.

DOD also has not developed a strategy that establishes time frames and performance metrics to address risks to data quality and information accessibility. Specifically, DOD faces risks related to unfilled real property positions, a lack of a department-wide approach to improving data, and a limited plan for implementation of OSD's expanded data platform. Without a strategy to address these risks, DOD is missing an opportunity to ensure that the information needed for effective decision making, such as

budget decisions and oversight by Congress, is available to meet real property accountability and reporting objectives and to avoid inefficient and potentially costly workarounds, such as additional data calls to installations.

Recommendations for Executive Action

We are making a total of 6 recommendations to the Department of Defense:

The Secretary of the Army should require monitoring of its processes used for recording all required real property information—to include evaluating on an ongoing basis whether or to what extent these activities are being carried out—and remediating any identified deficiencies. (Recommendation 1)

The Secretary of the Navy should require monitoring of Navy and Marine Corps processes used for recording all required real property information—to include evaluating on an ongoing basis whether or to what extent these activities are being carried out—and remediating any identified deficiencies. (Recommendation 2)

The Secretary of the Air Force should require monitoring of its processes used for recording all required real property information—to include evaluating on an ongoing basis whether or to what extent these activities are being carried out—and remediating any identified deficiencies. (Recommendation 3)

The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, defines and documents which data elements within the RPAD submissions are most significant for decision-making. (Recommendation 4)

The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, coordinates on corrective action plans to remediate discrepancies in significant data elements in its real property data system that are identified by OSD's verification and validation tool. (Recommendation 5)

The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, develops a strategy that identifies and addresses risks to data quality and information accessibility. At a minimum, this strategy should establish time frames and performance metrics for addressing risks related to (1) unfilled real property positions, (2) a lack of a department-wide approach to improving its data, and (3) implementation of OSD's expanded data platform. (Recommendation 6)

Agency Comments and Our Evaluation

We provided a draft of this report to DOD for comment. In written comments, DOD concurred with four recommendations and partially concurred with three recommendations. DOD's comments are summarized below. DOD also provided technical comments, which we incorporated as appropriate.

In written comments, DOD stated that Recommendations 2 and 3 should be combined to more appropriately align with authority and responsibility of the U.S. Navy and U.S. Marine Corps as a single Military Department and DOD concurred with the combination of the two recommendations. Based on these comments, we combined the draft recommendations for separate actions by the Secretary of the Navy and the Commandant of the Marine Corps into one recommendation. In our final report, the action is addressed to the Secretary of the Navy in Recommendation 2 and our total number of recommendations is decreased to six.

DOD partially concurred with our recommendation that the Undersecretary of Defense for Acquisition and Sustainment collaborate with the military services to develop a strategy that identifies and addresses risks to data quality and information accessibility (Recommendation 6). We recommended that the strategy, at a minimum, include timeframes and performance metrics for addressing risks and include other specific information. However, DOD stated that it plans to collaborate with the military services on separate service strategies that reflect each military service's operating environment. We continue to believe that DOD would benefit from one department-wide strategy to improve data quality and information accessibility. For example, we found that the military services' efforts to improve data quality have been largely uncoordinated and had led to inconsistent approaches, which may have contributed to data inaccuracies. Further, we found that OSD has not fully identified how it will complete implementation of a data platform

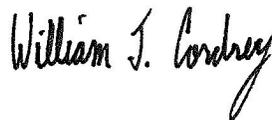
expansion to include real property information and may not realize the anticipated benefits of the effort. The platform is an effort managed by OSD and would benefit from a single DOD strategy addressing key points noted in our recommendation. Accordingly, we believe our recommendation remains warranted.

DOD's comments are reprinted in their entirety in appendix II. We are sending copies of this report to the appropriate congressional committees and to the Secretary of Defense; the Under Secretary of Defense for Acquisition and Sustainment; the Under Secretary of Defense (Comptroller); and Secretaries of the Departments of Air Force, Army, and Navy, the Commandant of the Marine Corps, and the Director of Washington Headquarters Services. 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 Brian J. Lepore at (202) 512-4523 or leporeb@gao.gov or William J. Cordrey at (404) 679-1873 or cordreyw@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs are listed on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.



Brian J. Lepore
Director
Defense Capabilities and Management



William J. Cordrey
Director
Financial Management and Assurance

Appendix I: Physical Inventory

For the military services and Washington Headquarters Services' real property inventories, DOD requires that the data elements shown below in table 1 be validated through a physical inventory of each real property asset. Physical inventories are to be performed every 5 years or every 3 years for historic assets.¹

Table 1: Minimum Asset Information to Be Validated during Physical Inventory

Category	Category member
What do I have?	Installation Code
What do I have?	Real Property Site Unique Identifier
What do I have?	Real Property Unique Identifier
What do I have?	Facility Number
What do I have?	Real Property Asset (RPA) Command Claimant Code
What do I have?	RPA Type Code
What do I have?	RPA Interest Type Code
What do I have?	RPA Total Unit of Measure Quantity
What do I have?	RPA Total Unit of Measure Code
What do I have?	RPA Operational Status Code
What do I have?	RPA Placed In Service Date
What do I have?	RPA Predominant Current Use Category Code
What do I have?	RPA Historic Status Code
What do I have?	RPA Historic Status Date
Where is it located?	Address Street Direction Code
Where is it located?	Address Street Name
Where is it located?	Address Street Number
Where is it located?	Address Street Type Code
Where is it located?	Country Code
Where is it located?	County Code

¹Department of Defense Instruction (DODI) 4165.14, *Real Property Inventory (RPI) and Forecasting*, encl.3, (Jan. 17, 2014) (incorporating change 1, Nov. 14, 2017).

Appendix I: Physical Inventory

Category	Category member
Where is it located?	City Code
Where is it located?	Location Directions Text
Where is it located?	State or Country Primary Subdivision Code
Where is it located?	Postal Code
Where is it located?	Geospatial Feature
What condition is it in?	Facility Condition Index
What condition is it in?	RPA Utilization Rate
What condition is it in?	Asset Review Date (For Physical Inspection)
What condition is it in?	Asset Review Type Code (For Physical Inspection)

Source: Department of Defense. | GAO-19-73

Appendix II: Comments from the Department of Defense

**Appendix II: Comments from the Department
of Defense**



ENERGY,
INSTALLATIONS,
AND ENVIRONMENT

ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

OCT 17 2018

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

Dear Mr. Lepore:

This is the Department of Defense (DoD) response to the Draft Report GAO-19-73, "DEFENSE REAL PROPERTY: "DoD Needs to Take Additional Actions to Improve Management of Its Inventory Data," dated August 31, 2018 (GAO Code 102100). Detailed comments on the report recommendations are enclosed.

The report highlights key issues the Department has spent considerable effort to address in preparation for its full financial statement audit. Recent audit reports reflect improvement, and the recommendations provided herein dovetail with corrective action plans to resolve notice of findings and recommendations.

We have added a technical correction as a separate enclosure.

Thank you for the opportunity to comment on the draft report. Should you have questions, please contact Mr. Bob Coffman, at 571-372-6840, robert.a.coffman10.civ@mail.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Lucian Niemeyer".

Lucian Niemeyer

Enclosure:
As stated

GAO DRAFT REPORT DATED AUGUST 31, 2018
GAO-19-73 (GAO CODE 102100)

**“DEFENSE REAL PROPERTY: DOD Needs to Take Additional Actions to Improve the
Management of Its Inventory Data”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATION**

RECOMMENDATION 1: The Secretary of the Army should require monitoring of its processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

DoD RESPONSE: Concur. As part of DoD's financial and real property audit, the Army developed a five-year plan to address real property accountability and valuation shortfalls. The plan includes the following key points which address the GAO recommendation:

- (1) Direct property accountable organizations to conduct and report asset physical inspections and real property records update.
- (2) Develop system capability and implement a single, standardized Accountable Property System of Record (APSR) for all real property assets (real estate and facilities).
- (3) Refine system capability and establish policy to document evidentiary supporting material in the APSR.
- (4) Develop an automated validation and second person verification of data during entry in the APSR following the OSD Real Property Information Model (RPIM) data dictionary.
- (5) Assess data quality by implementing routine use of the RPAD Asset Validation Error (RAVE) tool for automated data quality assessment and data sampling to include validation of supporting documentation.
- (6) Revise and publish Army real property accountability policy and standard operating procedures.
- (7) Establish mandatory standard training for real property accountable officers and specialist.

RECOMMENDATION 2: The Secretary of the Navy should require monitoring of its processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

DoD RESPONSE: Partially Concur. This recommendation should be combined with Recommendation 3 which more appropriately aligns with the authority and responsibility of the U.S. Navy and U.S. Marine Corps as a single Military Department.

RECOMMENDATION 3: The Commandant of the Marine Corps should require monitoring of its processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

DoD RESPONSE: Partially Concur. This recommendation should be combined with Recommendation 2 which more appropriately aligns with the Secretary of the Navy's to mirror Secretary of the Navy's authority and responsibility of the U.S. Navy and U.S. Marine Corps as a single Military Department.

Combined Recommendation: The Secretary of the Navy should require monitoring of the Navy and Marine Corps processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

DoD RESPONSE: Concur. Using Financial Improvement and Audit Readiness (FIAR) methodology and recurring real property audits, including audit response, the Marine Corps and Navy are reviewing and updating their audit policy and procedures to ensure an accurate record of required real property information to enable remediation of all identified deficiencies. Based on existence and completeness results provided by an Independent Public Accounting firm, the Marine Corps has shown a marked improvement in results in FY 18 and will continue to work with the Department of the Navy and Department of Defense Stakeholders to sustain efforts to date while working to continually improve the timeliness, accuracy, and utility of real property management data. The Navy is currently conducting a 100% inventory of all real property assets which will ensure existence and completeness of all real property records by the end of FY 19.

RECOMMENDATION 4: The Secretary of the Air Force should require monitoring of its processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

DoD RESPONSE: Concur. The AF has established a Data Quality Program (DQP) within the Air Force Civil Engineering Center/ Real Estate (AFCEC/CIT). The goal of the DQP is to improve the accuracy of required asset data in the Accountable Property System of Record (APSR) to a minimum of a 95% accuracy rate. The goal is to achieve a 100% accuracy; however, because of manual processes supported by paper records that require data entry, there will always be an inherent lag in the data. The proposed revised AFI 32-9005 places responsibility on the installation to verify and validate the accuracy of the documentation data (e.g., DD FORM 1354) prior to signature and after input into the APSR. Paragraph 2.6.6 of the AFI requires AFCEC/CIT to perform regular quality control on the APSR data. This will establish a compliant, repeatable process that occurs during the creation and input of data. In addition to updates to official Air Force policy, the existing Real Property Accountability and Inventory (RPA&I) playbook will be revised and processes coordinated with other governing playbooks.

RECOMMENDATION 5: The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, defines and documents which data elements within the RPAD submissions are most significant for decision-making.

DoD RESPONSE: Concur.

RECOMMENDATION 6: The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, coordinates on corrective action plans to remediate discrepancies in significant data elements in its real property data system that are identified by OSD's verification and validation tool.
(Recommendation 6)

DoD RESPONSE: Concur.

RECOMMENDATION 7: The Secretary of Defense should ensure that the Undersecretary of Defense for Acquisition and Sustainment, in collaboration with the military services, develops a strategy that identifies and addresses risks to data quality and information accessibility. At a minimum, this strategy should establish timeframes and performance metrics for addressing risks related to (1) unfilled real property positions, (2) a fragmented approach to improving its data, and (3) implementation of OSD's expanded data platform.

DoD RESPONSE: Partially concur. The Office of the Under Secretary of Defense (Acquisition and Sustainment) will collaborate with the Military Services and provide advice and assistance as they each develop data quality and accessibility strategies that reflect their own unique operating environments.

Appendix III: GAO Contacts and Staff Acknowledgments

GAO Contacts

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

William J. Cordrey (404) 679-1873 or cordreyw@gao.gov

Staff Acknowledgments

In addition to the contacts named above, Gina Hoffman (Assistant Director), Paul Kinney (Assistant Director), Susan Langley (Analyst-in-Charge), Scott Bruckner, Vincent Buquicchio, Josh Edelman, Chad Hirsch, Brad Johnson, Amie Lesser, Carol Petersen, Sam Portnow, Richard Powelson, Michael Silver, and John Yee made key contributions to this report.

Appendix IV: Accessible Data

Data Table

Accessible Data for Figure 3: Discrepancies Identified in the Department of Defense's Real Property Assets Database for Fiscal Years 2014 through 2016

n/a	n/a	2014	2015	2016
Operational status	Surplus missing date	37.5	37.5	0
	Disposed missing date	3.3	13.4	0.3
	Excess missing date	22.7	53.9	47.9
Asset review date	Review older than 5 years	34.1	22.2	22.1
	Missing entry	3.4	10.5	7.2
Plant replacement value	Replacement value of zero	3.4	3.3	2.3
Utilization	Missing entry	23.3	2.4	14.4
Facility condition	Missing entry	0.5	0.4	5.6

Agency Comment Letter

Accessible Text for Appendix II Comments from the Department of Defense

Page 1

OCT 17 2018

Mr. Brian J. Lepore

Director, Defense Capabilities and Management

U.S. Government Accountability Office

441 G Street, NW

Washington, DC 20548

Dear Mr. Lepore:

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Sincerely,

Lucian Niemeyer

Enclosure:

As stated

Page 2

GAO DRAFT REPORT DATED AUGUST 31, 2018 GAO-19-73 (GAO CODE 102100)

"DEFENSE REAL PROPERTY: DOD Needs to Take Additional Actions to Improve the Management of Its Inventory Data"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO
RECOMMENDATION

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DoD RESPONSE: Concur. As part of DoD's financial and real property audit, the Army developed a five-year plan to address real property accountability and valuation shortfalls. The plan includes the following key points which address the GAO recommendation:

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Page 3

RECOMMENDATION 3: The Commandant of the Marine Corps should require monitoring of its processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

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Combined Recommendation: The Secretary of the Navy should require monitoring of the Navy and Marine Corps processes used for recording all required real property information, to include evaluating on an ongoing basis whether or to what extent these activities are being carried out and remediating any identified deficiencies.

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Page 4

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minimum, this strategy should establish timeframes and performance metrics for addressing risks related to (1) unfilled real property positions, (2) a fragmented approach to improving its data, and (3) implementation of OSD's expanded data platform.

DoD RESPONSE: Partially concur. The Office of the Under Secretary of Defense (Acquisition and Sustainment) will collaborate with the Military Services and provide advice and assistance as they each develop data quality and accessibility strategies that reflect their own unique operating environments.

Related GAO Products

DOD Financial Management: The Navy Needs to Improve Internal Control Over Its Buildings, [GAO-18-289](#). Washington, D.C.: May 10, 2018.

High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others, [GAO-17-317](#). Washington, D.C.: February 15, 2017.

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