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April 2024

# NAVY READINESS

## Actions Needed to Improve the Reliability and Management of Ship Crewing Data

Accessible Version

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# GAO Highlights

View [GAO-24-105811](#). For more information, contact Diana Maurer at (202) 512-9627 or [MaurerD@gao.gov](mailto:MaurerD@gao.gov).

Highlights of [GAO-24-105811](#), a report to the Committee on Armed Services, House of Representatives

**April 2024**

## NAVY READINESS

### **Actions Needed to Improve the Reliability and Management of Ship Crewing Data**

#### Why GAO Did This Study

Crewing ships with an adequate number of personnel who have the right skills and experience is vital for executing missions and mitigating risks. However, the Navy has historically assigned fewer crewmembers to ships than are required to operate them safely. Such crewing shortfalls contributed to the fatal Navy surface ship collisions in 2017.

A House Report includes a provision for GAO to review the Navy's ship crewing efforts. Among other things, GAO assessed the extent to which the Navy uses data that reflect accurate crewing levels and validates personnel requirements to make informed funding and crewing decisions.

GAO reviewed policies and guidance for crewing personnel to ships, compared and analyzed fill and fit metric and personnel requirements data from fiscal years 2018 through 2023, and interviewed Navy officials. GAO also conducted small group discussions with enlisted sailors and leadership from seven ships.

#### What GAO Recommends

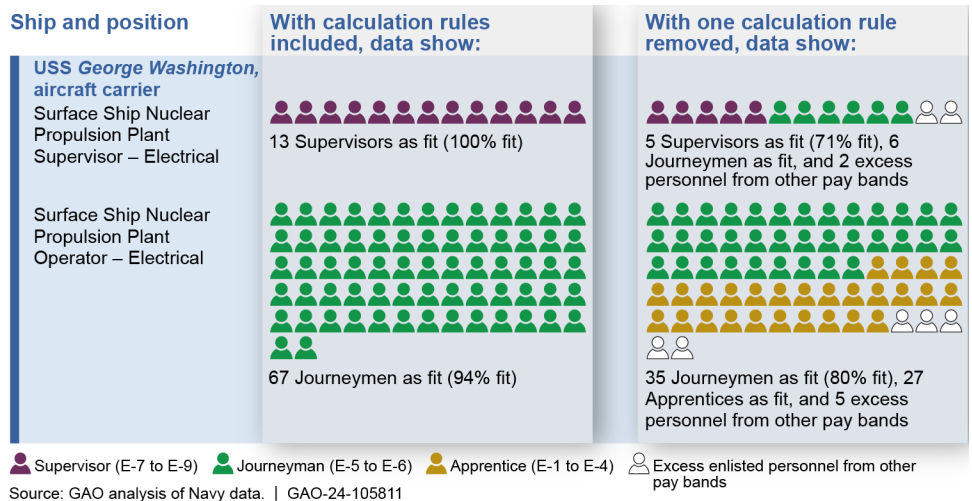
GAO is making 11 recommendations to improve the reliability and management of Navy ship crewing data. These include removing calculation rules that allow junior sailors to count as filling positions of senior sailors, and updating guidance to specify that only NAVMAC can validate changes to personnel requirements. In written comments, the Navy concurred with six recommendations, partially concurred with two, and did not concur with three. GAO continues to maintain that all of its recommendations are warranted.

#### What GAO Found

The Navy uses data to measure its crewing target levels and monitor personnel readiness. These data are called fill and fit metrics. Fill metrics measure the number of personnel onboard a ship. Fit metrics measure the skill, experience, and specialty skills of personnel. However, the data are not sufficiently reliable or transparent. Specifically, GAO found that the Navy applies some calculation rules to this data that result in counting some junior enlisted sailors as filling positions that require more senior-level sailors. For

example, with one calculation rule removed, the number of fit sailors in positions linked to nuclear-powered ships fell (see figure). Until the Navy removes these calculation rules, it will continue to rely on data that does not provide an accurate understanding of the true extent of the skill and experience gaps across the fleet.

**Example of Calculation Rules Included and Removed on Enlisted Sailor Fit Data as of May 2023**



**Accessible data for Example of Calculation Rules Included and Removed on Enlisted Sailor Fit Data as of May 2023**

Ship and position	With calculation rules included, data show:	With one calculation rule removed, data show:
USS George Washington, aircraft carrier: Surface Ship Nuclear Propulsion Plant Supervisor – Electrical	13 Supervisors as fit (100% fit), (Supervisor (E-7 to E-9))	5 Supervisors as fit (71% fit), 6 Journeymen as fit, and 2 excess personnel from other pay bands, (Supervisor (E-7 to E-9), Journeyman (E-5 to E-6), Excess enlisted personnel from other pay bands)
USS George Washington, aircraft carrier: Surface Ship Nuclear Propulsion Plant Operator – Electrical	67 Journeymen as fit (94% fit), (Journeyman (E-5 to E-6))	35 Journeymen as fit (80% fit), 27 Apprentices as fit, and 5 excess personnel from other pay bands, (Journeyman (E-5 to E-6), Apprentice (E-1 to E-4), Excess enlisted personnel from other pay bands)

Source: GAO analysis of Navy data. | GAO-24-105811

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The Navy does not consistently use validated personnel requirements to inform decisions. Personnel requirements identify the sailor positions and the specific skill levels needed to perform the Navy's work. Navy Manpower Analysis Center (NAVMAC) determines and validates personnel requirements through periodic workload studies for ships to ensure these requirements reflect the right number and mix of positions needed to support Navy operations. These validated requirements should be used to inform funding decisions. However, GAO found that personnel requirements data in the Navy's authoritative system was sometimes lower and sometimes higher than validated requirements. Several issues contribute to limitations in the reliability of the Navy's requirements data. For example, Navy guidance does not clearly specify that only NAVMAC can validate changes to these requirements. As a result, the Navy may rely on unvalidated requirements during its annual process to inform funding decisions. Until the Navy updates relevant guidance to clarify what specific sources it can rely on to present validated personnel requirements, it cannot ensure that it is making decisions about personnel funding based on accurate information.

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**Abbreviations**

DOD	Department of Defense
NDA	National Defense Authorization Act
NAVMAC	Navy Manpower Analysis Center
POM	Program Objective Memorandum
SMD	Ship Manpower Document
TFMMS	Total Force Manpower Management System
USS	United States Ship

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April 29, 2024

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

Crewing ships with an adequate number of personnel who have the right skills and experience is vital for executing missions and mitigating risks.<sup>1</sup> However, the Navy has historically assigned fewer crewmembers to ships than are required to operate them safely. Such crewing shortfalls contributed to the fatal Navy surface ship collisions in 2017. In May 2021, we reported that the Navy routinely assigns fewer crewmembers to its ships than required to operate them safely and does not accurately measure the full extent of crewing shortfalls.<sup>2</sup> Additionally, in April 2023, we reported that reduced personnel levels on ships during maintenance periods may contribute to the risk of fire incidents.<sup>3</sup> The Navy has also identified problems regarding its crewing. For example, in April 2023, the Navy reported findings from its investigation concerning command climate

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<sup>1</sup>The Navy's term for assigning personnel, to include personnel to ships, is "manning." In this report, we use the terms "crews," "crewing," or "assigning" instead of "manning."

<sup>2</sup>GAO, *Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training*, [GAO-21-366](#) (Washington, D.C.: May 27, 2021). In May 2021, we reported that the Navy generally crewed the surface fleet below what is required. We recommended the Navy revise guidance to institutionalize the use of requirements to track and report filled positions. The Navy concurred and in December 2021, issued a memorandum directing the use of requirements to also track and report filled positions. Additionally, we reported that the surface fleet has inconsistently implemented the Navy's fatigue management policy and that sailors were not receiving adequate sleep. We recommended, for example, that the Navy establish a process for identifying and assisting units that have not implemented its fatigue management policy. As we reported in October 2023, the Navy was still working to address this recommendation. GAO, *Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue*, [GAO-24-106819](#) (Washington, D.C.: Oct. 11, 2023). For a list of our related work in this area, see the Related GAO Products page at the end of this report.

<sup>3</sup>GAO, *Navy Ship Fires: Ongoing Efforts to Improve Safety Should Be Enhanced*, [GAO-23-105481](#) (Washington, D.C.: Apr. 20, 2023). The Navy typically refers to "personnel" as "manpower." This would include related terms, such as "manpower requirements" or "validated manpower requirements." However, in this report, we refer to these terms as "personnel requirements" or "validated personnel requirements."

and quality of life onboard United States Ship (USS) *George Washington* while the ship underwent its midlife refueling and complex overhaul.<sup>4</sup> According to the Navy's findings, there were no identified minimum crewing levels for aircraft carriers in refueling and complex overhaul or extended maintenance periods. In addition, the Navy found that the USS *George Washington* had insufficient supervisory crewing to effectively provide training, mentorship, quality of life oversight, and overall development of assigned sailors during its refueling and complex overhaul period.

The Navy strives to meet its ship crewing levels by filling authorized billets (hereafter, funded positions) and ensuring that crewmembers assigned to those positions have the requisite skills, experience, and specialty skills to perform their duties.<sup>5</sup> The Navy refers to these crewing metrics as "fill" and "fit, respectively."<sup>6</sup> In testimony before the Senate Armed Services Committee in April 2023, the Chief of Naval Operations testified that the Navy was "working hard to resolve manpower problems that exist in the fleet."<sup>7</sup> Additionally, the Chief of Naval Operations testified that the Navy "needs to keep honing and optimizing personnel readiness metrics to

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<sup>4</sup>Navy, U.S. Fleet Forces Command, *Investigation Into Command Climate and Sailor Quality of Life Onboard the USS George Washington (CVN 73) Inclusive of Systemic Challenges That Impact Carriers Undergoing Extensive Maintenance or Construction in Newport News* (Apr. 3, 2023). As part of its 2022 investigation into the deaths of several sailors serving on the USS *George Washington*, the Navy recognized the need to investigate the effects of command climate and quality of life on sailors attached to ships during extended maintenance. Midlife refueling is a multiyear overhaul of the ship and its systems that notionally begins around year 23 of an aircraft carrier's 50-year expected service life at the shipbuilder's shipyard in the Norfolk area. During midlife refueling, the ship's nuclear reactors are refueled; reactor and steam plants are repaired; the ship's hull, mechanical, and electrical systems are repaired and upgraded; and a significant amount of maintenance and modernization is performed on the entire ship to restore material condition, ready the ship for future technologies, and ensure that it reaches its expected service life.

<sup>5</sup>Funded positions are those crew assignments to which the Navy has allocated its appropriated amounts. The Navy also refers to these positions as "billets authorized."

<sup>6</sup>"Fill" measures how many personnel are onboard a ship relative to funded positions and requirements for each ship. In general, "fit" measures the skill, experience, and specialty skill (i.e., Navy enlisted classification) of enlisted personnel onboard a ship relative to the unit's funded positions and requirements. Since 2005, the Navy has measured different aspects of fit to capture how well it assigns sailors with the appropriate skills and experience to ships. The Navy also has a fit metric for officers; it measures the designator (primary specialty qualifications) and pay grade of officers onboard a ship.

<sup>7</sup>*Posture of the Department of the Navy in Review of the Defense Authorization Request for Fiscal Year 2024 and the Future Years Defense Program*, 118<sup>th</sup> Cong. 12 (2023) (statement by the Chief of Naval Operations, Admiral Michael M. Gilday).

include the experience and proficiency of sailors to determine whether operational units are getting personnel with the right skills.”

House Report 117-118, accompanying a bill for the National Defense Authorization Act (NDAA) for Fiscal Year 2022, includes a provision for us to assess several aspects of the Navy’s ship crewing efforts.<sup>8</sup> In this report, we review the extent to which the Navy (1) has a process for assigning crewmembers and adjusting crewing target levels; (2) uses data that reflect accurate crewing levels; (3) uses validated personnel requirements to make informed funding and crewing decisions; and (4) has structures to manage personnel data used to inform crewing.

For objective one, we reviewed policies and guidance for assigning crewmembers to required positions aboard different types of Navy ships, such as aircraft carriers and attack submarines.<sup>9</sup> For objective two, we analyzed fill and fit metrics data from fiscal year 2018 through fiscal year 2023. As part of this analysis, we also reviewed the Navy’s relevant business rules for fill and fit and compared requirement and funded position data against the source system for these data. For objective three, we reviewed Navy documentation regarding the Program Objective Memorandum (POM) process, as well as other relevant documents concerning the funding of personnel.<sup>10</sup> For objective four, we reviewed Navy policy and guidance regarding data governance and management. Additionally, we held small group discussions with enlisted sailors from seven ships to obtain their experiences regarding ship crewing. These enlisted sailors held pay grades from E-1 through E-9 in critical Navy enlisted classification positions.<sup>11</sup> We also interviewed leadership for each of the selected ships.

We determined that certain key principles of internal control outlined in *Standards for Internal Control in the Federal Government*, such as those

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<sup>8</sup>H.R. Rep. No. 117-118, at 131-132 (2021).

<sup>9</sup>We identified 177 of the 242 battle force ships in active commission, as of October 2022, in our scope. We did not include all classes of ships in our scope. For example, we did not include historical or research ships.

<sup>10</sup>The POM is part of the Department of Defense’s (DOD) resource programming process.

<sup>11</sup>To identify which ships to hold small group discussions with, we selected four to five classes of ships that, combined, covered most of the key enlisted positions, as identified by the Navy, across the ships in our scope. For each ship, we met with two groups: one group that included Apprentice and Journeyman pay bands, and a second group that included only the Supervisor pay band. More information about our ship selection methodology can be found in Appendix I.

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related to monitoring activities and using quality information, were significant to all objectives.<sup>12</sup> Additionally, for all objectives, we interviewed Navy officials from different offices and commands, such as from the Department of the Navy Chief Information Officer, the Office of the Chief of Naval Operations, and U.S. Fleet Forces Command. Appendix I discusses our scope and methodology in greater detail.

We conducted this performance audit from February 2022 to April 2024 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.

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## Background

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### Organizations with Roles and Responsibilities for Personnel Requirements, Funded Positions, and Ship Crewing

In the Navy, various organizations have roles and responsibilities related to determining personnel requirements, funded positions, and crewing personnel to ships.

**Personnel requirements.** Personnel requirements identify the sailor positions and their specific skills and skill levels needed to perform the Navy's work. Specifically, the requirements define the type of personnel needed (e.g., enlisted or officer) and the required duties, tasks, and functions. They also define the specific skill level required to perform the functions for a position. The Navy Manpower Analysis Center (NAVMAC) determines and validates personnel requirements, to include those for ships, through workload studies conducted at least every 5 years. These studies ensure the requirements reflect the right number and mix of positions needed to support Navy operations. NAVMAC then uses these workload studies to produce Ship Manpower Documents (SMD). The

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<sup>12</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).

SMDs present the validated personnel requirements (or validated requirements) from those studies.

**Funded positions.** The Navy's Program Objective Memorandum (POM) is part of the broader programming process that reflects the decision of senior Navy leadership regarding the allocation of Navy resources,

**Navy Type Commanders**

The Navy's Type Commanders are responsible for maintaining, training, and ensuring the readiness of the ships assigned to each fleet. The following Type Commanders are responsible for the submarines, surface ships, and aircraft carriers described in this report:

- Commander, Naval Air Force, U.S. Atlantic Fleet;
- Commander, Naval Air Force, U.S. Pacific Fleet;
- Commander, Naval Surface Force, U.S. Atlantic Fleet;
- Commander, Naval Surface Force, U.S. Pacific Fleet;
- Commander, Submarine Force, U.S. Atlantic Fleet; and
- Commander, Submarine Force, U.S. Pacific Fleet.

Source: GAO analysis of Navy information. | GAO-24-105811

including personnel, to accomplish the Navy's mission.<sup>13</sup> Funded positions are those crew assignments to which the Navy has allocated funding from its appropriations. Several Navy organizations play a role in the resourcing process and coordinate with each other regarding the resourcing and requests for funding of personnel requirements. These organizations include

- **Budget submitting offices.** According to Navy guidance, budget submitting offices coordinate with Type Commanders (see sidebar) to specify which personnel requirements they would like to fund, by skill and pay grade, occupational series, career group, and pay band, and incorporate them into recommendations for the resource sponsors as part of the programming process.<sup>14</sup>
- **Resource sponsors.** Resource sponsors are composed of units within the Office of the Chief of Naval Operations, to include the

<sup>13</sup>The POM is the final product of the programming process within DOD. The components' POM displays the resource allocation decisions of the military departments in response to and in accordance with strategic planning and joint programming guidance. DOD 7000.14-R, *Financial Management Regulation*, vol. 2A, chap. 1, § 1.7.2.44 (Oct. 2008).

<sup>14</sup>Office of the Chief of Naval Operations Instruction (OPNAVINST) 1000.16L, *Navy Total Force Manpower Policies and Procedures* (June 24, 2015) (incorporating change 3, July 2, 2021).

Deputy Chiefs of Naval Operations for Information Dominance, Readiness and Logistics, and Warfare Systems. Resource sponsors receive recommendations from the budget submitting offices and Type Commanders about which personnel requirements to prioritize funding based on mission requirements. Additionally, resource sponsors, along with budget submitting offices and Type Commanders, choose the amount of workload to fund.<sup>15</sup>

- **Deputy Chief of Naval Operations for Integration of Capabilities and Resources.** The Deputy Chief of Naval Operations for Integration of Capabilities and Resources issues guidance for Department of the Navy planning and resource allocation decisions including for personnel programming.

**Crewing personnel to ships.** Crewing personnel to ships refers to the process for assigning officer and enlisted personnel to ships.<sup>16</sup> The Navy uses funded positions when determining these assignments, and there are several Navy organizations with roles and responsibilities over crewing personnel to ships:

- **Fleet Readiness Integrators.** Fleet Readiness Integrators from U.S. Fleet Forces Command and U.S. Pacific Fleet (hereafter, Fleet Forces Command and Pacific Fleet, respectively) establish the fleet priorities and enlisted crewing target levels.<sup>17</sup> In addition, they produce personnel crewing deficiency reports and may initiate crewing actions to address deficiencies that degrade a command's ability to conduct its mission. Such actions include adjusting an enlisted sailor's rotation date, realigning a sailor from one unit to another, modifying a sailor's orders, and holding a sailor beyond the sailor's rotation date for a finite period.
- **Type Commanders and budget submitting offices.** During each assignment cycle, Type Commanders and budget submitting offices submit the priorities of the positions that they need filled in order to meet their readiness needs. Similar to Fleet Readiness Integrators, Type Commanders and budget submitting offices may initiate crewing actions to address deficiencies that degrade a command's ability to conduct its mission. In addition, Type Commanders and budget

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<sup>15</sup>OPNAVINST 1000.16L.

<sup>16</sup>The Navy refers to this assignment process as "manning." In this report we refer to the assignments process as "crewing personnel to ships," "crewing," or "assigning."

<sup>17</sup>OPNAVINST 1300.21, *Enlisted Manning Policy and Procedures* (June 23, 2022). In this report, we refer to "minimum manning threshold levels" as "enlisted crewing target levels."

submitting offices may request temporary additional duty assistance—a short term additional duty assignment (179 days or less) directed and executed by the Type Commanders to temporarily mitigate a crewing degradation.

- **Navy Personnel Command Career Management Department.** This department aims to meet the crewing needs of the Navy while also assisting enlisted sailors and officers in achieving their professional goals. Within this department, the Enlisted Placement Management Branch serves as the crewing control authority for the Chief of Naval Personnel and represents individual commands as their advocate for enlisted sailor assignment. Similarly, staff from the department's Officer Distribution Divisions work closely with officers to obtain assignments needed to continue on their career path.

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## The Navy's Fill and Fit Metrics and Related Application and Systems

**Fill and fit metrics.** The Navy monitors the personnel readiness of the fleet using fill and fit metrics. The fill metrics measure how many personnel are onboard a ship. Various fit metrics measure different aspects, such as skill, experience, and specialty skill (i.e., Navy enlisted classification) of enlisted personnel onboard a ship per pay band.<sup>18</sup> The Navy groups a range of enlisted pay grades into three pay bands: Supervisor (E-7 through E-9), Journeyman (E-5 through E-6), and Apprentice (E-1 through E-4) (see table 1). The Navy evaluates fill and fit relative to funded positions and personnel requirements. The Navy uses different fill and fit metrics for enlisted and officers. For a description of each Navy enlisted sailor and officer fill and fit metric see the table in appendix II.

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<sup>18</sup>The Navy also has fill and fit metrics for officers.

**Table 1: Overview of Navy Pay Bands for Fill and Fit Metrics**

Pay band	Description
Supervisor	<ul style="list-style-type: none"> <li>This pay band includes enlisted personnel in pay grades E-7 through E-9.</li> <li>Personnel in this pay band include master chief petty officers, senior chief petty officers, and chief petty officers:                             <ul style="list-style-type: none"> <li><b>Master chief petty officers</b> (E-9), as the senior enlisted petty officers in the Navy, are vested with special command trust and confidence extending to administrative and managerial functions involving enlisted personnel. These personnel also contribute to forming and implementing policy within their occupational field or across the full Navy rating spectrum.</li> <li><b>Senior chief petty officers</b> (E-8) are the senior technical supervisors within a rating or occupational field with primary responsibilities for supervising and training enlisted personnel, to include system and subsystem maintenance, repair, and operation. These personnel provide a higher level of technical and managerial expertise than is expected at the E-7 level.</li> <li><b>Chief petty officers</b> (E-7) are the technical authorities, experts, and supervisors within a rating. These chief petty officers are capable of technical supervision, instruction, and training of lower rated personnel.</li> </ul> </li> </ul>
Journeyman	<ul style="list-style-type: none"> <li>This pay band includes enlisted personnel in pay grades E-5 through E-6.</li> <li><b>Petty officers</b> (E-5 through E-6) are technicians and work managers within ratings who possess increasing degrees of skill responsibility and authority as they advance within their pay grade. These personnel are capable of providing hands-on skills required to maintain, repair, and operate systems and subsystems.</li> </ul>
Apprentice	<ul style="list-style-type: none"> <li>This pay band includes enlisted personnel in pay grades E-1 through E-4.</li> <li>Enlisted personnel in this pay band include petty officers, general rates, and non-designated and designated sailors:                             <ul style="list-style-type: none"> <li><b>Petty officers</b> (E-4) are also technicians and work managers within ratings who possess increasing degrees of skill responsibility and authority as they advance within their pay grade. These personnel are capable of providing hands on skills required to maintain, repair, and operate systems and subsystems.</li> <li><b>General rates</b> are apprenticeships assigned to personnel in pay grades E-1 through E-3 that indicate their eligibility to enter various ratings, such as fireman or seaman.</li> <li><b>Non-designated sailors</b> can be personnel in pay grades E-1 through E-3 who are not selected to enter a specific rating.</li> <li><b>Designated sailors</b> can be personnel in pay grades in E-1 through E-3 who are identified as apprentice for a specific rating.</li> </ul> </li> </ul>

Source: GAO analysis of Navy information. | GAO-24-105811

According to Navy guidance on crewing target levels, various offices across the Navy coordinated to establish fill and fit metrics, with the aim of making these metrics common and more refined to assess fleet crewing levels.<sup>19</sup> Fleet Forces Command and Pacific Fleet use fill and fit metrics to monitor crewing target levels. In addition, section 597 of the

<sup>19</sup>COMUSFLTFORCOM/COMPACFLT Notice 1000, *Enlisted Sea Duty Minimum Manning Threshold Levels* (Apr. 4, 2023). Besides Fleet Forces Command and Pacific Fleet, Navy Personnel Command and other Navy officials were involved in coordinating the establishment of fill and fit metrics. The Navy uses various business rules to inform the calculations for fill and fit metrics. For example, these business rules include specifics on what specialty skills should or should not be included when calculating fill and fit.



NDAAs for Fiscal Year 2020 direct the Navy, under certain circumstances, to notify the congressional defense committees, on a quarterly basis, of any ship whose fill and fit rates for enlisted personnel are less than 90 percent and 87 percent, respectively.<sup>20</sup> Section 597 does not require the Navy to report information on officer fill and fit rates.

**Information technology application.** Since May 2023, the Navy has used an analytics application called Tableau to calculate and produce its reports for fill and fit. Prior to May 2023, the Navy used the IBM Cognos application (hereafter, Cognos) for fill and fit. The application uses source data from the following Navy systems and a data warehouse for fill and fit:

- **Total Force Manpower Management System (TFMMS).** TFMMS is the Navy’s authoritative data system for personnel requirements, funded positions, and end strength data.<sup>21</sup> NAVMAC is responsible for inputting personnel requirements from the SMD to TFMMS.
- **MyNavy Assignment.** MyNavy Assignment is the Navy’s authoritative system for enlisted position alignment. According to Navy guidance, each sailor assigned to permanent duty at a given command is aligned to the position that best represents the sailor’s rate, pay grade, and Navy enlisted classification inventory.<sup>22</sup>
- **The Navy Standard Integrated Personnel System.** The Navy Standard Integrated Personnel System is the Navy’s system for human resource management. The system includes data on officer and enlisted personnel, from accession to departure from Navy service. According to Navy officials, the Navy Standard Integrated

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<sup>20</sup>National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116–92, § 597 (2019). Section 597 requires the Secretary of the Navy to notify the congressional defense committees in writing not later than 30 days after the end of each quarter if the manning (which we refer to in this report as crewing) fill or fit of a commissioned and counted battle force ship is less than 90 percent or 87 percent, respectively, for more than 14 days during the quarter.

<sup>21</sup>OPNAVINST 1000.16L.

<sup>22</sup>Navy, Bureau of Personnel Instruction 1080.54B, *Enlisted Distribution and Verification Process* (July 31, 2023). According to this guidance, information contained within the MyNavy Assignment system reflects current and prospective sailors, personnel details, as well as position data provided by authoritative sources via the Authoritative Data Environment. This guidance also specifies that sailors aligned to positions created for distribution purposes, but which do not exist in the Authoritative Data Environment—such as excess positions—will have positional attributes captured that best represent the work they are performing.

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Personnel System is the authoritative data source for enlisted and officer personnel currently identified as onboard a given vessel.

- **Authoritative Data Environment.** The Authoritative Data Environment is one of the Navy's primary lines of effort related to its human resources transformation initiatives. Once fully established (planned for 2030), the Authoritative Data Environment will consolidate the 55 different systems the Navy currently uses to provide personnel, pay, training, and recruiting capabilities (hereafter, personnel systems) into a single data warehouse.<sup>23</sup> These systems include TFMMS, MyNavy Assignment, and the Navy Standard Integrated Personnel System. The Tableau application resides in the Authoritative Data Environment.

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## Roles and Responsibilities Regarding Navy Data and Information Technology

The data that the Navy uses for personnel requirements, funded positions, and crewing come from different data sources. The following offices of the Department of the Navy and the Chief of Naval Operations govern and manage both data and information technology to help ensure data integrity:

- **Chief Information Officer.** The Department of the Navy's Chief Information Officer is the Navy's senior official for information management, information technology, and information resources management. In this role, the Chief Information Officer is the senior official and governance lead for all matters involving enterprise architecture, data strategy, and other related information technology matters. In October 2022, the Chief Information Officer assumed responsibility for the management and governance of Department of the Navy Defense Business Systems. In addition, the Department of the Navy Chief Information Officer advises Navy senior leadership on all Planning, Programming, Budgeting, and Execution matters related to major Enterprise Information Technology initiatives, including recommending whether to continue, modify, or terminate specific information technology investments.
- **Chief Data Officer.** The Department of the Navy Chief Data Officer serves as senior advisor to the Secretary of the Navy and Department

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<sup>23</sup>Navy, Chief of Naval Personnel (NAVPERS), *Manpower Personnel, Training, Education Information Systems Authoritative Data Environment (ADE) Strategy* (June 6, 2018).

of the Navy Chief Information Officer and leads management and governance of data and analysis across the entire range of Naval missions and functions. In addition, the Department of the Navy Chief Data Officer serves as the senior official for data management and chairs the Department of the Navy Data Governance Board.<sup>24</sup> As the chair of the Data Governance Board, the Department of the Navy Chief Data Officer leverages the board's knowledge as a method to manage Navy data.

- **Enterprise Support/Information Technology Program Office.** The Director of Enterprise Support is dual hatted as the Information Technology Program Office within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel.<sup>25</sup> In this role, the Enterprise Support/Information Technology Program Office is the Chief Information Officer and has primary decision authority over all information technology, to include MyNavy HR Transformation (hereafter, transformation efforts). In this role, the Enterprise Support/Information Technology Program Office is also responsible for coordinating all transformation efforts, including analysis and change management to support changes and successfully leverage technology to meet transformation requirements. In February 2023, the Chief of Naval Personnel tasked the Enterprise Support/Information Technology Program Office with additional duties concerning the governance of transformation efforts and information technology, to include several boards. Additionally, the Enterprise Support/Information Technology Program Office is responsible and accountable for data management within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel.
- **Bureau of Naval Personnel Information Management Office.** The Bureau of Naval Personnel Information Management Office is the principal advisor to the Deputy Chief of Naval Personnel and

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<sup>24</sup>Voting members of the board include a Naval Data Steward from each of the information domains designated by the Department of the Navy Chief Data Officer. There are 12 Department of the Navy information domains, such as the Human Resources/Human Capital and Warfighting and Force Application domains.

<sup>25</sup>Navy, Chief of Naval Personnel (NAVPERS) Decision Guidance Memorandum, *Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel Organization Alignment Changes* (Oct. 31, 2022). According to this memorandum, the Director Enterprise Support, in a dual hatted role of Information Technology Program Office and Resource Sponsor. This memorandum also re-established the Information Technology Program Office as an echelon I level code within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel.

subordinate activities on information technology.<sup>26</sup> In this role, the Bureau is responsible for delivering mission capabilities that align with business performance through information resource management, as well as providing secure and reliable information technologies. The Bureau of Naval Personnel Information Management Office is also responsible for the Enterprise Information Management Board. According to Navy officials, the Bureau is operationally responsible for stewarding TFMMS data and the Navy Standard Integrated Personnel System data, which includes tasks such as managing daily data operations, storage, retrieval, accessibility, data protection measures, and troubleshooting.

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## The Navy's Battle Force Ships

Within the Navy, battle force ships are commissioned warships capable of contributing to combat operations or support missions.<sup>27</sup> These ships include aircraft carriers, surface combatants (such as cruisers and destroyers), and submarines (such as attack submarines). For this review, we included 177 of the Navy's 242 active battle force ships to examine crewing levels and conduct crew discussions aboard selected ships.<sup>28</sup> (See fig. 1).

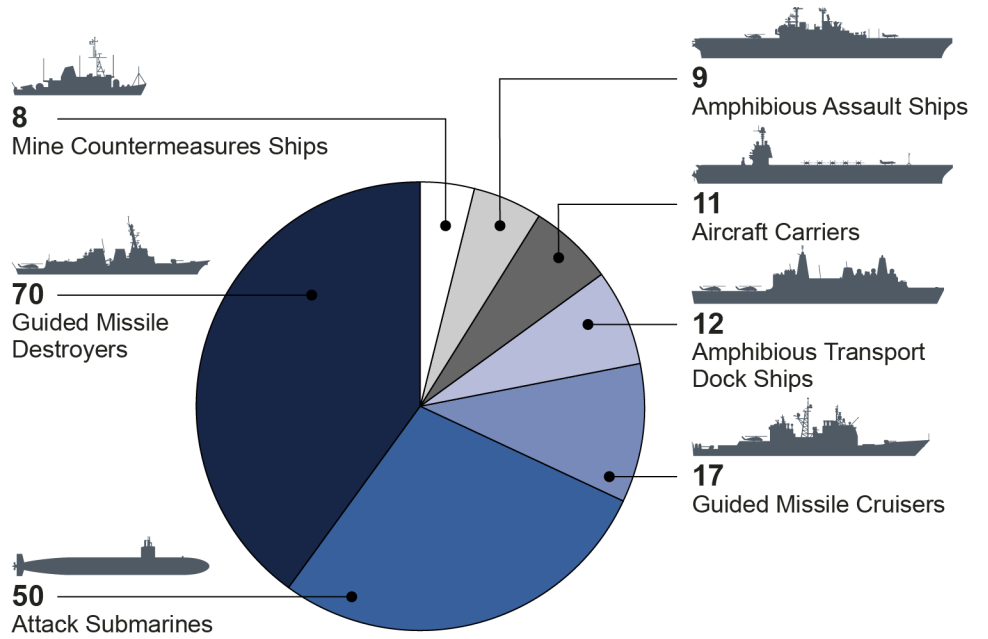
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<sup>26</sup>OPNAVINST 5450.354A, *Mission, Functions, and Tasks of the Bureau of Naval Personnel* (Aug. 18, 2017). The Chief of Naval Personnel is detailed by the Secretary of the Navy to additional duties as Deputy Chief of Naval Operations for Personnel, Manpower, and Training. The Deputy Chief of Naval Personnel assumed additional duties as Commander, Navy Personnel Command. Deputy Chief of Naval Personnel provides command support to the Bureau of Naval Personnel activities. Additionally, the Deputy Chief of Naval Personnel serves as the Department of the Navy's human resources provider for worldwide distribution and placement of active and reserve military personnel. The Deputy Chief of Naval Operations' office of Personnel, Manpower, and Training was formerly the office of Manpower, Personnel, Training, and Education.

<sup>27</sup>Navy, Secretary of the Navy Instruction (SECNAVINST) 5030.8D, *General Guidance for the Classification of Naval Vessels and Battle Force Ship Counting Procedures* (June 28, 2022). According to the policy, a warship is any commissioned ship built or armed for naval combat.

<sup>28</sup>The 242 battle force ships are those listed as active in the Naval Vessel Register, as of October 2022.

**Figure 1: Types and Totals of Navy Active Battle Force Ships Included in GAO's Review**



Source: GAO analysis of Navy information. | GAO-24-105811

**Accessible data for Figure 1: Types and Totals of Navy Active Battle Force Ships Included in GAO's Review**

Types of ships	Ship totals
Mine countermeasures ships	8
Amphibious assault ships	9
Aircraft carriers	11
Amphibious transport dock ships	12
Guided missile cruisers	17
Attack submarines	50
Guided missile destroyers	70

Source: GAO analysis of Navy information. | GAO-24-105811

For further information and details on the battle force ships included in this report, see appendix III.

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## The Navy Has Processes for Assigning Crewmembers but Does Not Document Its Process for Adjusting Enlisted Crewing Levels

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### The Navy Has Processes for Assigning Crewmembers But Necessary Training May Not Always Occur Prior to Next Assignment

The Navy's processes for assigning crewmembers varies for enlisted sailors and officers. The enlisted sailor assignment process occurs across the following five phases during a 2-month cycle, with six cycles occurring per year, according to Navy documentation and officials:

- **Phase one: Placement coordinators prioritize open positions.** Personnel known as placement coordinators from the Enlisted Placement Management Branch work with the fleet readiness integrators to review and prioritize the open positions that the fleets would like to fill during the current cycle.<sup>29</sup> Once the placement coordinators and the fleet readiness integrators identify the list of priority open positions, the placement coordinators advertise the positions on MyNavy Assignment, a web-based system that sailors can access to view, and apply to, open positions during the 2-month cycle.
- **Phase two: Sailors apply.** Sailors have approximately 2 weeks to apply to open positions.<sup>30</sup>
- **Phase three: Unit commanders rank applications.** Commanders of units with open positions review and rank the applications based on their assessment of which candidates best match the positions.
- **Phase four: Detailers make assignment decisions.** Personnel known as detailers from the Enlisted Placement Management Branch review the responsibilities of the open positions and review any comments provided by the Navy units as they select the best-qualified sailors to fill them. Navy officials stated that once the detailers have made their selections, the detailers determine if any of the positions

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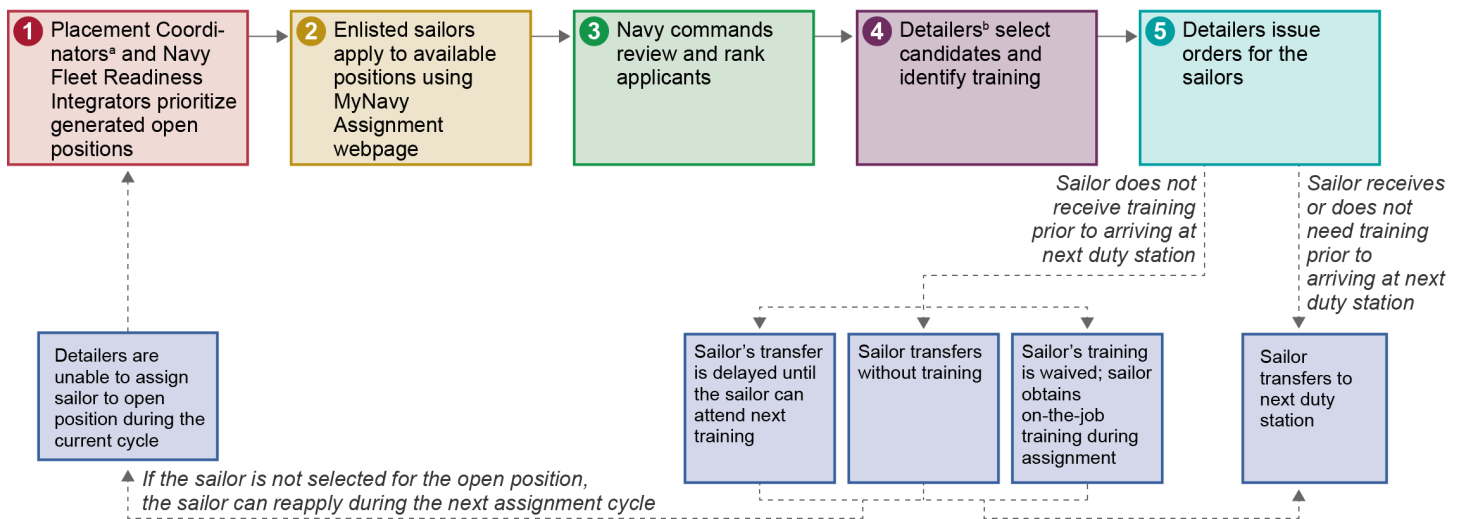
<sup>29</sup>According to Navy officials, there are not enough enlisted sailors to fill every open position.

<sup>30</sup>Sailors who have 12 months from the time of their rotation date are eligible to apply for open positions, according to Navy officials.

require additional training that the selected sailors must complete prior to arriving at their next duty station. According to Navy officials, orders given to the sailors selected for the open positions include a requirement that this training be completed.

- **Phase five: Detailers issue orders.** The assignment process concludes once detailers issue orders and sailors receive the assignment decision. Sailors have approximately 3 days to review the results in MyNavy Assignment before the 2-month cycle closes. (See fig. 2).

**Figure 2: Navy’s Enlisted Sailor Assignment and Training Process**



Source: GAO analysis of Navy documents and discussions with officials. | GAO-24-105811

<sup>a</sup>Personnel known as placement coordinators from the Enlisted Placement Management Branch work with the fleet readiness integrators to review and prioritize the open positions that the fleets would like to fill during the current cycle.

<sup>b</sup>Personnel known as detailers from the Enlisted Placement Management Branch review the responsibilities of the open positions and review any comments provided by the Navy units as they select the best-qualified sailors to fill them.

**Sailor Observations on Training and Relevant Experience**

Enlisted sailors in the Supervisor, Journeyman, and Apprentice pay bands who participated in our small group discussions offered their observations on working with sailors who were not adequately trained and lacked experience to perform their job duties. We highlight some of their observations here.

- I did not receive the necessary training for my position before coming onboard the ship. I had a large learning curve. You learn that you must get the work done whether you have the training or not. I was assigned to a different technological system that I was not prepared for or trained on when I came onboard. (Supervisor group participant)
- It has been my experience that sailors receive half of their initial training related to their assigned positions but never have the opportunity to obtain the remaining half of their training. This negatively impacts us because the sailors cannot progress in their career without the additional training. (Journeyman / Apprentice group participant)
- Instead of sending technicians who are already qualified, trained, and educated for the position being filled, the Navy sends unqualified new sailors who do not possess the required knowledge to perform the vacant position. It takes almost 2 years to train new sailors. Once they are trained, the sailors leave to take positions at other duty stations. The effect: instead of spending those 2 years accomplishing the mission and performing the required maintenance day-to-day, a large amount of time is spent on just training basic technicians all over again. (Supervisor group participant)

Source: GAO small group discussions with Navy enlisted sailors in Supervisor, Journeyman, and Apprentice pay bands. | GAO-24-105811

Navy Personnel Command officials strive to obtain required training for sailors before they arrive at their next assignments. However, this is not always possible. According to Navy officials, a sailor may not be able to obtain training prior to an assignment because the timing of the sailor's availability may not align with the school's schedule. Enlisted sailors in all 14 of our small group discussions stated that they had experienced working with sailors who were not adequately trained and lacked experience to perform their job duties (see sidebar).

According to Navy officials, when sailors are unable to obtain training prior to arriving at their next duty station, the Navy can take several actions. These actions include:

- delaying the sailor's deployment so that the sailor may attend training;
- deploying the sailor without training and sending the sailor to training at a later date;
- waiving formal training and providing the sailor on-the-job training while deployed; or



- not assigning a sailor to the specific open position during the current cycle.<sup>31</sup>

For officers, the Navy structures the crewing process differently. Specifically, responsibility for assigning officers to ships falls under several divisions within Navy Personnel Command that are dedicated to officer distribution. According to Navy officials, the two primary divisions are the Surface Officer Distribution Division and Submarine Officer Distribution Division.

- The **Surface Officer Distribution Division** assigns personnel to all open Surface Warfare Officer positions.<sup>32</sup> According to Navy officials, this surface officer placement office also tracks officers on the officer career path and, working with type commands, defines career milestones to help inform their next assignments.
- The **Submarine Officer Distribution Division** has a similar assignment to that of the surface officer placement office. Submarine officers have additional training requirements for nuclear equipment onboard submarines.

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## The Navy Sets Enlisted Crewing Target Levels but Does Not Document Any Needed Adjustments

The Navy issues annual guidance on enlisted crewing target levels for fill and fit metrics to monitor the personnel readiness of the fleet but does not document the review process it uses to determine whether adjustments to

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<sup>31</sup>Officials told us the training via Ready Relevant Learning was an option for those sailors that are not able to obtain training prior to arriving at their next duty station. Ready Relevant Learning is the Navy's initiative to improve sailors' performance by providing more timely and targeted training. In May 2021, we reported that the Navy was implementing and evaluating Ready Relevant Learning. [GAO-21-366](#). As of September 2023, the Navy had implemented some aspects of Ready Relevant Learning, such as the block learning for enlisted sailor occupations. However, the Navy was still working to fully implement other aspects for Ready Relevant Learning, such as requirement development. [GAO-24-106819](#).

<sup>32</sup>Surface Warfare Officers focus on the safe operation of Navy surface ships at sea, management of various shipboard systems, and the leadership of ships' crews. We have previously reported on Surface Warfare Officer retention and career paths. For example, we found that Surface Warfare Officers separate from their community earlier and at higher rates than officer in similar United States Navy Communities. GAO, *Navy Readiness: Actions Needed to Evaluate and Improve Surface Warfare Officer Career Path*, [GAO-21-168](#) (Washington, D.C.: June 17, 2021).

these targets are needed.<sup>33</sup> The Navy is unable to achieve 100 percent fill and fit for all its positions due to fiscal and personnel constraints, such as recruiting shortfalls. For example, the Navy requires 84,379 enlisted sailors across the 177 battle force ships that fall within the scope of our review; however, as of November 2023, the Navy had 70,705 enlisted sailors on board, or approximately 16 percent fewer sailors than required. According to Navy guidance, fiscal constraints can restrict the Navy from funding all validated personnel requirements.<sup>34</sup> Additionally, officials told us that they must prioritize what positions to fill because the Navy does not have enough sailors to fill all the open positions that exist. As previously noted, the Navy is aware of its personnel issues across the fleet and is working to resolve them.<sup>35</sup>

The Navy uses enlisted crewing target levels for fill and fit to aid its prioritization of limited personnel resources. Navy officials told us that they conduct an annual review of their sea duty units' enlisted crewing target levels to identify if any updates are needed. They then issue the annual guidance based on this review.<sup>36</sup> Navy officials said they consider several factors during their review of the enlisted crewing target levels, including a unit's mission sets, a unit's proximity to an operation, maintenance metrics, and crewing models.<sup>37</sup> For example, the Navy has identified five categories of units. It lists and prioritizes the order by which the units will receive personnel, with one being the highest priority—for Strategic Nuclear Forces, Special Operations Forces, and units that

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<sup>33</sup>COMUSFLTFORCOM/COMPACFLT Notice 1000. The Commanders of U.S. Fleet Forces Command and U.S. Pacific Fleet jointly produce and issue this Navy guidance on enlisted crewing targets. As previously noted, the Navy's term for assigning personnel, to include personnel to ships, is "manning." In this report, we use the terms "crews," "crewing," or "assigning" instead of "manning." Additionally, the Navy sets "enlisted sea duty minimum manning threshold levels." In this report, we refer to this as "minimum enlisted crewing target threshold level(s)" or "enlisted crewing target levels."

<sup>34</sup>OPNAVINST 1000.16L.

<sup>35</sup>In May 2021, we found that the Navy projected the need to increase personnel levels to crew a growing fleet but was likely understating the amount required. We recommended that the Navy use crew requirements to project future personnel needs. The Navy concurred, and in 2022 it calculated its future personnel needs using both funded positions and crew requirements, projecting that it needs 3,000 to 10,000 more personnel over the next 30 years. [GAO-21-366](#).

<sup>36</sup>COMUSFLTFORCOM/COMPACFLT Notice 1000.

<sup>37</sup>According to Navy guidance, both Fleet Forces Command and Pacific Fleet use an aviation maintenance metric to monitor aviation squadron readiness. COMUSFLTFORCOM/COMPACFLT Notice 1000.

support either—and five being the lowest priority. Table 2 shows the five priority categories and the types of units under each category.

**Table 2: Navy Priority Categories Used to Inform Enlisted Crewing Target Levels for Fill and Fit Metrics**

Priority	Units
1 (highest)	<ul style="list-style-type: none"> <li>• Strategic Nuclear Forces</li> <li>• Special Operations Forces</li> <li>• Strategic Nuclear Forces (Support)</li> <li>• Special Operations Forces (Support)</li> </ul>
2	<ul style="list-style-type: none"> <li>• Overseas homeported ships</li> </ul>
3	<ul style="list-style-type: none"> <li>• Overseas Remote Land-based Sea Duty<sup>a</sup></li> </ul>
4	<ul style="list-style-type: none"> <li>• Continental United States homeported ships</li> <li>• Additional sea duty units                             <ul style="list-style-type: none"> <li>• Guided missile destroyer (DDG 1000)</li> <li>• Cruiser and Dock Landing Ship Modernization</li> <li>• Maritime Prepositioning Ships Squadron</li> <li>• Intelligence Exploitation Team Direct Support Activities</li> <li>• Surveillance Towed Array Sensor System</li> <li>• Expeditionary Sea Base</li> <li>• Submarine Tenders</li> </ul> </li> </ul>
5 (lowest)	<ul style="list-style-type: none"> <li>• All Other Sea Duty<sup>b</sup></li> </ul>

Source: GAO analysis of Navy information. | GAO-24-105811

<sup>a</sup>Refers to units that perform in a land-based activity that is credited as sea duty for rotational purposes due to the relative undesirability of the geographic area.

<sup>b</sup>According to Navy officials, these are deploying units that have not been assigned a crewing date and are required to attain/sustain crewing target levels of 90 percent fill and fit, such as crews of Navy hospital ships and transportation squadrons.

We found, however, that the Navy does not document the process for its review leading up to the issuance of annual guidance for minimum enlisted crewing target threshold levels. According to Fleet Forces Command and Pacific Fleet officials, there is no documentation of the review process other than the culminating guidance itself. Our review of the guidance found that it represents the Navy’s decisions related to minimum enlisted crewing target threshold levels but that the guidance does not contain information such as the factors considered that informed any specific decisions to maintain or adjust the levels.

Additionally, officials were unable to provide documentation to support why minimum enlisted crewing target threshold levels did not require adjustments. We reviewed 5 years of Navy guidance on minimum enlisted crewing target threshold levels from calendar year 2019 through calendar year 2023 and found that only one of 58 levels listed in this

guidance changed. However, Navy officials were unable to provide documentation about why that change occurred. Specifically, we found one unit, part of a Helicopter Maritime Strike Squadron, whose fit target changed from 92 percent in 2021, to 90 percent in 2022.<sup>38</sup> According to Navy officials, the change in the fit target for the Helicopter Maritime Strike Squadron was caused by the squadron changing homeports—from a continental United States location to an overseas location. Specifically, the change of location and transition to an expeditionary Helicopter Maritime Strike Squadron resulted in a lower fit target level. Fleet Forces Command officials stated that the change was made verbally, and that they did not have any documentation to support the change.

*Standards for Internal Control in the Federal Government* state that management should establish and operate monitoring activities to monitor the internal control system and evaluate the results.<sup>39</sup> One attribute of such a system is the establishment of a baseline. These standards also state that management should design control activities to achieve objectives and respond to risks. As part of this process, management clearly documents all transactions in a manner that allows the documentation to be readily available for examination. Additionally, the standards provide that documentation is properly managed and maintained. Moreover, the standards state that management should internally communicate the necessary quality information to achieve the entity's objectives. The standards also provide that management communicates quality information at all levels.

However, the Navy's guidance on minimum enlisted crewing target threshold levels does not require the Navy to document the review process, to include the factors it considers when determining whether to change or maintain such targets.<sup>40</sup> By documenting the process it considers when deciding whether to change or maintain its enlisted crewing target levels, the Navy can help ensure that it has the quality information it needs to re-evaluate decisions. Additionally, as Navy plans to increase fleet size, it will be increasingly important to document the rationale for changing, or maintaining, target levels. Documenting this process can also ensure the Navy has the necessary information to understand how and why prior adjustments were made to better inform

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<sup>38</sup>This Helicopter Maritime Strike Squadron is responsible for delivering ship and air capabilities for a specific area of responsibility.

<sup>39</sup>[GAO-14-704G](#).

<sup>40</sup>COMUSFLTFORCOM/COMPACFLT Notice 1000.

enlisted crewing target levels in the future. Additionally, documenting the factors it considers when determining needed adjustments will ensure that the decision-making process is fully transparent for all personnel involved in determining such target levels.

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## Limitations in the Navy's Fill and Fit Data Obscure Actual Crewing Levels

As previously discussed, the Navy uses fill and fit data to monitor the personnel readiness of the fleet. However, we found that the Navy's fill and fit metrics present users, such as Navy senior leadership and decision-makers, with data that are not sufficiently reliable in what they purport to present. Specifically, some fill and fit metric business rules count junior enlisted sailors as filling the positions of more senior sailors. Additionally, the issues of inaccurate fill and fit data is discussed in section 597 of the NDAA for Fiscal Year 2020, which restated a special rule prohibiting such counting when the Navy provides certain reports to congressional defense committees.<sup>41</sup> Additionally, the Navy's various business rules for fill and fit are not consistent. Lastly, the Navy does not measure all required fill and fit metrics or accurately report them to Congress.

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### Some Fill and Fit Metric Business Rules Count Junior Enlisted Sailors in Positions of More Senior Sailors

We found that the Navy's business rules include two business rules that count junior enlisted sailors as filling the positions of more senior sailors (more detail on all the business rules and related documents are discussed in the following section). Specifically, these two business rules are known as the **"Quality of Alignment 6 rule"** and the **"Nuclear rule"**

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<sup>41</sup>Section 597 of the National Defense Authorization Act for Fiscal Year 2020 restated a special rule prohibiting the counting of sailors in more junior pay grades as filling positions of more senior pay grades. Specifically, this special rule applies to certain congressional notifications on manning (which we refer to as crewing in this report) of afloat naval forces. Under section 597, Secretary of the Navy must notify the congressional defense committees in writing not later than 30 days after the end of each quarter if the manning fill or fit of a commissioned and counted battle force ship is less than 90 percent or 87 percent, respectively, for more than 14 days during the quarter. Pub. L. No. 116-92. See also, section 525 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019. John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, § 525 (2018).

(see sidebar).<sup>42</sup> The Navy, as previously noted, groups a range of enlisted pay grades into three pay bands: Supervisor (E-7 through E-9), Journeyman (E-5 through E-6), and Apprentice (E-1 through E-4).

**Two Navy Business Rules Count Junior Enlisted Sailors in the Positions of More Senior Sailors**

Two business rules we identified affect Navy's calculation of fill and fit metrics that result in counting some enlisted sailors as filling positions that require more senior-level sailors.

1. The **Quality of Alignment 6 rule** is used to substitute one pay grade for a higher pay grade, as well as to substitute ratings (e.g., count a Journeyman as filling a Supervisor position).
2. The **Nuclear rule** is similar to the **Quality of Alignment 6 rule** in that it allows enlisted junior sailors to count as filling positions of more senior sailors. However, this rule is specific to those positions with nuclear Navy enlisted classifications.

Source: GAO analysis of Navy information. | GAO-24-105811

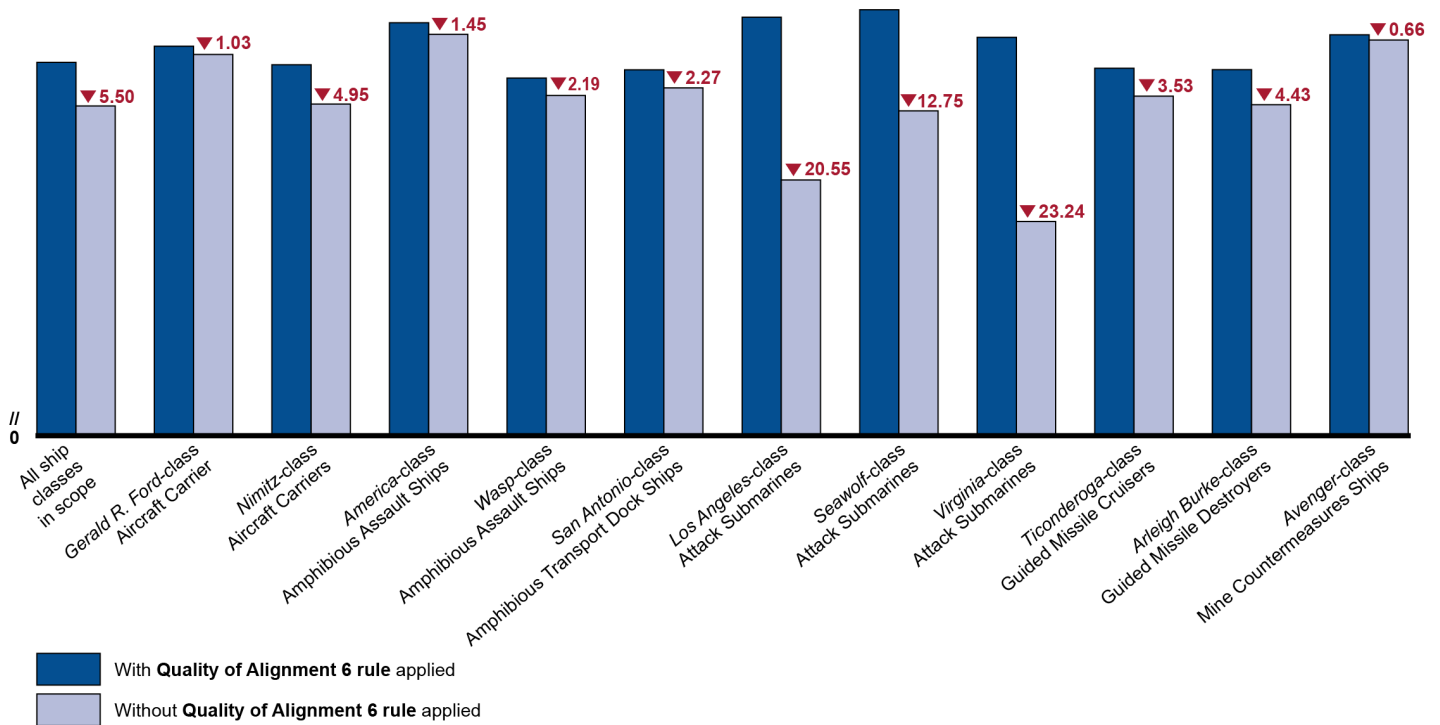
We found that these two rules, which consider the skill and experience of enlisted sailors, inflate the enlisted rating control number fit metrics in a way that makes fit appear to meet or be closer to the enlisted crewing target levels set by the Navy than it actually is.<sup>43</sup> For example, with the **Quality of Alignment 6 rule**, any sailor aligned as such can be considered fit for that position—even when the sailor is not a perfect match for the position in terms of the required pay grade. Under this rule, a Journeyman can be counted as filling a Supervisor position.<sup>44</sup> Our analysis of fit data found that when we removed this rule, fit across the 177 ships in our scope fell by almost 6 percent, with significant variation by ship class. (See fig. 3).

<sup>42</sup>In this report, we refer to the Navy's business rule for fill and fit specific to nuclear Navy enlisted classifications as the "**Nuclear rule**." The Navy uses Quality of Alignment pairings to consider how best a sailor aligns to the rating, pay grade, or some other Navy enlisted classification requirement of a position. In total, there are seven different qualities of alignment. For example, Quality of Alignment 1 refers to a perfect match while Quality of Alignment 6, which is the basis of the **Quality of Alignment 6 rule** in one of the documents governing such business rules for fill and fit, refers to an alignment that falls outside procedures governing alignments and is used to substitute one pay grade for a higher pay grade, as well as to substitute ratings (e.g., count a Journeyman as filling a Supervisor position).

<sup>43</sup>Rating control number fit represents the skill and experience (by pay band—Supervisor, Journeyman, and Apprentice) of personnel onboard a ship.

<sup>44</sup>Alignment quality considers how best a sailor aligns to the rating, pay grade, or some other Navy enlisted classification requirement of a position.

**Figure 3: Navy Enlisted Rating Control Number Fit Data as of May 2023, with and without Quality of Alignment 6 Rule Applied**  
Percent



Source: GAO analysis of Navy data. | GAO-24-105811

**Accessible data for Figure 3: Navy Enlisted Rating Control Number Fit Data as of May 2023, with and without Quality of Alignment 6 Rule Applied**

All ship classes in scope	With Quality of Alignment 6 rule applied	87.09
	Without Quality of Alignment 6 rule applied	81.59
Ford-class	With Quality of Alignment 6 rule applied	89.13
	Without Quality of Alignment 6 rule applied	88.1
Nimitz-class	With Quality of Alignment 6 rule applied	86.79
	Without Quality of Alignment 6 rule applied	81.84
America-class	With Quality of Alignment 6 rule applied	92.09
	Without Quality of Alignment 6 rule applied	90.64
Wasp-class	With Quality of Alignment 6 rule applied	85.11
	Without Quality of Alignment 6 rule applied	82.91
San Antonio-class	With Quality of Alignment 6 rule applied	86.15
	Without Quality of Alignment 6 rule applied	83.88

Letter

Los Angeles-class	With Quality of Alignment 6 rule applied	92.8
	Without Quality of Alignment 6 rule applied	72.26
Seawolf-class	With Quality of Alignment 6 rule applied	93.74
	Without Quality of Alignment 6 rule applied	80.98
Virginia-class	With Quality of Alignment 6 rule applied	90.26
	Without Quality of Alignment 6 rule applied	67.01
Ticonderoga-class	With Quality of Alignment 6 rule applied	86.35
	Without Quality of Alignment 6 rule applied	82.83
Arleigh Burke-class	With Quality of Alignment 6 rule applied	86.18
	Without Quality of Alignment 6 rule applied	81.75
Avenger-class	With Quality of Alignment 6 rule applied	90.58
	Without Quality of Alignment 6 rule applied	89.92

Source: GAO analysis of Navy data. | GAO-24-105811

Note: **The Quality of Alignment 6 rule** is one of two business rules for fill and fit metrics that count some enlisted junior sailors in positions that require more senior-level sailors.

In some instances when we removed this rule, fit fell by more for certain classes of ships, such as attack submarines, as illustrated by these two examples:

- **Attack submarines, Los Angeles-class.** Fit for this class fell from about 93 percent to about 72 percent—about a 20 percent drop when we removed the rule.
- **Attack submarines, Virginia-class.** Fit for this class fell from about 90 percent to about 67 percent—about a 23 percent drop when we removed the rule.

The second rule—the **Nuclear rule**—only affects ships having nuclear Navy enlisted classifications, such as aircraft carriers and attack submarines, which are both nuclear-powered. Our analysis found that when we removed the **Nuclear rule**, the effect was minimal on the 177 ships within our scope, with fit falling by less than half a percent. However, we found that the **Nuclear rule** affected fit more for aircraft carriers and attack submarines with nuclear Navy enlisted classifications. Specifically, our review and analysis of the data found instances of:

- **Apprentices counted as Journeymen in the fit data.** When the **Nuclear rule** was applied, the USS *George Washington*, an aircraft carrier, had 67 Journeymen as fit for the position of Surface Ship Nuclear Propulsion Plant Operator – Electrical. However, we found that removing the application of this rule, the total number of qualified Journeymen dropped to 35—revealing that 27 of the 67 sailors were



Apprentices (5 Journeymen may have come from a different position having either excess Supervisors or Journeymen).<sup>45</sup>

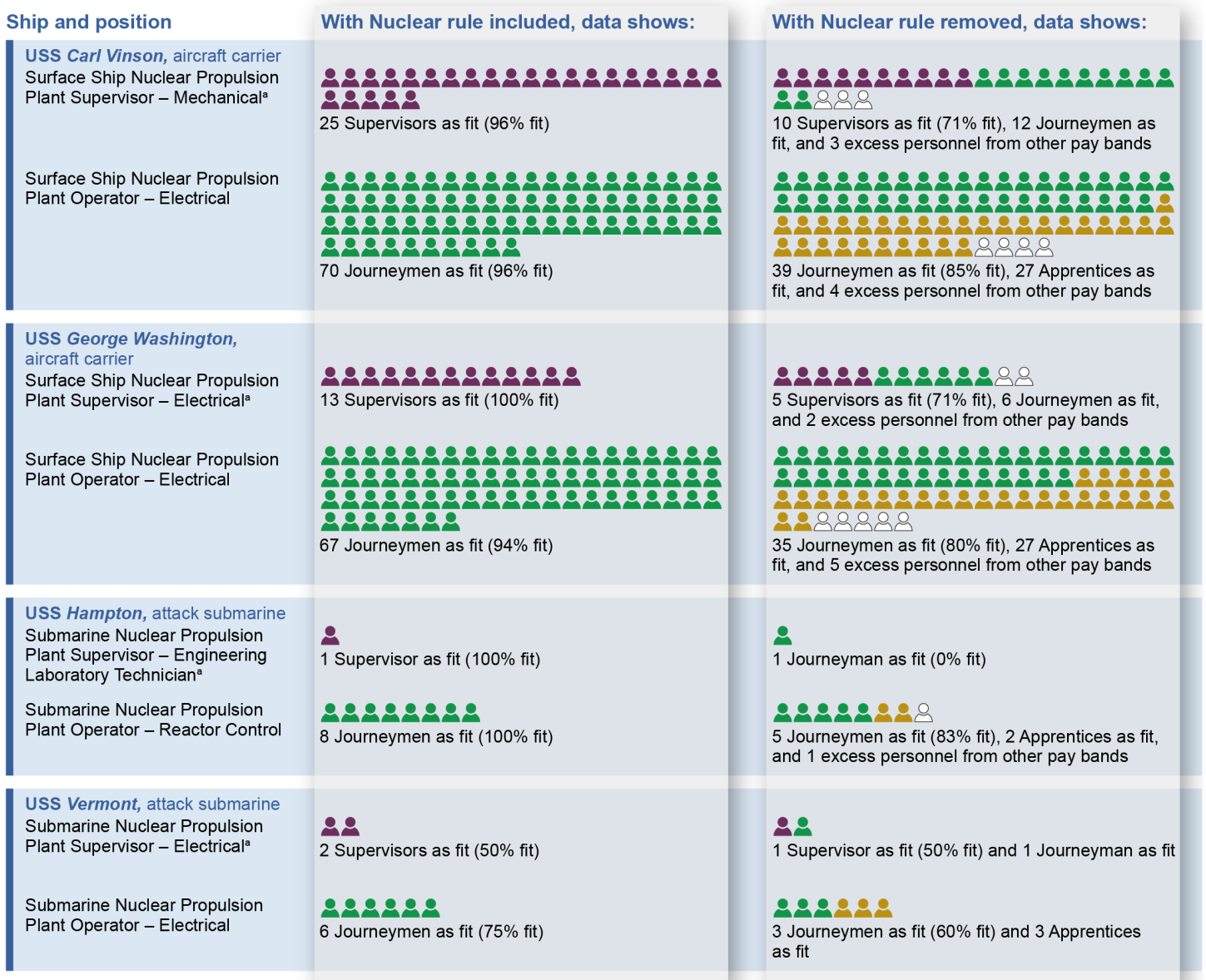
- **Journeyman counted as a Supervisor in the fit data.** The USS *Montpelier*, an attack submarine, had one Supervisor sailor counted as fit for the position of Submarine Nuclear Propulsion Plant Supervisors – Engineering Laboratory Technician. With the rule not applied, the total number of qualified Supervisors fell to zero—revealing that the one sailor was a Journeyman.<sup>46</sup> (See fig. 4).





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<sup>45</sup>Totals without the **Nuclear rule** may not equal the fit total with the **Nuclear rule** included because the business rules allow for excess enlisted sailors from other positions to count as filling a position of a more junior sailor. According to cognizant Navy officials, the difference in totals without the **Nuclear rule** applied to the data may represent instances where Supervisors or Journeymen from different positions—whose positions had excess—were also used to count towards the fit. However, these officials stated that the data would not show exactly which positions and pay bands contributed to this fit.

<sup>46</sup>We take no position on how well the individual performed their duties; however, the sailor is identified as being a Journeyman in a position that requires a sailor identified as a Supervisor.

**Figure 4: Effects of the Nuclear Rule on Navy Enlisted Sailor Rating Control Number Fit Data for Selected Ships with Nuclear Positions, as of May 2023**



 Supervisor (E-7 to E-9)<sup>b</sup>  
 Journeyman (E-5 to E-6)<sup>c</sup>  
 Apprentice (E-1 to E-4)<sup>d</sup>  
 Excess enlisted personnel from other pay bands<sup>e</sup>

Source: GAO analysis of Navy data. | GAO-24-105811

**Accessible data for Figure 4: Effects of the Nuclear Rule on Navy Enlisted Sailor Rating Control Number Fit Data for Selected Ships with Nuclear Positions, as of May 2023**

Ship and position	With Nuclear rule included, data shows:	With Nuclear rule removed, data shows:
<b>USS Carl Vinson, aircraft carrier</b> Surface Ship Nuclear Propulsion Plant Supervisor – Mechanical <sup>a</sup>	25 Supervisors as fit (96% fit)	10 Supervisors as fit (71% fit), 12 Journeymen as fit, and 3 excess personnel from other pay bands
<b>USS Carl Vinson, aircraft carrier</b> Surface Ship Nuclear Propulsion Plant Operator – Electrical	70 Journeymen as fit (96% fit)	39 Journeymen as fit (85% fit), 27 Apprentices as fit, and 4 excess personnel from other pay bands
<b>USS George Washington, aircraft carrier</b> Surface Ship Nuclear Propulsion Plant Supervisor – Electrical <sup>a</sup>	13 Supervisors as fit (100% fit)	5 Supervisors as fit (71% fit), 6 Journeymen as fit, and 2 excess personnel from other pay bands
<b>USS George Washington, aircraft carrier</b> Surface Ship Nuclear Propulsion Plant Operator – Electrical	67 Journeymen as fit (94% fit)	35 Journeymen as fit (80% fit), 27 Apprentices as fit, and 5 excess personnel from other pay bands
<b>USS Hampton, attack submarine</b> Submarine Nuclear Propulsion Plant Supervisor – Engineering Laboratory Technician <sup>a</sup>	1 Supervisor as fit (100% fit)	1 Journeyman as fit (0% fit)
<b>USS Hampton, attack submarine</b> Submarine Nuclear Propulsion Plant Operator – Reactor Control	8 Journeymen as fit (100% fit)	5 Journeymen as fit (83% fit), 2 Apprentices as fit, and 1 excess personnel from other pay bands
<b>USS Vermont, attack submarine</b> Submarine Nuclear Propulsion Plant Supervisor – Electrical <sup>a</sup>	2 Supervisors as fit (50% fit)	1 Supervisor as fit (50% fit) and 1 Journeyman as fit
<b>USS Vermont, attack submarine</b> Submarine Nuclear Propulsion Plant Operator – Electrical	6 Journeymen as fit (75% fit)	3 Journeymen as fit (60% fit) and 3 Apprentices as fit

Supervisor (E-7 to E-9)<sup>b</sup>  
 Journeyman (E-5 to E-6)<sup>c</sup>  
 Apprentice (E-1 to E-4)<sup>d</sup>  
 Excess enlisted personnel from other pay bands<sup>e</sup>

Source: GAO analysis of Navy data. | GAO-24-105811

<sup>a</sup>The Navy requires sailors (petty officers second class, E-5, and above) to have completed 4 or more years of active naval service and to receive a recommendation from the Commanding Officer for assignment to this position. The Commanding Officer must also ensure sailors in pay grade E-5 have completed all military and professional requirements for advancement to E-6, such as specific qualifications and advancement requirements. For submarines, Supervisors are considered fully qualified by virtue of seniority, experience, and demonstrated proficiency to supervise the operation and maintenance of a submarine nuclear propulsion plant.

<sup>b</sup>Personnel in this pay band include chief petty officers, senior chief petty officers, and master chief petty officers: E-7s are capable of completing tasks normal to their rating, as well as training of more junior sailors; E-8s provide higher-level technical and managerial expertise; and E-9s contribute to forming and implementing policy.

<sup>c</sup>Personnel in this pay band are petty officers: E-5s and E-6s are technicians and work managers within ratings, who possess increasing degrees of skill. These personnel are capable of accomplishing tasks normal to their rating and pay grade, to include the skills required to maintain, repair, and operate systems and subsystems.

<sup>d</sup>Personnel in this pay band are petty officers, general rates with apprenticeships, and designated and non-designated personnel: E-4s are similar to E-5s and E-6s in abilities; and E-1s to E-3s are the most junior personnel, who are eligible and identified to enter various ratings or not selected to enter a specific rating.

<sup>e</sup>Totals without the **Nuclear rule** may not equal the fit total with the **Nuclear rule** included because the business rules allow for excess personnel from other positions to count as filling a position of a more junior sailor. The difference in totals without the **Nuclear rule** in the data may represent instances where a Supervisor or Journeyman from a different position—whose positions had excess—were also used to count towards the fit total when the rule was applied.

The **Nuclear rule** also affected the enlisted rating control number fill metric (i.e., number of personnel onboard a ship). Specifically, we found similar instances of Apprentices filling Journeymen gaps and the latter filling Supervisor gaps in the fill data for these pay bands. For example, when this rule was applied, Supervisors having the Navy enlisted classification of Surface Ship Nuclear Propulsion Plant Supervisor – Mechanical on the USS *Carl Vinson*, an aircraft carrier, had a fill percentage of about 96 percent for this pay band. However, when this rule was not applied, the fill percentage for this pay band fell to about 71 percent.

Navy officials from the Navy Personnel Command Career Management Department and Fleet Forces Command provided conflicting information about whether such rules should be applied to calculate fill and fit metrics. For example, officials from the Navy Personnel Command Career Management Department told us that the business rules do not allow junior sailors to count as filling the position of a senior sailor. In contrast, Fleet Forces Command officials said such rules are allowed for nuclear positions. However, despite potential disagreements between Navy officials, the rules are currently being applied.

However, in emails we reviewed from 2022 among Navy officials regarding the **Nuclear rule**, we found that officials from the Navy Personnel Command Career Management Department and Fleet Forces Command both stated that the current reports for rating control number fill and fit may be misleading in what they represent for nuclear positions onboard aircraft carriers and attack submarines. Rather than adjust the current rating control number fill and fit metric reports by removing the **Nuclear rule**, these officials requested that officials responsible for making changes to fill and fit data create a separate table that does not include the rule. According to the emails we reviewed among Navy officials, Fleet Forces Command officials stated that fleet leadership directed them to track chief petty officers (i.e., E-7s through E-9s) without

the rule applied to have visibility over personnel safety and operational risk factors.<sup>47</sup>

The Navy also identified issues with managing crewing using fill and fit, as well as ensuring that enlisted sailors at the Supervisor pay band are sufficiently crewed to ships. In its report released in April 2023 on the investigation of command climate and sailor quality of life onboard the USS *George Washington*, the Navy stated that departure and gains of personnel, prioritization of assignments, or unexpected personnel transfers had led to gaps in crewing.<sup>48</sup> According to the investigation, ships and Type Commanders routinely struggle with managing this problem. Additionally, the investigation found that the current method of managing a ship's crewing through fill and fit, with insufficient available supply of senior leadership, leads to a competition for scarce personnel that further affects those ships with insufficient prioritization, such as aircraft carriers undergoing refueling and complex overhaul. For example, the Navy's investigation found that during its multi-year refueling and complex overhaul, the USS *George Washington* had insufficient supervisory personnel to provide effective training, mentorship, quality-of-life oversight, and overall development of assigned sailors.

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<sup>47</sup>The Navy included a fill metric for the monitoring of chief petty officers in April 2023 guidance on minimum manning threshold levels. However, the guidance did not include a fit metric for chief petty officers. COMUSFLTFORCOM/COMPACFLT Notice 1000.

<sup>48</sup>Navy, U.S. Fleet Forces Command, *Investigation Into Command Climate And Sailor Quality of Life Onboard the USS George Washington (CVN 73) Inclusive of Systemic Challenges That Impact Carriers Undergoing Extensive Maintenance or Construction In Newport News*.

**Sailor Observations on Ship Crewing**

Enlisted sailors in the Supervisor, Journeyman, and Apprentice pay bands who participated in our small group discussions offered their observations on ship crewing. We highlight some observations here.

- The Navy will often just send a body to a ship to fill a “gap” or vacant position so the ship can deploy. A lot of times, the Navy does not try to match the sailor’s skills and experience. It is even worse when the position being filled is a leadership position, and the sailor that arrives is so junior that you end up in a “who is training who” scenario. (Supervisor group participant)
- The Navy just wants to throw bodies at the problem; it thinks if a sailor can just fill the gapped position, things will be better. However, if the sailor filling the gap does not have the right knowledge, experience, or qualifications—then the gap will still exist as it relates to fit. (Journeyman / Apprentice group participant)
- We are ramping-up again to prepare for the next deployment. And because we do not have all the sailors we need, it is now difficult to meet all the department’s and ship’s requirements for this effort. We have a lot of junior sailors now and no leadership (i.e., no chiefs). As a result, in my department, we are leaning on junior sailors to fill chief crewing gaps and meet the requirement for a major Pacific ocean-based training exercise. (Supervisor group participant)
- There are not enough senior sailors in the Machinist’s department onboard the ship. For example, in my department, there are three junior sailors and essentially no senior sailors in this area. This kind of crewing creates a single point of failure. (Journeyman / Apprentice group participant)

Source: GAO small group discussions with Navy enlisted sailors in Supervisor, Journeyman, and Apprentice pay bands. | GAO-24-105811

Enlisted sailors in all 14 of our small group discussions told us there were not enough Supervisors onboard the ships (see side bar). Participants’ experiences regarding the lack of Supervisors onboard ships were consistent with what we found in the fit data, as noted above in the analysis of the **Quality of Alignment 6 rule** and **Nuclear rule**. Sailors we met with at the Apprentice and Journeyman pay bands told us they are sometimes tasked to fill Supervisor gaps and work in unsafe environments. For example, a participant in one small group stated, “I had to do the chief role because there was no chief.” Separately, another participant stated that the engineering department was “severely undermanned. We do not have enough petty officers and chief petty officers to help teach junior sailors and ensure a safe working environment.”

We interviewed leaders from the seven ships where the sailors participating in the small group discussions were stationed to ask about their observations regarding ship crewing. Leaders from all seven ships told us that gapped positions onboard the ship create challenges, lower morale, and put the mission at risk. In addition, leaders from one ship told us that they rely on their own personnel data because the Navy’s fill and

fit data do not accurately represent the true extent of such shortfalls onboard the ship.<sup>49</sup>

Navy officials from Fleet Forces Command and the Navy Personnel Command Career Management Department told us that they use the **Quality of Alignment 6 rule** and the **Nuclear rule** for fill and fit to aid them in focusing on ensuring sailors onboard the ship have the right specialty skills (i.e., Navy enlisted classifications) to meet readiness and mission requirements. According to officials, specialty skills are more important than a sailor's skill (rating) and experience (pay band) for the position. These officials acknowledged, however, that removing such rules from fill and fit could provide a more transparent and accurate view of the skills and the experience level of sailors onboard. This data could also provide additional information to policymakers regarding experience gaps that the Navy must work around.

As noted above, section 597 of the NDAA for Fiscal Year 2020 includes a special rule prohibiting the counting of sailors in more junior pay grades as filling positions of more senior pay grades when having to provide certain reports on enlisted fill and fit levels to the congressional defense committees.<sup>50</sup> Further, *Standards for Internal Control in the Federal Government* state that management should use quality information to achieve the entity's objectives.<sup>51</sup> As part of this process, management uses relevant data from reliable internal and external sources that are reasonably free from error and faithfully represent what they purport to represent.

The Navy has not ensured the reliability of fill and fit data or that such data actually represent what they purport to because responsible officials are unclear as to whether the fill and fit business rules should include those rules that count junior enlisted sailors in the positions of more senior sailors. As a result, fill and fit data are not reliable in what they purport to present. Until it removes the rules that allow for a junior sailor to count as filling the position of a more senior sailor from its fill and fit metrics, the Navy will not be able to ensure that data actually represent

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<sup>49</sup>Leadership also shared their observations about other personnel issues concerning ship crewing. For example, leadership from all seven ships told us that the Navy increasingly relies on filling gapped positions on ships by temporarily taking personnel from other ships—which over half called a “Band-Aid” for dealing with such personnel issues.

<sup>50</sup>Pub. L. No. 116-92.

<sup>51</sup>[GAO-14-704G](#).

what they purport to represent—reliable fill and fit data that provides an accurate understanding of the true extent of the skill and experience gaps across the fleet.<sup>52</sup> Lastly, the Navy will continue to report data on fill and fit to the congressional defense committees that includes counting prohibited by section 597 of the NDAA for Fiscal Year 2020 and that are not sufficiently reliable in what they purport to present.

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### The Navy's Business Rules Are Not Consistent and Source System Data Are Not Documented

As discussed above, the Navy has numerous business rules that inform the calculations and thus the output for each of the fill and fit metrics. However, the Navy business rules for fill and fit metrics are not consistently documented across the documents we reviewed and, at times, contradict one another.<sup>53</sup> In total, we reviewed five documents provided by cognizant Navy officials that contain the 38 business rules that we reviewed across the various fill and fit metrics. Specifically, we compared each of the fill and fit business rules contained in the three documents Fleet Forces Command provided us with the two other documents provided by other cognizant Navy officials concerning the rules. Specifically, we found the following regarding the business rules for fill and fit metrics:

- **Rating control number fill.** Our review of the four rules for this metric found that only one—the rule regarding how this enlisted fill metric is calculated—was consistent across the documents. Our review found that a majority (three of four) of the rules were not consistent. As an example, the rules about what positions should be considered for inclusion and exclusions were not consistent. Specifically, for inclusions, one document for the business rules stated that all closed-loop Navy enlisted classifications should be included. However, the other two documents we reviewed did not provide any information

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<sup>52</sup>Improving such data could aid Navy in monitoring its efforts to address a number of personnel challenges, such as sailor fatigue. See [GAO-24-106819](#).

<sup>53</sup>In total there are five documents that contain the 38 business rules that we reviewed across the various fill and fit metrics. Specifically, we reviewed the following three documents: 1) CSC, *Enlisted RCN Fit Common Operating Definitions* (Nov. 8, 2013); 2) CSC, *Enlisted NEC Fit Common Operating Definitions* (Mar. 18, 2015); and 3) CSC, *Officer Fit Common Operating Definitions* (Nov. 8, 2013). We compared each of the fill and fit business rules contained in these documents to the following two other documents: 1) Chief of Naval Operations, *Rating Fit Metrics* (Mar. 2019); and 2) *Enterprise Performance Management, Navy Training Management and Planning System (NTMPS), Enterprise Performance Management System (EPM)* (Sept. 13, 2022).



about the inclusion of closed-loop Navy enlisted classifications that should be included.<sup>54</sup>

- **Rating control number fit.** Our review of the nine rules for this metric found that only three were consistent across the documents. For example, the rules regarding 1) how to calculate this enlisted fit metric; 2) how to account for excess Supervisors, Journeymen, and Apprentices; and 3) allowing more senior sailors to count as filling gaps of more junior sailors, were consistent. However, we found that more than half of the rules (six of nine) were not consistent across the documents. For example, the rule regarding counting a junior sailor in the position of a more senior sailor is not consistent. One of the documents states that an Apprentice and Journeyman cannot count as filling the position of a Supervisor. In contrast, a different but related document allows for a Journeyman to count as filling the position of a Supervisor.
- **Navy enlisted classification fit.** Our review of the 10 rules for this metric found that none were consistent across the documents. For example, the business rule for calculating this fit metric was not consistent across the documents we reviewed. Specifically, all the documents provided different details for how this metric should be calculated. One document for the business rules stated that to obtain the Navy enlisted classification fit calculation, the denominator should be the count of funded positions for each Navy enlisted classification and rating. However, one of the other documents we reviewed stated that the denominator should be the Navy enlisted classification requirement.
- **Officer fill and fit.** Our review of the three rules for officer fill and the 12 rules for officer fit found that none of the rules were consistent across the documents. Additionally, we found that one of the documents did not include any information on officer fill or fit business rules.
- **Source system data not consistent across the business rules.** Our review of the information about source systems was also not consistent or was absent across each of the business rules we

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<sup>54</sup>Navy, *My Navy Assignment User's (MNA) Guide*, Version 3.0i, (Feb. 14, 2022). According to Navy guidance, excess personnel can be identified by a sailor's alignment to an excess position. This may or may not indicate that the sailor is in excess of the funded position. Procedures for alignment can cause a member to be aligned to an excess position even though there may be a vacant position for that sailor's rating and pay grade—this is known as closed-loop Navy enlisted classifications.

reviewed.<sup>55</sup> For example, one of the documents listed six systems as sources of data for rating control number fill and fit metrics, such as the TFMMS, MyNavy Assignment, and the Navy Standard Integrated Personnel System. However, another document did not include any information regarding source systems.

Further, Navy source system data are not identified in system or application specific documentation, as required by Navy guidance, and do not match data used by the application for fill and fit.<sup>56</sup> We found the following:

- **Navy source system data used for fill and fit metrics are not documented.** The Navy lacked documentation on what specific data from the source systems it uses to inform the fill and fit metrics. Specifically, Navy officials from different offices confirmed that there was no documentation on what specific data from the source systems are used for the fill and fit metrics. Further, Navy officials stated that they did not have this documentation because they replaced an electronic data cataloging tool, which would have captured such information. Navy officials said that, as a result, they do not have documentation of the data from source systems that provide data used to calculate fill and fit metrics.
- **Navy source system data did not match with data in Cognos and Tableau for fill and fit.** We compared TFMMS data for requirements and funded positions against Cognos and Tableau for the same type of data used for fill and fit metrics. We compared this data because Navy guidance identified TFMMS as the authoritative source for requirements and funded position data.<sup>57</sup> Additionally, some of the documents on business rules for fill and fit metrics listed the system as a source for these metrics. However, we found that TFMMS and Cognos enlisted requirements data only matched about 44 percent of the time for the 177 ships in our scope from fiscal years 2020 through

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<sup>55</sup>Specifically, we found the following regarding data sources, to include data tables, for each of the fill and fit metrics: 1) for rating control number fill, all three rules were not consistent; 2) for rating control number fit, all five rules were not consistent; 3) for Navy enlisted classification fit, all five rules were not consistent; and 4) for officer fill and fit, all three rules were not consistent. None of the documents related to the business rules included information about the specific source data from the systems that are used in calculating fill or fit.

<sup>56</sup>Department of the Navy, *Naval Data Management Concept of Employment, v1.0* (Aug. 28, 2020).

<sup>57</sup>OPNAVINST 1000.16L.

2022.<sup>58</sup> Additionally, we found that funded position data between the two sources only matched about 60 percent of the time for those ships from fiscal years 2018 through 2022. The comparison with Tableau for the same two periods yielded similar results of data not matching. Knowledgeable Navy officials told us that it is not possible to compare source system data to the data used in Cognos and Tableau for fill and fit metrics because the business rules are always applied to the data tables for the metrics. However, despite what Navy officials stated, our analysis of the data found instances where requirements and funded position data did match from the source system through the applications.

DOD's 2020 data strategy includes the goal of making data trustworthy in order to deliver value to stakeholders, as a lack of confidence in data may result in less timely decision-making.<sup>59</sup> The Navy confirmed its support of DOD's data strategy goals of utilizing data for decision-making.<sup>60</sup> Moreover, *Standards for Internal Control in the Federal Government* state that management should use quality information to achieve the entity's objectives.<sup>61</sup> Specifically, quality information is appropriate, complete, and accurate.

The inconsistencies and source system data issues we identified occurred because the Navy has not taken steps to review and align business rules to ensure consistency across the five Navy documents used to inform the calculations for fill and fit metrics. It also has not documented the source data that inform the calculations for fill and fit metrics. Consequently, the Navy cannot be certain that these inconsistent business rules and source system data provide accurate fill and fit metric data to monitor ship readiness. Until the Navy reviews the business rules and source data that inform calculations for fill and fit metrics and aligns

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<sup>58</sup>As discussed in our scope and methodology, when comparing TFMMS requirements data against Cognos and Tableau, we only compared data from fiscal years 2020 through 2022, see Appendix I. Further, section 597 of the National Defense Authorization Act for Fiscal Year 2020 required that Navy also compare fill and fit against requirements established in Ship Manpower Documents. Pub. L. No. 116-92. The prior statute did not require the Navy to conduct such a comparison. John S. McCain National Defense Authorization Act NDAA for Fiscal Year 2019, Pub. L. No. 115-232, § 525 (2018).

<sup>59</sup>DOD, *DOD Data Strategy* (Sept. 30, 2020).

<sup>60</sup>Secretary of the Navy Memorandum, *Department of the Navy Actions to Data Advantage* (June 24, 2021).

<sup>61</sup>[GAO-14-704G](#).

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them for consistency, it will continue to rely on data that may be inaccurate when monitoring ship readiness.

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## The Navy Does Not Measure or Report to Congress All Required Fill and Fit Metrics

Section 597 of the NDAA for Fiscal Year 2020 requires that the Navy measure and report all enlisted fill and fit metrics—to include skill, experience, and specialty skill information—against funded positions as well as personnel requirements, when below certain thresholds.<sup>62</sup> We found limitations in the Navy’s reporting to Congress on fill and fit metrics. Specifically, the Navy only measures and reports enlisted rating control number fill and fit metrics to the congressional defense committees. The Navy does not report separate information related to Navy enlisted classification fill and fit metrics, which provide information on specialty skills, to the congressional defense committees. The Navy does not report such information because it has not established separate thresholds for measuring those Navy enlisted classification metrics, according to officials. Thus, with the Navy not measuring the specialty skills required by and filled by sailors onboard ships against funded positions and personnel requirements and reporting this fill and fit metric, Congress is not receiving important information on the extent to which enlisted sailors assigned to a unit compare with the specialized skill requirements for that unit.

Until the Navy establishes thresholds for measuring Navy enlisted classification fill and fit metrics—and measures them against funded positions and personnel requirements and reports this information to Congress—it will continue to provide information to the congressional

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<sup>62</sup>As explained earlier, the Navy is required to report this information to the congressional defense committees under certain circumstances established in section 597 of the NDAA for Fiscal Year 2020. Specifically, if information on crewing fill or fit of a commissioned and counted battle force ship is less than 90 percent or 87 percent, respectively, for more than 14 days during a fiscal year quarter, the congressional defense committees must be notified not later than 30 days after the end of the quarter. The fill and fit data provided in the notification may not count sailors in more junior pay grades as filling positions of more senior pay grades. For purposes of the notification, “fit” means the skills (rating), experience (pay grade), and specialty skills (Navy enlisted classifications) for the ship when compared with the ship manpower document requirement and billets authorized for such skills and experience. “Fill” is defined as the total number of military personnel assigned to the ship by rating when compared with the ship manpower document requirement and billets authorized for the ship by rating. Pub. L. No. 116-92, § 597.

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defense committees that is based on incomplete enlisted fill and fit metrics.

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## The Navy Does Not Consistently Use Validated Personnel Requirements to Inform Decisions

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### The Navy Determines the Number of Funded Positions Needed to Meet Personnel Requirements

The Navy determines the funded positions needed to meet personnel requirements, to include those for ships, through an annual process that considers planning, programming, and budgeting. This annual process supports the Navy's objective to provide commanders with the most effective mix of naval forces, equipment, and personnel attainable within fiscal constraints.

The Deputy Chief of Naval Operations, Integration of Capabilities and Resources, provides annual guidance on funding levels for personnel programming. For example, the Navy's guidance for fiscal years 2023–2027 states that funding for personnel assigned to ships and submarines should be set to a minimum of 95 percent of the requirement needed for those vessels.<sup>63</sup> According to Navy officials, they make decisions on personnel funding at different times during the programming process. Additionally, Navy officials told us that various Navy sources, to include data from the TFMMS, inform personnel funding decisions.

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### Several Issues Limit the Reliability of the Navy's Validated Requirements

As previously noted, NAVMAC is responsible for validating personnel requirements, including personnel requirements for ships.<sup>64</sup> These

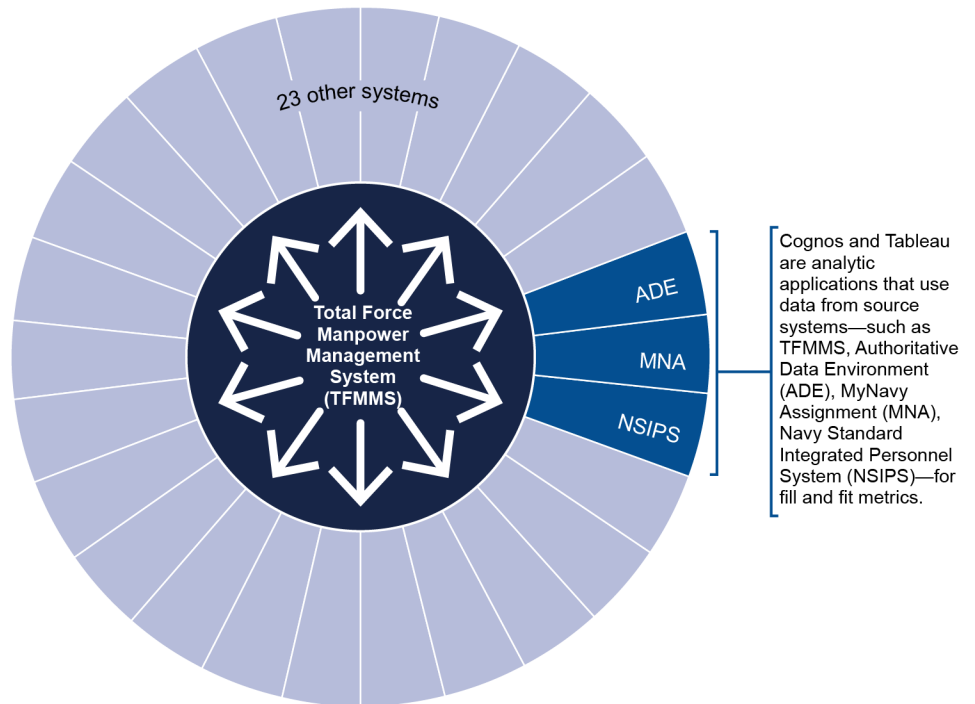
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<sup>63</sup>Navy, Office of the Chief of Naval Operations Serial N83/20UI42015, *Serial 02A Enclosure (I) - Programming and Fiscal Guidance for the Readiness Requirement Line of Effort (LOE) In Program Objective Memorandum (POM) Fiscal Years 2023-2027* (Oct. 19, 2020). As previously noted, the POM is the final product of the programming process within DOD. The components' POM displays the resource allocation decisions of the military departments in response to and in accordance with strategic planning and joint programming guidance. DOD 7000.14-R, *Financial Management Regulation*, vol. 2A, chap. 1, § 1.7.2.44 (Oct. 2008).

<sup>64</sup>OPNAVINST 1000.16L.

validated personnel requirements are documented in SMDs. NAVMAC then inputs the validated personnel requirements from the SMDs into TFMMS.<sup>65</sup> In turn, TFMMS shares data, to include personnel requirements data, with several other Navy systems. The Navy uses 26 systems and applications that receive and use TFMMS data, as depicted in figure 5. The Navy uses data from these systems and applications to inform decisions about budgets and personnel assignments, as well as to monitor and report, both internally and externally, on fleet readiness and enlisted crewing target levels. Specifically, the application for fill and fit uses source data from TFMMS—as well as the Authoritative Data Environment, MyNavy Assignment, and the Navy Standard Integrated Personnel System. (See fig. 5).

**Figure 5: Systems That Receive and Use Total Force Manpower Management System Data**



Source: GAO analysis of Navy information. | GAO-24-105811

We found that several issues limit the reliability of the Navy's validated requirements within the Navy's information technology systems and

<sup>65</sup>As previously noted, TFMMS is the Navy's authoritative data system for personnel requirements and funded positions.

applications. Specifically, we found that data in TFMMS generally do not match validated requirements, that Navy guidance describes requirements inconsistently and does not clearly identify roles for validating changes to personnel requirements, and other Navy offices—such as budget submitting offices—changed data in TFMMS without NAVMAC revalidating it.

**Data in TFMMS about required crew do not represent validated requirements.** Data in TFMMS about required enlisted and officer crew positions for ships do not represent the requirement validated by NAVMAC and documented in the SMD. We found that data in TFMMS for personnel requirements were sometimes lower and sometimes higher than the personnel requirements NAVMAC validated and documented in the SMD. For example,

- From fiscal year 2018 through fiscal year 2022, we found that about 46 out of the 177 ships we reviewed had enlisted requirements data in TFMMS that were lower than the validated requirements documented in the SMD. These included *Ticonderoga*-class guided missile cruisers (CG 47), *Arleigh Burke*-class guided missile destroyers (DDG 51), and *Nimitz*-class aircraft carriers (CVN 68). Our comparison of this data found TFMMS data were lower than the SMD's validated requirements by, at times, dozens of positions. For example, in fiscal year 2019, the data in TFMMS for enlisted requirements for the USS *Leyte Gulf*, a guided missile cruiser, were lower than the SMD's validated requirements by an average difference of approximately 34 positions. Similarly, the TFMMS data for the USS *Ramage*, a guided missile destroyer, reflected lower enlisted requirements in fiscal year 2019 than documented in the SMD by approximately 19 positions.
- In contrast, we found instances where TFMMS reflected enlisted requirements data that were higher than those documented in the SMD. For example, enlisted requirement data in TFMMS were higher than the SMD's validated requirements for about 112 out of the 177 ships in our scope from fiscal year 2018 through fiscal year 2022. Our comparison of this data found that the TFMMS data were higher than the SMD's validated requirements by, at times, dozens of positions. For example, in fiscal year 2021, the data in TFMMS for the USS *America*, an amphibious assault ship, was higher than the validated requirements documented in the SMD by about an average difference of 62 positions.
- We found similar results for officer requirements when comparing and analyzing TFMMS to the SMD. For officers, we found that about 10

out of the 177 ships in our scope for the same fiscal years had officer requirements in TFMMS that were lower than those reported in the SMD. Like the enlisted data we reviewed, officer data in TFMMS was higher than the SMD for about 149 out of 177 ships in our scope from fiscal year 2018 through fiscal year 2022.

**Navy guidance inconsistently describes personnel requirements and does not clearly identify which offices can validate changes to them.** The Navy does not consistently describe personnel requirements across different guidance documents. For example,

- Navy guidance on personnel policies and procedures states that TFMMS produces “authoritative manpower requirements” through the different products it produces, such as the Activity Manpower Document.<sup>66</sup> However, the same guidance also refers to “approved requirements” that must be reflected in SMDs or Activity Manpower Documents and reside in TFMMS. Although the SMD provides the validated personnel requirements determined by NAVMAC, the guidance does not describe the relationship between the NAVMAC determined “approved requirements” as documented in the SMD, and the TFMMS produced “authoritative manpower requirements,” and which set of requirements is to be viewed as validated.<sup>67</sup>
- Separate guidance that establishes enlisted crewing target levels refers to requirements as “validated requirements” and later notes that such requirements are used to measure fill and fit metrics.<sup>68</sup> But, this guidance does not state what is meant by validated requirements; specifically, whether the source of the data is from the SMDs.<sup>69</sup>

Moreover, Navy guidance does not clearly state that only NAVMAC can validate changes to these requirements for ships.

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<sup>66</sup>OPNAVINST 1000.16L. As previously noted, the Navy refers to “personnel” as “manpower.” This would include related terms, such as “manpower requirements” or “validated manpower requirements.” In this report, we refer to these terms as “personnel requirements” or “validated personnel requirements.” The Activity Manpower Document is a report produced by TFMMS.

<sup>67</sup>NAVMAC inputs new validated personnel requirements—such as those from SMDs—into TFMMS.

<sup>68</sup>COMUSFLTFORCOM/COMPACFLT Notice 1000. Validated fleet activities are determined by NAVMAC.

<sup>69</sup>As discussed earlier in the report, we found that the Navy does not consistently describe the personnel requirements data from TFMMS and the personnel requirements data used for fill and fit calculations as consistent data sets across the applications.



- According to Navy guidance concerning personnel policies and procedures, budget submitting offices validate *shore* personnel requirements.<sup>70</sup> However, this guidance does not identify budget submitting offices as validating personnel requirements for *ships*, such as those in SMDs. Additionally, the guidance states that validated personnel requirements for ships are determined and validated by NAVMAC through an analysis and a study that consider a number of factors, such as the average hours per week that personnel need to accomplish required workload.<sup>71</sup>
- Separate guidance, issued in April 2023, introduces confusion about the validation of ship personnel requirements. Specifically, this guidance identifies NAVMAC as validating requirements; however, it also states that there are “[budget submitting office]-validated manpower requirements.”<sup>72</sup> According to this guidance, these requirements reflect changes generated by the budget submitting offices based on their analysis.<sup>73</sup> However, the guidance does not specify what a budget submitting office analysis or validation would entail.<sup>74</sup> Further, budget submitting office officials from Fleet Forces Command and Pacific Fleet said that they do not validate changes. Additionally, the April 2023 guidance does not specifically clarify the relationship between requirements validated by NAVMAC and budget submitting office-generated changes to those requirements.

Navy officials from different Navy offices and commands provided different responses about what the personnel requirements data in TFMMS represent. For example, Fleet Forces Command stated that the requirements data in TFMMS represent the personnel requirements validated by NAVMAC. However, because officials other than NAVMAC have changed this data, NAVMAC and TFMMS officials told us that the personnel requirements data in TFMMS does not represent personnel

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<sup>70</sup>Pursuant to Navy guidance, budget submitting offices, which are major commands or bureaus receiving authorized personnel resources directly from the Chief of Naval Operations, may submit changes to programmed funded positions. OPNAVINST 1000.16L.

<sup>71</sup>Navy guidance refers to this as the Navy Availability Factor. It is a key element in the calculation of Navy personnel requirements. OPNAVINST 1000.16L.

<sup>72</sup>NAVMAC, *Activity Manpower Management Guide (AMMG)* (Apr. 2023).

<sup>73</sup>NAVMAC, *AMMG* (Apr. 2023). To request a change to NAVMAC validated requirements, the budget submitting offices must provide a letter of justification.

<sup>74</sup>According to the prior version of this guidance, personnel position changes in TFMMS by the budget submitting office were normally not determined through official analysis or study. NAVMAC, *Activity Manpower Management Guide (AMMG)* (May 2022).

requirements previously validated by NAVMAC. Additionally, NAVMAC officials told us that they believe Navy guidance assumes budget submitting offices' and Type Commands' changes in TFMMS to personnel requirements data are validated using their own processes. As previously noted, Navy guidance states that NAVMAC is responsible for validating personnel requirements for ships.

**Budget submitting offices can change some data in TFMMS.** Navy officials told us that there are effectively two sets of requirements in TFMMS: those by NAVMAC and those by budget submitting offices. As a result, the personnel requirements data in TFMMS do not only represent validated personnel requirements. Personnel requirements data in TFMMS includes both personnel requirements validated by NAVMAC and documented in SMDs, as well as data from manpower change requests (hereafter, change requests), which are approved by budget submitting offices. According to Navy officials, one of the reasons budget submitting offices approve these change requests is to reflect changes to ship capabilities after NAVMAC validates ship personnel requirements reflected in the SMD.<sup>75</sup> However, NAVMAC officials told us they do not review or validate such change requests in TFMMS. Our review of Navy guidance for the change request process found that it does not identify NAVMAC as a reviewer or validator of such changes.<sup>76</sup> Additionally, budget submitting office officials from Fleet Forces Command and Pacific Fleet said that they review and approve change requests but do not validate these changes.

In May 2022, the Navy updated guidance to restrict entities that are not NAVMAC—specifically, budget submitting offices—from changing validated personnel requirements data in TFMMS from SMDs.<sup>77</sup> Officials told us that Navy established these restrictions because they became aware that TFMMS users—such as budget submitting offices—were making unauthorized changes to this requirements data in TFMMS. However, as of October 2023, the Navy had not taken steps to ensure the quality of this data because, according to Navy officials, it would take a

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<sup>75</sup>These changes in TFMMS are later reflected in Activity Manpower Document reports produced by the system.

<sup>76</sup>Navy, Office of the Chief of Naval Operations Memorandum, *Billet Change Request Matrix* (Jan. 19, 2021).

<sup>77</sup>NAVMAC's May 2022 *Activity Manpower Management Guide* clarified which changes to selected data elements for NAVMAC-determined personnel requirements could be made only by NAVMAC. The guide was updated again in April 2023 and specifically identifies changes that budget submitting offices cannot make.

significant level of effort to identify and correct changes that were not in accordance with NAVMAC validated requirements documented in the SMD. Until the Navy ensures the quality of personnel requirements data in TFMMS, it risks relying on data that may have been altered.

*Standards for Internal Control in the Federal Government* state that management should use quality information to achieve the entity's objectives.<sup>78</sup> Quality information is appropriate, current, complete, accurate, accessible, and provided on a timely basis. Quality information meets identified information requirements when relevant data from reliable sources are used. Lastly, the standards also provide that reliable internal and external sources provide data that are reasonably free from error and faithfully represent what they purport to represent.<sup>79</sup>

We found the Navy has not taken several key steps to ensure the quality of its personnel requirements data, to include:

- ensuring guidance, such as that related to (1) personnel policies and procedures and (2) enlisted crewing target levels, uses consistent terms to clearly define and describe personnel requirements data and what these data represent in TFMMS;
- ensuring guidance, such as that related to (1) personnel policies and procedures and (2) personnel management data elements and values used in TFMMS, clearly and consistently specifies that only NAVMAC can validate changes to personnel requirements for ships;
- ensuring guidance concerning change requests—such as those made by budget submitting offices—requires that NAVMAC review and validate such changes when they concern personnel requirements data; and
- reviewing the quality of personnel requirements data in TFMMS to ensure that such data reliably and accurately represent validated requirements for use within the Navy, to include within Navy personnel systems.

Unless the Navy ensures that guidance, to include guidance on enlisted crewing target levels, clearly and consistently describes what the personnel requirements in TFMMS represent—Navy officials may

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<sup>78</sup>GAO-14-704G.

<sup>79</sup>Additionally, section 597 of the NDAA for Fiscal Year 2020 requires the Navy, under certain circumstances, to measure crewing levels using personnel requirements from the SMD, Pub. L. No. 116-92, § 597 (2019).

continue to make decisions and report data to Navy leadership and decision makers that do not accurately represent what they purport to. Similarly, unless the Navy ensures that guidance clearly and consistently specifies that only NAVMAC can validate a change to personnel requirements for ships, it cannot be certain that such changes are consistent with established guidance concerning requirement determinations. As a result, the Navy lacks certainty that such changes reflect validated personnel requirements or account for required workload. Moreover, without NAVMAC's review and validation, the Navy may allow for changes to personnel requirements data in TFMMS that may not accurately account for all required workload and activities necessary to support a ship's mission. Additionally, until the Navy takes steps to ensure the quality of personnel requirements data in TFMMS, it will continue to rely on data that may not be accurate, to include within Navy personnel systems.

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### Navy Guidance Regarding Validated Requirements Used to Determine the Number of Funded Positions for Ships Is Unclear

Navy POM guidance from fiscal year 2023 states that personnel programming must be linked to a "validated manpower document."<sup>80</sup> However, our review of POM guidance from fiscal year 2022 through fiscal year 2024 found that the guidance did not clearly describe or define what document Navy offices and commands should use to meet this requirement. For example, of the POM guidance documents we reviewed, only one explicitly identified the SMD (i.e., the document presenting personnel requirements validated by NAVMAC). The SMD reference is specific to "validated requirements changes," which this POM guidance notes should be linked to SMDs when making decisions about military personnel and training total ownerships costs. However, this guidance does not specify that the SMD is the "validated manpower document" that should be linked to all personnel programming decisions related to the POM. Although there are certain phases in the programming process where decisions about the funding of personnel occur, cognizant Navy officials from different offices said that they do not validate personnel

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<sup>80</sup>Office of the Chief of Naval Operations Serial N83/20UI42015, *Serial 02A Enclosure (I) - Programming and Fiscal Guidance for the Readiness Requirement Line of Effort (LOE) In Program Objective Memorandum (POM) Fiscal Years 2023-2027* (Oct. 19, 2020).

requirements as part of the programming process. These same officials also noted that only NAVMAC determines and validates requirements.

As previously discussed, the Navy uses a structured annual process to determine the funded positions it needs. However, Navy does not always validate changes to the personnel requirements that the Navy uses to inform the funding process. For example, our review of an April 2022 change request document—which is linked to the change request process we previously discussed—found that the Navy approved the addition of 11 positions for two *Arleigh Burke*-class guided missile destroyers (DDG 51). According to that document, Navy officials approved the additional positions for one of the ships to bypass the fiscal year 2023 POM process. Additionally, Navy officials approved shifting funding from one ship to another ship. Lastly, Navy officials approved adding the remaining positions to the fiscal year 2024 POM process. According to Navy guidance, these types of changes to personnel requirements represent changes not validated by official analysis or study (i.e., determined and validated by NAVMAC).<sup>81</sup> Further, cognizant Navy officials with Fleet Forces Command and Pacific Fleet stated that they will forward areas for funding that NAVMAC has not validated.

DOD guidance concerning personnel management states that military personnel resources shall be programmed in accordance with validated personnel requirements.<sup>82</sup> However, the Navy has not ensured that offices and commands involved in the programming process are using validated personnel requirements when developing and making determinations about what positions to fund because relevant guidance has not clearly defined or described what document to use.

Until the Navy updates relevant guidance to clarify what specific documents are considered to represent validated personnel requirements for use in the programming process, it cannot ensure that offices and commands involved in the programming process are making decisions based on validated personnel requirements.

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<sup>81</sup>NAVMAC, *AMMG* (Apr. 2023).

<sup>82</sup>Department of Defense Directive (DODD) 1100.4, *Guidance for Manpower Management* (Feb. 12, 2005).

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## The Navy Has Not Fully Established Structures to Manage Data and Information Technology for Personnel Systems

Across various levels that include offices within the Department of the Navy and the Chief of Naval Operations, the Navy has not fully established structures needed to manage data and information technology related to personnel systems that are used to inform and monitor crewing effectively, to include fill and fit metrics.<sup>83</sup> Specifically, we found that the Navy has (1) not finalized governance for the Business Mission Area, (2) not fully established a data and information technology governance structure, (3) one board on data management and two forums related to information technology that are inactive, and (4) not documented certain data standards and specifications.

**The Department of the Navy's Chief Information Officer has not finalized governance for the Business Mission Area.** Although the Navy established the Data Governance Board in April 2019 and has issued memorandums and other guidance to align its data and information technology strategies and efforts with DOD's, it is still finalizing other aspects of governance and management.<sup>84</sup> According to an October 2022 memorandum from the Under Secretary of the Navy, the Defense Business Systems and Business Enterprise Architecture Functions and resources were realigned from the Navy's Performance Improvement Office to the Navy's Chief Information Officer.<sup>85</sup> The memorandum also established the Chief Information Officer as responsible for managing and governing all of the Navy's Defense Business Systems and, in consultation with stakeholders, providing recommendations for the implementation of a Navy Business Mission

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<sup>83</sup>Navy has also listed the Authoritative Data Environment as a source of data for the fill and fit metrics. According to Navy's repository, the Authoritative Data Environment is a system of systems categorized as an Enterprise Information Environment Mission Area.

<sup>84</sup>Under Secretary of the Navy Memorandum, *Department of the Navy Data Governance Board Charter* (Oct. 31, 2019). The Data Governance Board functions as the senior Department of the Navy enterprise decision body for the development of coordinated enterprise positions on data strategy, policies, management, and standards. The Navy provided meeting minutes for the Board from June and July 2023.

<sup>85</sup>Under Secretary of the Navy Memorandum, *Realignment of Secretariat Defense Business Systems and Business Enterprise Architecture Duties and Responsibilities* (Oct. 11, 2022).

Area governance structure. Systems within the Business Mission Area include TFMMS, MyNavy Assignment, and the Navy Standard Integrated Personnel System, all of which, as previously discussed, provide data for fill and fit metrics.

However, Navy officials stated that the Department of the Navy's Chief Information Officer does not have a timeframe for finalizing or issuing the governance structure for the Business Mission Area.<sup>86</sup> Documentation provided by Navy officials, to include briefing slides on the proposed enterprise governance model, describe the Navy's early efforts to establish governance for the Business Mission Area. Although the department has worked to address data and information technology governance and management from multiple angles, it has not yet finalized these efforts, according to Navy officials.

**Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel does not have a fully established data governance structure.** Navy officials from the Enterprise Support/Information Technology Program Office—which has primary decision authority for information technology within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training—told us that the office was still working on a data governance structure. These same officials told us that a data management strategy was still in draft and that they did not have a date for issuing the strategy.<sup>87</sup>

**One board and two data management forums are not active.** The board responsible for governing data management by enforcing data policies and procedures is not active. Additionally, two governance forums focusing on information technology, to include MyNavy HR technology and transformation efforts, are not active.<sup>88</sup> According to Navy officials, these governance forums could potentially review changes concerning data related to TFMMS or fit and fill, if such changes met the

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<sup>86</sup>According to the October 11, 2022 realignment memorandum, the Department of the Navy's Chief Information Officer was to respond to the Under Secretary of the Navy with recommendations within 90 days to implement a Business Mission Area structure.

<sup>87</sup>*The DOD Data Stewardship Guidebook* states that the three essential data strategy capabilities—governance, talent and culture, and standards—are all leveraged within data stewardship roles and responsibilities to ensure that data are managed effectively at all levels. DOD Chief Data Officer, *DOD Data Stewardship Guidebook* (Oct. 2023).

<sup>88</sup>The Navy refers to human resources related to personnel, pay, and training as “MyNavy HR.”

thresholds required for review at this governance level. Specifically, we found that the:

- **Enterprise Information Management Board is not active.** As conveyed in its 2017 unsigned charter, this board would be responsible for executing governance over data management activities and responsibilities across the enterprise by enforcing data policies and procedures. Navy officials we met with stated that the board has been inactive since at least 2020. Since then, Navy officials said that they have conducted aspects of data governance—such as enforcing data policies and procedures—through informal channels, such as email and phone calls. In October 2023, officials told us that they are working to re-establish this board, but that they did not have a timeframe for when the board would stand up.
- **Operational Metrics Forum is not standing.** This forum would provide governance and execution in support of MyNavy HR information technology and transformation efforts, to include validating metrics to support crewing and meet fill and fit requirements. According to Navy officials, the Navy has not stood up the forum because of ongoing delays in the implementation of operational metrics throughout the MyNavy HR enterprise. Officials were unable to provide a timeframe for when the forum would stand up.
- **Enterprise Support Decision Review has not met.** Navy officials stated that the Enterprise Support Decision Review had not yet met, as of October 2023. According to officials, the board had not met yet because there have not been any topics brought to the Enterprise Support Governance Board that require elevation for a decision at the Enterprise Support Decision Review level.<sup>89</sup> However, as we discuss later in this section, there have been issues to elevate to the Enterprise Support Decision Review.

Several of the governance forums for information technology (noted above) were established by a Department of the Navy memorandum from February 2023.<sup>90</sup> According to this memorandum, the objectives of governance are to establish a centralized and standardized decision-making process to integrate all transformation-related reporting into a single process across all components of MyNavy HR. A governance

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<sup>89</sup>Appendix IV provides a table of the list of boards within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel, including the status of each as of October 2023.

<sup>90</sup>Chief of Naval Personnel Memorandum, *MyNavy HR Enterprise Support Governance Charter* (Feb. 1, 2023).



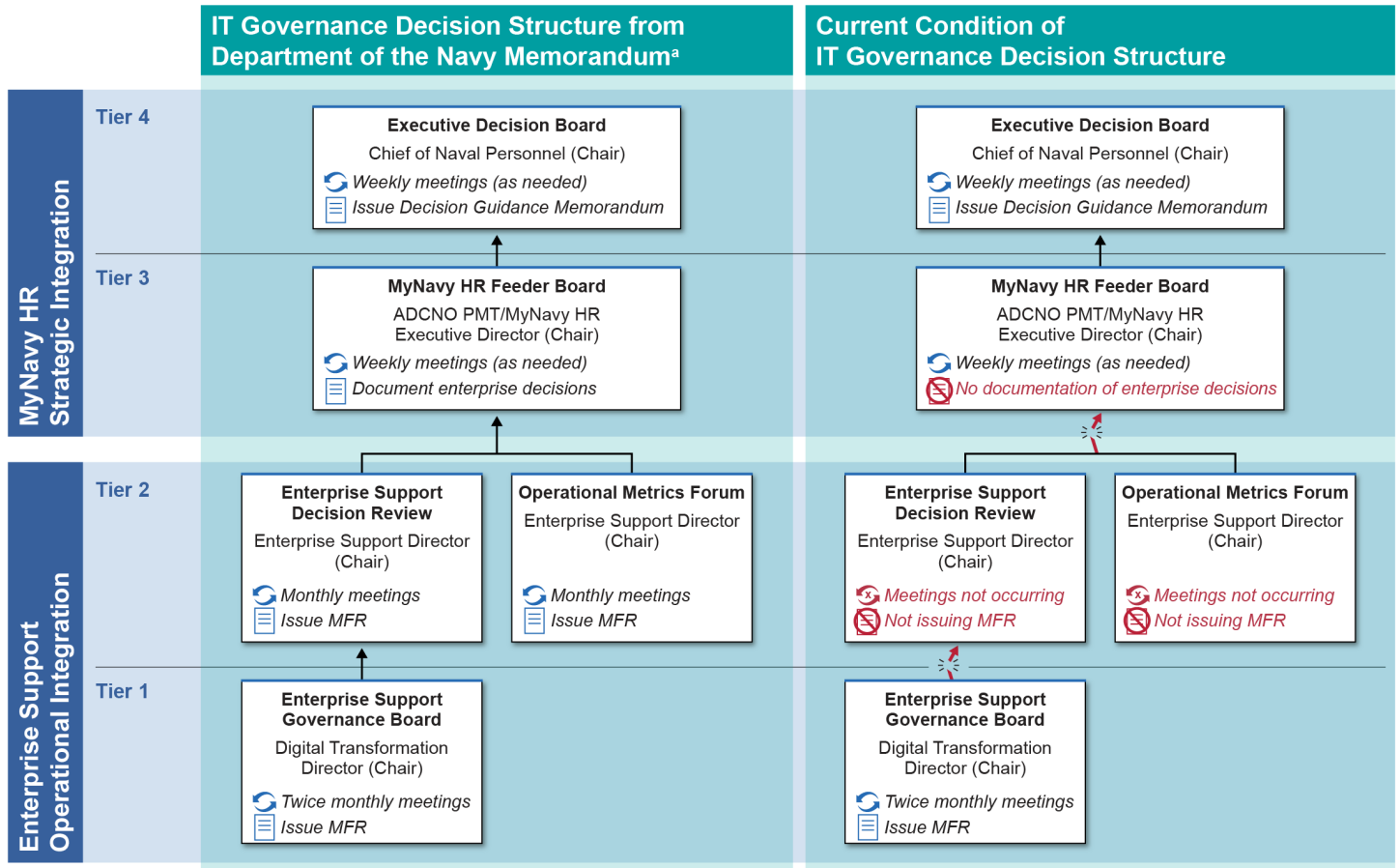
structure will elevate, align, and communicate MyNavy HR decisions while assisting and advising the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel in transforming the MyNavy HR Enterprise. However, the governance forums at what the memorandum refers to as the “second tier” of the governance structure (see figure 6, below) have not met to discuss issues that should have been elevated from the first tier or to validate metrics.

We reviewed meeting minutes from the Enterprise Support Governance Board that identified an issue with the Navy Standard Integrated Personnel System for elevation to the next governance tier. In September 2023, Navy officials with responsibilities regarding these boards confirmed that the issue related to the Navy Standard Integrated Personnel System should be elevated to the Enterprise Support Decision Review. Additionally, cognizant Navy officials acknowledge that they are making decisions regarding personnel systems, data, and information technology outside the governance structure outlined in the February 2023 memorandum. These same officials also said that they do not document decisions from the MyNavy HR Feeder Board (one of the boards from the February 2023 memorandum).<sup>91</sup> Figure 6 provides an overview of how governance at the different tiers should flow and illustrates the breakdowns in the current state of this structure, in terms of meetings not being held and decisions not being documented.

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<sup>91</sup>According to the memorandum, the intent of the MyNavy HR Feeder Board is to establish consensus and ensure that all relevant information is included prior to escalation to the Executive Decision Board.

**Figure 6: Overview of Enterprise Support/Information Technology Program Office Information Technology Governance Structure, Including Breakdowns across Tiers**



ADCNO PMT Assistant Deputy Chief of Naval Operations for Personnel, Manpower, and Training  
 IT Information Technology  
 MFR Memorandum for the Record  
 Source: GAO analysis of Navy information. | GAO-24-105811

**Accessible text for Figure 6: Overview of Enterprise Support/Information Technology Program Office Information Technology Governance Structure, Including Breakdowns across Tiers**

Integration	Tier	IT Governance Decision Structure from Department of the Navy Memorandum <sup>a</sup>	Current Condition of IT Governance Decision Structure
MyNavy HR Strategic Integration	Tier 4	<b>Executive Decision Board</b> Chief of Naval Personnel (Chair) Weekly meetings (as needed) Issue Decision Guidance Memorandum	<b>Executive Decision Board</b> Chief of Naval Personnel (Chair) Weekly meetings (as needed) Issue Decision Guidance Memorandum

Letter

Integration	Tier	IT Governance Decision Structure from Department of the Navy Memorandum <sup>a</sup>		Current Condition of IT Governance Decision Structure	
	Tier 3	<b>MyNavy HR Feeder Board</b> ADCNO PMT/MyNavy HR Executive Director (Chair) Weekly meetings (as needed) Document enterprise decisions		<b>MyNavy HR Feeder Board</b> ADCNO PMT/MyNavy HR Executive Director (Chair) Weekly meetings (as needed) <i>No documentation of enterprise decisions</i>	
Enterprise Support Operational Integration	Tier 2	<b>Enterprise Support Decision Review</b> Enterprise Support Director (Chair) Monthly meetings Issue MFR	<b>Operational Metrics Forum</b> Enterprise Support Director (Chair) Monthly meetings Issue MFR	Enterprise Support Decision Review Enterprise Support Director (Chair) <i>Meetings not occurring</i> <i>Not issuing MFR</i>	Operational Metrics Forum Enterprise Support Director (Chair) <i>Meetings not occurring</i> <i>Not issuing MFR</i>
	Tier 1	<b>Enterprise Support Governance Board</b> Digital Transformation Director (Chair) Twice monthly meetings Issue MFR	NA	<b>Enterprise Support Governance Board</b> Digital Transformation Director (Chair) Twice monthly meetings Issue MFR	NA

ADCNO PMT - Assistant Deputy Chief of Naval Operations for Personnel, Manpower, and Training  
 IT - Information Technology  
 MFR - Memorandum for the Record

Source: GAO analysis of Navy information. | GAO-24-105811

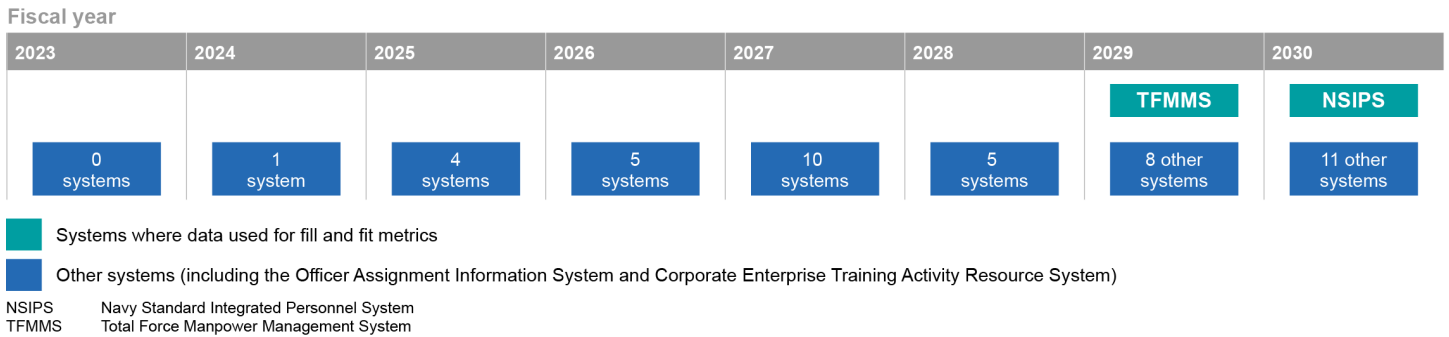
<sup>a</sup>Navy, Chief of Naval Personnel Memorandum, *MyNavy HR Enterprise Support Governance Charter* (Feb. 1, 2023).

**Chief of Naval Operations has not documented certain data standards and specifications.** We found that Navy officials lacked documentation regarding data processes and data sources for the Authoritative Data Environment. For example, in March 2023, Navy officials told us that they had not yet documented the processes to determine whether and which data added and contained in the Authoritative Data Environment are authoritative. In the interim, Navy officials said that they were using a process map to help guide efforts related to determining authoritative data sources as they migrate data into the Authoritative Data Environment. Additionally, as previously discussed, officials told us that they could not provide us with the specific data sources from the systems that inform calculations for fill and fit metrics. According to these officials, they had to replace the electronic data cataloging tool and do not have documentation of the specific data from source systems—such as TFMMS—in the Authoritative Data Environment, to include specific data used to calculate fill and fit metrics.

As previously noted, once completed in 2030 as planned, the Authoritative Data Environment will serve as the sole data warehouse for

personnel data. The Authoritative Data Environment will include data from systems that provide data for fill and fit metrics which, as we previously discussed, the Navy uses to monitor crewing levels, and thus fleet personnel readiness. Systems identified in Navy documents as data sources for fill and fit metrics include TFMMS, MyNavy Assignment, and the Navy Standard Integrated Personnel System. Data from some of these systems, as well as others, will migrate into the Authoritative Data Environment according to the Navy (see fig. 7).

**Figure 7: Draft Time Frames for Personnel Systems Migrating Data to the Authoritative Data Environment, to Include Some Systems that Provide Data for Fill and Fit Metrics, as of November 2023**



**Accessible data for Figure 7: Draft Time Frames for Personnel Systems Migrating Data to the Authoritative Data Environment, to Include Some Systems that Provide Data for Fill and Fit Metrics, as of November 2023**

Year	2023	2024	2025	2026	2027	2028	2029	2030
<b>Systems where data used for fill and fit metrics</b>							TFMMS	NSIPS
<b>Number of other systems (including the Officer Assignment Information System and Corporate Enterprise Training Activity Resource System)</b>	0	1	4	5	10	5	8	11

Source: GAO analysis of Navy information. | GAO-24-105811

In a 2020 memorandum, the Navy stated the need to accelerate its efforts to modernize and transform its information technology capabilities.<sup>92</sup> In a March 2023 memorandum, the Navy recommitted to these efforts and emphasized that governance is key to active engagement from senior stakeholders in the modernization process as well as the overall management of the Department of the Navy’s information technology

<sup>92</sup>Under Secretary of the Navy Memorandum, *OPERATION CATTLE DRIVE* (Dec. 2, 2020).

portfolios.<sup>93</sup> According to the 2020 memorandum, the Navy's first area of focus should be the Business Mission Area. Additionally, DOD guidance states that data governance provides the principles, policies, processes, frameworks, tools, metrics, and oversight required to effectively manage data at all levels—from creation to disposition.<sup>94</sup> Navy guidance on data management states that governance, as well as implemented standards and specifications, are required to achieve the Naval data management vision.<sup>95</sup> Additionally, a June 2021 Navy memorandum requires the Navy to establish a framework for managing data across the enterprise.<sup>96</sup>

*Standards for Internal Control in the Federal Government* establish that management should implement control activities through policies.<sup>97</sup> As part of this process, each unit documents policies in the appropriate level of detail to allow management to effectively monitor the control activity. The standards also state that management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives. The standards also provide that management should establish the organizational structure needed to enable the agency to plan and execute its objectives. In March 2023, we reported that effective oversight of business management systems is essential for producing reliable information.<sup>98</sup>

The Navy has not finalized governance structures for the Business Mission Area and for data and information technology management because it has not developed and implemented timeframes to do so. Further, according to officials, the Navy has not finalized a governance structure for data and information technology management because its focus has been on implementing transformation efforts, to include personnel systems. However, these transformation efforts have been ongoing since at least 2018 and have not considered whether

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<sup>93</sup>Under Secretary of the Navy Memorandum, *The Department of the Navy's Recommitment to Operation CATTLE DRIVE* (Mar. 17, 2023).

<sup>94</sup>*DOD Data Stewardship Guidebook*.

<sup>95</sup>Department of the Navy, *Naval Data Management Concept of Employment* (Aug. 28, 2020).

<sup>96</sup>Secretary of the Navy Memorandum, *Department of the Navy Actions to Data Advantage* (June 24, 2021).

<sup>97</sup>[GAO-14-704G](#).

<sup>98</sup>GAO, *Financial Management: DOD Needs to Improve System Oversight*, [GAO-23-104539](#) (Washington, D.C.: Mar. 7, 2023).

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governance structures for data and information technology management should include ensuring that all boards and forums are active and that data processes are documented. For example, despite the March 2023 memorandum to accelerate modernization and transformation, the Navy still has not committed to a timeframe to finalize governance structures for either the Business Mission Area or for data and information technology management.<sup>99</sup>

Until the Navy develops and implements a timeframe to finalize governance structures, it will continue to lack the necessary processes, framework, and oversight needed to effectively manage the data and information technology of personnel systems at all levels. In addition, unless the Navy ensures relevant boards and forums are active and data processes are documented as it continues its transformation efforts, it may continue to face challenges in properly managing the data and information technology of personnel systems. These challenges could impede the Navy's ability to ensure the quality and reliability of system data, to include using data—such as fill and fit metrics data—to monitor crewing levels and the personnel readiness of the fleet.

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## Conclusions

The Navy has recognized the need to address personnel challenges that include more effectively assigning its limited personnel across the fleet. The Navy has a process for assigning crewmembers and strives to meet ship crewing levels by filling funded positions and ensuring that crewmembers assigned to those positions have the requisite skills, experience, and qualifications to perform them. However, the Navy has not taken steps to document reviews of crewing target levels or revise fill and fit business rules that obscure the full extent of crewing shortfalls, as required by the NDAA for Fiscal Year 2020 when having to provide certain reports to the congressional defense committees. The Navy also has a process to determine funded positions, which it determines through an annual budgeting and programming process. However, the Navy has not ensured the quality of personnel requirements data by having clear guidance that specifies that only NAVMAC can validate personnel requirements changes for ships, nor has it consistently used validated requirements when making funding decisions. Lastly, we found that the Navy has taken some steps towards data and information technology

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<sup>99</sup>Under Secretary of the Navy Memorandum, *The Department of the Navy's Recommitment to Operation CATTLE DRIVE*.

governance and management of personnel systems but has not finalized them—for example, the board for data governance is not active, and data processes are not documented.

The Navy could monitor the readiness of the fleet more effectively by taking the steps outlined above. Doing so would better position the Navy to optimize crewing and ensure that personnel with requisite skills and experience are onboard ships to safely operate them.

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## Recommendations for Executive Action

We are making the following 11 recommendations to the Secretary of the Navy:

The Secretary of the Navy should ensure that the Commander, U.S. Fleet Forces Command and Commander, U.S. Pacific Fleet amend guidance to require documentation of the review process—to include the factors they consider—when determining whether enlisted crewing target levels should be adjusted. (Recommendation 1)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—removes the rules that allow junior sailors to count as filling positions of senior sailors in the Navy’s fill and fit metrics, including when having to provide such data in certain reports to Congress pursuant to section 597 of the NDAA for Fiscal Year 2020. (Recommendation 2)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—reviews all business rules and source system data that inform the calculations for fill and fit metrics and aligns them across relevant documents for consistency to ensure the quality of data it uses to monitor ship readiness. (Recommendation 3)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—establishes thresholds for measuring Navy enlisted classification fill and fit metrics against funded positions and

personnel requirements, and reports this information to Congress, when required to report pursuant to section 597 of the NDAA for Fiscal Year 2020. (Recommendation 4)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command and the Commander, U.S. Pacific Fleet—updates guidance related to (1) personnel policies and procedures and (2) enlisted crewing target levels to clearly and consistently describe those personnel requirements and what they represent in TFMMS. (Recommendation 5)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Navy Manpower Analysis Center—updates guidance related to (1) personnel policies and procedures and (2) personnel management data elements and values to clearly and consistently reflect that only NAVMAC can validate personnel requirements for ships. (Recommendation 6)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with Navy Manpower Analysis Center—updates guidance concerning change requests—such as those made by budget submitting offices—to require that the Navy Manpower Analysis Center review and validate such changes when they concern personnel requirements data. (Recommendation 7)

The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Navy Manpower Analysis Center—reviews the quality of personnel requirements data in TFMMS to ensure that such data reliably and accurately represent validated requirements for use within the Navy, to include within Navy personnel systems. (Recommendation 8)

The Secretary of the Navy should ensure that the Deputy Chief of Naval Operations for Integration of Capabilities and Resources updates relevant guidance to specify what documents represent validated personnel requirements that should be used when making decisions about what positions to fund for the upcoming budget cycle during the Program Objective Memorandum process. (Recommendation 9)

The Secretary of the Navy should ensure that the Department of the Navy Chief Information Officer develops and implements a timeframe to finalize the governance structure for the Business Mission Area for Navy's information technology. (Recommendation 10)



The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel—develops and implements a timeframe to finalize governance structures for data and information technology management as the Navy continues to transform personnel systems—including ensuring all boards and forums are active; and documenting data processes to help ensure the quality and reliability of system data used to inform and monitor crewing levels, such as fill and fit metrics data. (Recommendation 11)

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## Agency Comments and Our Evaluation

In February 2024, we provided a draft of this report to DOD for review and comment. In its April 2024 written response, the Navy concurred with six recommendations, partially concurred with two recommendations, and did not concur with three recommendations. The Navy's written comments are summarized below and reproduced in appendix V. The Navy also provided technical comments, which we incorporated as appropriate.

The Navy concurred with recommendations 10 and 11 without additional written comments. The Navy provided written comments for the four other recommendations with which it concurred, recommendations 3, 5, 7, and 8.

- In concurring with recommendation 3, the Navy stated that fill and fit data monitor enlisted crewing target levels and do not directly reflect ship readiness. As discussed in this report, the Navy uses fill and fit data to monitor the personnel readiness of each ship in the fleet. Reviewing the business rules and source data that inform calculations for fill and fit metrics and aligning such rules for consistency will enhance the accuracy of the crewing data the Navy uses to inform its monitoring of ship readiness.
- In concurring with recommendation 5, the Navy stated that it would update guidance concerning enlisted crewing target levels to provide better clarity that the Total Force Manpower Management System (TFMMS) is the source database for personnel requirements. The Navy also stated that its other guidance—related to personnel policies and procedures—already provides the necessary clarification. However, as discussed in this report, we found that neither guidance document clearly and consistently describes what these personnel requirements represent in TFMMS. Updating such guidance to clearly

and consistently describe personnel requirements data and what these data represent in TFMMS can help ensure Navy officials provide Navy leadership and decision-makers data that accurately represent validated requirements.

- In concurring with recommendation 7, the Navy stated it had implemented this recommendation by updating guidance concerning personnel management data and locking TFMMS to prevent budget submitting offices from changing such Navy Manpower Analysis Center (NAVMAC)-determined requirements. We acknowledge, as discussed in this report, that the Navy established restrictions in TFMMS to prevent entities that are not NAVMAC from changing validated personnel requirements data. However, separate guidance details the change request process, and this guidance does not include a role for NAVMAC to review or validate change requests. By updating the change request process guidance to require that NAVMAC review and validate changes to personnel requirements data, the Navy can ensure changes to such requirements data in TFMMS accurately account for all required workload to support a ship's mission.
- In concurring with recommendation 8, the Navy again stated it had implemented this recommendation by locking requirements in TFMMS to prevent entities other than NAVMAC from changing these data. However, as discussed in the report, the Navy should still take steps to ensure the quality of validated personnel requirements data already in TFMMS. By reviewing the quality of personnel requirements data currently found in TFMMS, the Navy can ensure those data are reliable and accurately represent validated requirements for use across the Navy, including within other Navy personnel systems.

The Navy partially concurred with recommendations 1 and 2 concerning enlisted crewing target levels and the removal of certain rules from Navy's fill and fit metrics.

- The Navy partially concurred with recommendation 1 to amend guidance to require documentation of the review process and factors considered when determining whether enlisted crewing target levels should be adjusted. In its response, the Navy stated that it included the factors it considers for evaluating changes to target levels in previous versions of this guidance. The Navy added that it plans to include such information once again in the upcoming annual revision for this guidance. As we stated in the report, it will also be increasingly

important to document the rationale for changing, or maintaining, enlisted crewing target levels as the Navy plans to increase the size of the fleet. Consistently documenting this process in each forthcoming revision will aid the Navy as it makes future decisions regarding whether any adjustments to enlisted crewing target levels should be made.

- The Navy partially concurred with recommendation 2 to remove the rules that allow junior sailors to count as filling positions of senior sailors in fill and fit metrics. According to the Navy, such rules serve to represent unit personnel readiness more accurately than could be achieved without those rules in place. Additionally, the Navy stated that it would include a note on personnel utilization to improve clarity in reporting pursuant to section 597 of the National Defense Authorization Act (NDAA) for Fiscal Year 2020. However, including a note about personnel utilization will not ensure that fill and fit data provided to Congress complies with the special rule prohibiting the counting of sailors in more junior pay grades as filling positions of more senior pay grades. Fully implementing our recommendation will help the Navy ensure that the fill and fit data it provides to senior leadership and to Congress are reliable and reflect the true extent of the skill and experience gaps across the fleet.

The Navy did not concur with recommendations 4, 6, and 9 concerning the reporting of Navy enlisted classification (NEC) fill and fit data to Congress and updating guidance to reflect that only NAVMAC can validate personnel requirements for ships or to specify what documents represent validated personnel requirements to use when funding positions.

- In nonconcurring with recommendation 4, the Navy stated that it assessed itself to be in compliance with the NDAA reporting requirements. According to the Navy, it worked with the congressional defense committees on the format it would use when reporting fill and fit data. Additionally, the Navy stated that its current reporting of such data includes information on both enlisted rating control number and NEC fit. However, as discussed in this report, the Navy only measures and reports enlisted rating control number fill and fit metrics to Congress. The Navy does not report separate data related to NEC fill and fit metrics. Section 597 of the NDAA for Fiscal Year 2020 requires the reporting of NEC fit data. We continue to believe that measuring NEC fill and fit metrics against funded positions and personnel requirements when reporting such data to Congress will ensure

Navy's reports are complete, as required by section 597. Including NEC fill and fit metric data will also ensure Congress receives important information about the extent to which enlisted sailors assigned to a unit compare with the specialized skill requirements for that unit—a key gap in current reporting.

- In nonconcurring with recommendation 6, the Navy stated that current guidance related to personnel policies and procedures establishes the requirements to develop, review, approve, and implement requirements and authorizations for all Navy activities. Additionally, the Navy stated that NAVMAC, budget submitting offices, and Type Commanders use the same standards to validate requirements. However, as discussed in this report, the Navy's guidance only identifies NAVMAC as validating personnel requirements through studies documented in Ship Manpower Documents. Additionally, although the guidance specifies that budget submitting offices can validate shore personnel requirements, it does not state that these offices can validate requirements for ships. Moreover, budget submitting office officials from Fleet Forces Command and Pacific Fleet said that they do not validate changes to such requirements. To be consistent with Navy guidance regarding the role of NAVMAC in validating requirements, changes to personnel requirements—to include interim changes occurring between Ship Manpower Document updates—should require NAVMAC validation. Updating guidance to clearly and consistently specify that only NAVMAC can validate changes to personnel requirements for ships will provide the Navy certainty that such changes reflect validated personnel requirements and account for required workload.
- In nonconcurring with recommendation 9, the Navy stated that the purpose of the Program Objective Memorandum (POM) guidance is to direct decisions during the POM process. The Navy noted that manpower is just one element of building the POM. As discussed in this report, Navy officials stated that they will forward areas for personnel funding that NAVMAC has not validated as part of the POM process. Clarifying what specific documents represent validated personnel requirements could help the Navy ensure offices and commands involved in the POM—those developing and making determinations about Navy personnel positions to fund—are making decisions based on personnel requirements that are validated.

We are sending copies of the report to the appropriate congressional committees, the Secretary of Defense, the Secretary of the Navy, and

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other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have questions about this report, please contact me at [MaurerD@gao.gov](mailto:MaurerD@gao.gov) or (202) 512-9627. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VI.

A handwritten signature in black ink that reads "Diana Maurer". The signature is written in a cursive style with a large, prominent "D" at the beginning.

Diana Maurer  
Director, Defense Capabilities and Management

# Appendix I: Objectives, Scope, Methodology

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## House Report and Objectives

A House report accompanying a bill for the National Defense Authorization Act (NDAA) for Fiscal Year 2022 included a provision for us to assess various aspects of the Navy's ship crewing efforts.<sup>1</sup> For example, the House report requested we assess the Navy's process for crewing personnel to ships, as well as other related matters, as appropriate.

In this report we review the extent to which the Navy,

- has a process for assigning crewmembers and adjusting crewing target levels;
- uses data that reflect accurate crewing levels;
- uses validated personnel requirements to make informed funding and crewing decisions; and
- has structures to manage personnel data used to inform crewing.

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## Methods Used to Evaluate the Navy's Efforts to Assign Personnel, Monitor Crewing, Use Accurate Data, Validate Requirements, and Implement Structures to Manage Data

For objective one, to identify the relevant ships in our scope, we reviewed prior GAO work related to this topic and the Naval Vessel Register, the Navy's official registry of active battle force ship inventory.<sup>2</sup> We identified 177 of the Navy's 242 active battle force ships listed in the Naval Vessel Register, as of October 2022, to be in scope. Our scope included the following ship classes:

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<sup>1</sup>H.R. Rep. No. 117-118, at 131-132 (2021).

<sup>2</sup>Secretary of the Navy Instruction (SECNAVINST) 5030.8D, *General Guidance for the Classification of Naval Vessels and Battle Force Ship Counting Procedures* (June 28, 2022).

- **Aircraft carriers.** *Nimitz*-class (CVN 68) and *Gerald R. Ford*-class (CVN 78).
- **Amphibious warfare ships.** Amphibious assault ships: *America*-class (LHA 6) and *Wasp*-class (LHD 1); and amphibious transport dock *San Antonio*-class (LPD 17).
- **Attack submarines.** *Seawolf*-class (SSN 21), *Los Angeles*-class (SSN 688), and *Virginia* class (SSN 774).
- **Mine warfare ships.** Mine countermeasures ship: *Avenger*-class (MCM 1).
- **Surface combatants.** *Ticonderoga*-class guided missile cruiser (CG 47) and *Arleigh Burke*-class guided missile destroyer (DDG 51).

We did not include all battle force categories or ships in our scope. For example, we did not include combatant craft or ships listed as “other,” which includes historical and research ships. Further, as the Navy announced plans to decommission nine littoral combat ships in fiscal year 2023, we did not include this class of ship in our scope. Lastly, as we included a number of different surface combatant ships in our scope—such as guided missile cruisers and destroyers—we did not include *Zumwalt*-class (DDG 1000).

We also conducted small group discussions with enlisted sailors in pay grades E-1–E-9, having critical Navy enlisted classifications, to obtain their experiences on ship crewing.<sup>3</sup> To identify which ships to hold small group discussions with, we obtained a list of critical Navy enlisted classifications from U.S. Fleet Forces Command and compared the list to the ship classes in our scope.<sup>4</sup> We identified 201 critical Navy enlisted classifications related to the ship classes in the scope of our engagement. Using this list, we selected four to five classes of ships that, combined, covered most of the critical Navy enlisted classifications possible across

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<sup>3</sup>The Navy groups a range of enlisted pay grades into three pay bands: Supervisor (E-7 through E-9), Journeyman (E-5 through E-6), and Apprentice (E-1 through E-4). The Navy uses fill and fit metrics to monitor the readiness of the fleet. The pay bands are an important factor in the calculations for fill and fit.

<sup>4</sup>Critical Navy enlisted classifications include rating community and career field codes with a high probability that combat or combat support mission essential task performance cannot be sustained without adequate crewing of this specific skill. Critical Navy enlisted classifications are informed by different factors, such as mission essential task lists. Additionally, Navy guidance concerning naval task lists, states that commanders will determine the essential tasks, to include those that they deem are absolutely necessary, indispensable, and critical to mission success. Office of the Chief of Naval Operations Instruction (OPNAVINST) 3500.38C, *Universal Naval Task List* (Apr. 25, 2022).

the ships in our scope. We then selected seven ships, one to two from each of those classes of ships, to hold the small group discussions:

- USS *Carl Vinson* (CVN 70)
- USS *George Washington* (CVN 73)
- USS *Bataan* (LHD 5)
- USS *Montpelier* (SSN 765)
- USS *Devastator* (MCM 6)
- USS *Lake Erie* (CG 70)
- USS *John Paul Jones* (DDG 53)

We worked with officials from U.S. Fleet Forces Command and U.S. Pacific Fleet to identify six to eight enlisted sailors to participate in the small group discussions.<sup>5</sup> For each ship, we met with two groups: one group that included both Apprentice and Journeyman pay bands and a second group that included only the Supervisor pay band. We performed an analysis of the 14 small group discussions we held with sailors to identify the different themes discussed concerning ship crewing. We also conducted interviews with leadership (i.e., Commanding Officer, Executive Officer, and Command Master Chief or Chief of the Boat) of the seven ships that participated in the small group discussions to obtain their perspectives regarding Navy crewing, to include fill and fit.

Regarding the assignment of personnel, we reviewed policies and guidance for assigning officer and enlisted sailors to required positions aboard Navy ships. We also reviewed Navy guidance on enlisted minimum crewing target threshold levels issued from 2019 through 2023 to determine if the Navy had made any adjustments to such targets during this period.

For objective two, we reviewed relevant Navy documentation and other data to determine the Navy systems and applications relevant to our scope. We identified a system as in scope if it was identified in Navy policy, guidance, or documentation as related to the processes for ship crewing requirements, funded positions, personnel assignments, or as a data source for fill and fit metrics. We identified several systems and applications, such as the Total Force Manpower Management System

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<sup>5</sup>The number of actual participants for each small group discussion varied; some groups had a higher or lower number of participants than we requested.



(TFMMS), MyNavy Assignment, the Navy Standard Integrated Personnel System, and Tableau.<sup>6</sup> Lastly, for each of the systems identified, we interviewed knowledgeable Navy officials about the systems and applications to determine the reliability of the data.

We electronically tested fill and fit data from Tableau, the analytics application the Navy uses for this data. We also reviewed and compared TFMMS data on personnel requirements and funded positions to Tableau and Cognos as a means to verify such data back to the source systems. Specifically, we analyzed personnel requirements data from TFMMS to Tableau and Cognos from fiscal year 2020 through fiscal year 2022. Separately, we did a similar comparison for funded position data from fiscal year 2018 through fiscal year 2022. We also analyzed data from May 2023 from Tableau related to rules that allow junior sailors to count as filling the position of more senior sailors. We assessed the effects on fill and fit metrics with such rules included and not included.

Lastly, we reviewed 38 business rules for fill and fit metrics, such as those related to enlisted rating control number fill and fit and officer fill and fit metrics.<sup>7</sup> Specifically, we compared the business rules to identify what information, if any, across the rules was consistent or not consistent as it related to different areas, such as the equation for calculating fill and fit and data sources. We determined that fill and fit metric data are not sufficiently reliable for our purposes of accurately measuring fill and fit data against funded position or requirements. Where appropriate, we

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<sup>6</sup>We also identified the Cognos application as the analytics application, which the Navy used for calculating and producing reports for fill and fit. The Navy replaced Cognos with Tableau in May 2023.

<sup>7</sup>In total we reviewed five documents that contain the 38 business rules that we reviewed across the various fill and fit metrics. Specifically, we reviewed the following documents provided by Fleet Force Command—one of the two Navy identified functional managers for fill and fit: 1) CSC, *Enlisted RCN Fit Common Operating Definitions* (Nov. 8, 2013); 2) CSC, *Enlisted NEC Fit Common Operating Definitions*, (Mar. 18, 2015); and 3) CSC, *Officer Fit Common Operating Definitions* (Nov. 8, 2013). We then compared each of the fill and fit business rules contained in these documents to two separate documents concerning the business rules. The first was provided by the other functional manager for fill and fit identified by the Navy—Navy Personnel Command Career Management Department: Chief of Naval Operations, *Rating Fit Metrics* (Mar. 2019). The second, provided by the Navy identified Program Manager of the application used to calculate fill and fit—Navy Training Management and Planning System/Authoritative Data Environment Project Director: Enterprise Performance Management, *Navy Training Management and Planning System (NTMPS), Enterprise Performance Management System (EPM)* (Sept. 13, 2022).

presented some analysis of the data only for illustrative purposes of the issues we identified concerning fill and fit.

For objective three, we reviewed Department of Defense (DOD) and Navy documentation regarding the Program Objective Memorandum process, as well as other relevant documents concerning the funding of personnel. We reviewed requirements and funded position data within the TFMMS. Additionally, we compared personnel requirements data from TFMMS from fiscal year 2018 through 2022 to required officer and enlisted crew positions validated by the Navy Manpower Analysis Center and documented in Ship Manpower Documents. We determined that TFMMS personnel requirements data are not sufficiently reliable for our purposes of accurately presenting validated personnel requirements. Where appropriate, we presented some analysis of the data only for illustrative purposes of the issues we identified concerning personnel requirements data.

For objective four, we reviewed Navy policy and guidance regarding data governance and management. For example, we analyzed the Navy's efforts to establish data governance by analyzing policy and guidance related to these efforts. These included the Under Secretary of the Navy's memorandum from October 2022 on the realignment of certain systems under the Chief Information Officer; and a separate memorandum from February 2023 concerning the governance of the Navy's transformation efforts, to include related information technology, systems, and data.<sup>8</sup> In addition, we also reviewed DOD policy and guidance concerning data governance and management, such as the DOD Data Stewardship Guidebook.<sup>9</sup>

Where appropriate, we considered selected principles from *Standards for Internal Control in the Federal Government*.<sup>10</sup> We found that certain key principles of internal controls—such as those related to monitoring activities, as well as quality information and sharing such information internally and externally—were relevant and could assist the Navy in its

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<sup>8</sup>Under Secretary of the Navy Memorandum, *Realignment of Secretariat Defense Business Systems and Business Enterprise Architecture Duties and Responsibilities* (Oct. 11, 2022); and Chief of Naval Personnel Memorandum, *MyNavy HR Enterprise Support Governance Charter* (Feb. 1, 2023).

<sup>9</sup>DOD Chief Data Officer, *DOD Data Stewardship Guidebook* (Oct. 2021).

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

efforts concerning crewing, funded positions, and data quality and management.

To address all objectives, we contacted several offices and commands with the Department of the Navy, Chief of Naval Operations, and DOD. Within Department of the Navy and Chief of Naval Operations levels, we interviewed officials having responsibilities concerning requirements development, funded positions, crewing, and data. This included officials within the following offices:

- Department of the Navy Chief Information Officer;
- Navy Manpower Analysis Center;
- Deputy Chief of Naval Operations for Integration of Capabilities and Resources;
- Deputy Chief of Naval Operations for Warfare Systems;
- Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel;
- Navy Personnel Command Career Management Department;
- Military Personnel, Plans, and Policies Division;
- Enterprise Support/Information Technology Program Office;
- U.S. Fleet Forces Command and Type Commands for surface, submarine, and air forces;
- U.S. Pacific Fleet and Type Commands for surface, submarine, and air forces;
- Naval Education and Training Command; and
- Bureau of Naval Personnel, Information Management Office, Enterprise Information Management Team.

Additionally, we met with officials from the Navy with roles and responsibilities for Navy data systems and applications, such as TFMMS, MyNavy Assignment, Navy Training Management and Planning System, Authoritative Data Environment, Cognos, and Tableau. We also interviewed DOD officials within the Office of the Under Secretary of Defense for Personnel and Readiness and Office of the Chief Digital and Artificial Intelligence Officer.

We conducted this performance audit from February 2022 to April 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain

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sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Appendix II: Description of Navy Enlisted Sailor and Officer Fill and Fit Metrics

This appendix provides a description of the Navy’s enlisted sailor and officer fill and fit metrics. The Navy monitors the personnel readiness of the fleet using fill and fit metrics. Fill measures how many personnel are onboard a ship. Fit measures the skill, experience, and specialty skill (i.e., Navy enlisted classification) of enlisted personnel onboard a ship per pay band. The Navy groups a range of enlisted pay grades into three pay bands: Supervisor (E-7 through E-9), Journeyman (E-5 through E-6), and Apprentice (E-1 through E-4). The Navy evaluates fill and fit relative to funded positions and personnel requirements. As described in table 3 below, the Navy uses different fill and fit metrics for enlisted and officers.

**Table 3: Navy Enlisted Sailor and Officer Fill and Fit Metrics**

Personnel	Fill and fit metric type	Description
Enlisted	Rating control number fill (RCN fill)	RCN fill represents all enlisted personnel onboard and does not take into account pay band. This metric counts the number of enlisted personnel currently onboard the ship for the selected month, for each rating, divided by current funded position. The National Defense Authorization Act (NDAA) for Fiscal Year 2020 also requires Navy to compare this metric relative to personnel requirements from the Ship Manpower Document (SMD). <sup>a</sup>
	Rating control number fit (RCN fit)	RCN fit represents the skill (rating) and experience (by pay band—Supervisor, Journeyman, and Apprentice) of enlisted personnel onboard a ship. For each rating and pay band, this metric counts the number of current onboard enlisted personnel for the selected month divided by the current funded position for each. The NDAA for Fiscal Year 2020 also requires Navy to compare this metric relative to personnel requirements from the SMD. <sup>a</sup>
	Navy enlisted classification fit (NEC fit) / Critical NEC (CNEC fit)	NEC fit represents specialty skills that extend beyond those associated with a rating. This metric counts the number of enlisted personnel currently onboard a ship who are assigned a distribution NEC and hold the NEC or Senior NEC in their inventory, divided by the count of funded positions for each. Similar to NEC fit, CNEC fit represents the number of enlisted personnel onboard a ship who are assigned a distribution CNEC and hold that CNEC and CNEC funded position thresholds displayed in Tableau by Type Commanders. <sup>b</sup> The NDAA for Fiscal Year 2020 also requires Navy to compare this metric relative to personnel requirements from the SMD. <sup>a</sup>
Officer	Officer fill	Officer fill represents valid positions occupied as assigned by position sequence code in accordance with Officer Personnel Information System data. <sup>c</sup> Officer fill measures the count of all officers currently onboard a ship in accordance with current onboard algorithm, regardless of position validity, divided by funded position.

**Appendix II: Description of Navy Enlisted Sailor and Officer Fill and Fit Metrics**

Personnel	Fill and fit metric type	Description
	Officer fit	Officer fit represents a position occupied by an officer with the appropriate designator (primary specialty qualifications) and pay grade currently onboard a ship. Officer fit measures designator and pay grade against valid position requirements as allowed by specific rules in accordance with sponsor guidance.

Source: GAO analysis of Navy information. | GAO-24-105811

<sup>a</sup>The Navy is required to report this information to the congressional defense committees under certain circumstances established in section 597 of the NDAA for Fiscal Year 2020 (section 597). Specifically, if crewing fill or fit of a commissioned and counted battle force ship is less than 90 percent or 87 percent, respectively, for more than 14 days during a fiscal year quarter, the congressional defense committees must be notified not later than 30 days after the end of the quarter. The fill and fit data provided in the notification may not include the counting of sailors in more junior pay grades as filling positions of more senior pay grades. For purposes of the notification, “fit” is means the skills (rating), specialty skills (Navy enlisted classifications), and experience (pay grade) for the ship when compared with the ship manpower document requirement and billets authorized for such skills and experience. “Fill” is defined as the total number of military personnel assigned to the ship by rating when compared with the ship manpower document requirement and billets authorized for the ship by rating. Pub. L. No. 116-92, § 597 (2019).

<sup>b</sup>Tableau is the application used by the Navy for fill and fit metrics. Prior to Tableau, Navy used Cognos for these metrics.

<sup>c</sup>The Officer Personnel Information System migrated to the Navy Standard Integrated Personnel System.

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## Appendix III: Figure of Active Battle Force Ships Included in Report









This appendix contains profiles of the battle force ships included in this report.<sup>1</sup> These ships include aircraft carriers, surface combatants (such as cruisers and destroyers), and submarines (such as attack submarines). We included 177 of the Navy's 242 battle force ships.

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<sup>1</sup>Battle force ships are Navy commissioned warships capable of contributing to combat operations or support missions. A warship is any commissioned ship built or armed for naval combat. Secretary of the Navy Instruction (SECNAVINST) 5030.8D, *General Guidance for the Classification of Naval Vessels and Battle Force Ship Counting Procedures* (June 28, 2022).

**Appendix III: Figure of Active Battle Force  
Ships Included in Report**

**Figure 8: Profiles of Battle Force Ships Included in Report, including Profiles and Personnel Totals**

Platform		Ship class	Personnel
 <b>CVN</b> Aircraft Carrier	<i>Nimitz</i> and <i>Gerald R. Ford</i> -class aircraft carriers are the largest warships in the world. Aircraft carriers and their carrier strike groups engage in maritime security operations, and give the United States the ability to strike a wide variety of targets across the world by air. Both classes of aircraft carriers are approximately 1,092 feet long and powered by nuclear propulsion.	<ul style="list-style-type: none"> <li>• CVN-68 <i>Nimitz</i>-class</li> <li>• CVN-78 <i>Gerald R. Ford</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 3,172</li> <li>• Officer: 182</li> <li>• Enlisted: 2,547<sup>a</sup></li> <li>• Officer: 169</li> </ul>
 <b>CG</b> Guided Missile Cruiser	<i>Ticonderoga</i> -class guided missile cruisers perform primarily in a Battle Force role. These ships are multi-mission air, undersea, and surface warfare, as well as Naval surface fire support capable of supporting carrier battle groups, amphibious forces or operating independently and as flagships of surface action groups. Cruisers are equipped with Tomahawk cruise missiles and some have a ballistic missile defense capability.	<ul style="list-style-type: none"> <li>• CG-47 <i>Ticonderoga</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 360</li> <li>• Officer: 31</li> </ul>
 <b>DDG</b> Guided Missile Destroyer	<i>Arleigh Burke</i> -class guided missile destroyers are the most numerous ships in the surface fleet. These large surface combatants can carry out a number of missions, including launching Tomahawk missiles to strike land targets; ballistic missile defense; defending aircraft carriers; combating surface ships, aircraft, and submarines; and patrolling sea lanes.	<ul style="list-style-type: none"> <li>• DDG-51 <i>Arleigh Burke</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 321<sup>b</sup></li> <li>• Officer: 29</li> </ul>
 <b>SSN</b> Attack Submarine	<i>Seawolf</i> , <i>Los Angeles</i> , and <i>Virginia</i> -class attack submarines are designed to seek and destroy enemy submarines and surface ships. Attack submarines also carry out intelligence, surveillance and reconnaissance missions; support battle group operations; and engage in mine warfare. Each class of attack submarine is capable of launching tomahawk cruise missiles.	<ul style="list-style-type: none"> <li>• SSN-21 <i>Seawolf</i>-class</li> <li>• SSN-688 <i>Los Angeles</i>-class</li> <li>• SSN-774 <i>Virginia</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 141<sup>c</sup></li> <li>• Officer: 17</li> <li>• Enlisted: 137</li> <li>• Officer: 17</li> <li>• Enlisted: 124</li> <li>• Officer: 17</li> </ul>
 <b>LHA</b> Amphibious Assault Ship	<i>America</i> -class amphibious assault ships are designed to carry Marine expeditionary units, including helicopters and fixed-wing aircraft, and operate alongside other amphibious warfare ships in amphibious ready groups.	<ul style="list-style-type: none"> <li>• LHA-6 <i>America</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 1,056</li> <li>• Officer: 70</li> </ul>
 <b>LHD</b> Amphibious Assault Ship	<i>Wasp</i> -class amphibious assault ships—similar in size and usage to newer <i>America</i> -class amphibious assault ships—are designed to carry Marine expeditionary units, including helicopters and fixed-wing aircraft, and operate alongside other amphibious warfare ships in amphibious ready groups.	<ul style="list-style-type: none"> <li>• LHD-1 <i>Wasp</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 1,164</li> <li>• Officer: 69</li> </ul>
 <b>LPD</b> Amphibious Transport Dock Ship	<i>San Antonio</i> -class amphibious transport dock ships are designed to transport Marines and their equipment and allow them to land using helicopters, landing craft, and amphibious vehicles.	<ul style="list-style-type: none"> <li>• LPD-17 <i>San Antonio</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 371</li> <li>• Officer: 33</li> </ul>
 <b>MCM</b> Mine Countermeasures Ship	<i>Avenger</i> -class mine countermeasures ships operate alongside helicopters, to conduct mine countermeasure operations. They are designed with features such as fiberglass-sheathed wooden hulls that enable them to operate in minefields. The Navy is gradually retiring these ships as this capability is supposed to transition to the Littoral Combat Ship.	<ul style="list-style-type: none"> <li>• MCM-1 <i>Avenger</i>-class</li> </ul>	<ul style="list-style-type: none"> <li>• Enlisted: 83</li> <li>• Officer: 9</li> </ul>

Source: GAO analysis of Navy information. | GAO-24-105811



**Appendix III: Figure of Active Battle Force  
Ships Included in Report**

**Accessible text for Figure 8: Profiles of Battle Force Ships Included in Report, including Profiles and Personnel Totals**

<b>Platform</b>		<b>Ship class</b>	<b>Personnel</b>
CVN Aircraft Carrier	Nimitz and Gerald R. Ford-class aircraft carriers are the largest warships in the world. Aircraft carriers and their carrier strike groups engage in maritime security operations, and give the United States the ability to strike a wide variety of targets across the world by air. Both classes of aircraft carriers are approximately 1,092 feet long and powered by nuclear propulsion.	CVN-68 Nimitz-class CVN-78 Gerald R. Ford-class	Enlisted: 3,172 Officer: 182 Enlisted: 2,547 <sup>a</sup> Officer: 169
CG Guided Missile Cruiser	Ticonderoga-class guided missile cruisers perform primarily in a Battle Force role. These ships are multi-mission air, undersea, and surface warfare, as well as Naval surface fire support capable of supporting carrier battle groups, amphibious forces or operating independently and as flagships of surface action groups. Cruisers are equipped with Tomahawk cruise missiles and some have a ballistic missile defense capability.	CG-47 Ticonderoga-class	Enlisted: 360 Officer: 31
DDG Guided Missile Destroyer	Arleigh Burke-class guided missile destroyers are the most numerous ships in the surface fleet. These large surface combatants can carry out a number of missions, including launching Tomahawk missiles to strike land targets; ballistic missile defense; defending aircraft carriers; combating surface ships, aircraft, and submarines; and patrolling sea lanes.	DDG-51 Arleigh Burke-class	Enlisted: 321 <sup>b</sup> Officer: 29
SSN Attack Submarine	Seawolf, Los Angeles, and Virginia-class attack submarines are designed to seek and destroy enemy submarines and surface ships. Attack submarines also carry out intelligence, surveillance and reconnaissance missions; support battle group operations; and engage in mine warfare. Each class of attack submarine is capable of launching tomahawk cruise missiles.	SSN-21 Seawolf-class SSN-688 Los Angeles-class SSN-774 Virginia-class	Enlisted: 141 <sup>c</sup> Officer: 17 Enlisted: 137 Officer: 17 Enlisted: 124 Officer: 17
LHA Amphibious Assault Ship	America-class amphibious assault ships are designed to carry Marine expeditionary units, including helicopters and fixed-wing aircraft, and operate alongside other amphibious warfare ships in amphibious ready groups.	LHA-6 America-class	Enlisted: 1,056 Officer: 70
LHD Amphibious Assault Ship	Wasp-class amphibious assault ships—similar in size and usage to newer America-class amphibious assault ships—are designed to carry Marine expeditionary units, including helicopters and fixed-wing aircraft, and operate alongside other amphibious warfare ships in amphibious ready groups.	LHD-1 Wasp-class	Enlisted: 1,164 Officer: 69
LPD Amphibious Transport Dock Ship	San Antonio-class amphibious transport dock ships are designed to transport Marines and their equipment and allow them to land using helicopters, landing craft, and amphibious vehicles.	LPD-17 San Antonio-class	Enlisted: 371 Officer: 33

**Appendix III: Figure of Active Battle Force  
Ships Included in Report**

<b>Platform</b>		<b>Ship class</b>	<b>Personnel</b>
MCM Mine Countermeasures Ship	Avenger-class mine countermeasures ships operate alongside helicopters, to conduct mine countermeasure operations. They are designed with features such as fiberglass-sheathed wooden hulls that enable them to operate in minefields. The Navy is gradually retiring these ships as this capability is supposed to transition to the Littoral Combat Ship.	MCM-1 Avenger-class	Enlisted: 83 Officer: 9

Source: GAO analysis of Navy information. | GAO-24-105811

Note: Personnel totals for enlisted and officer are from Ship Manpower Documents determined and validated by the Navy Manpower Analysis Center.

<sup>a</sup>Personnel totals for enlisted and officer for CVN-78 *Gerald R. Ford*-class are from the preliminary Ship Manpower Document.

<sup>b</sup>Personnel totals for enlisted and officer for DDG-51 *Arleigh Burke*-class are only for DDG 51–78; the Navy lowered enlisted and officer totals for DDG-51 *Arleigh Burke*-class 79–121.

<sup>c</sup>Personnel totals for enlisted and officer for SSN-21 *Seawolf*-class are only for SSN 21-22; the Navy lowered enlisted and officer totals for SSN-21 *Seawolf*-class 23.

## Appendix IV: Status of Navy Governance Boards and Forums Related to Data and Information Technology

This appendix contains the status of the board for data governance and management and governance forums for information technology within the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel. We found that a board and some governance forums were not active.

**Table 4: Status of the Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel Boards and Forums, as of October 2023**

Board or forum	Board or forum purpose	Board or forum status	Meeting frequency	Board or forum output
Enterprise Information Management Board	Provide enterprise coordination, issue resolution, management of domain data assets and data related issues, and reporting, as well as develop, coordinate, communicate, and enforce all data-related policies, standards, and procedures.	Not active	—	—
Enterprise Support Governance Board	Provide oversight on strategic recommendations and direction related to MyNavy HR portfolio prioritization, process redesign, organizational changes, break-fix, risk and issue management, and new technical requirements.	Active	Twice Monthly	The Board is required to develop a memorandum for the record following each meeting to outline resulting decisions.

**Appendix IV: Status of Navy Governance  
Boards and Forums Related to Data and  
Information Technology**

<b>Board or forum</b>	<b>Board or forum purpose</b>	<b>Board or forum status</b>	<b>Meeting frequency</b>	<b>Board or forum output</b>
Enterprise Support Decision Review	Provide a forum for decision making at the enterprise level across all MyNavy HR components.	Not active	Monthly	The Forum is required to develop a memorandum for the record following each meeting to outline resulting decisions. The memorandum should include information related to barriers in cost, schedule, and performance, as well as identify risks and issues accordingly. The Forum is also required to develop recommendations for review at higher levels of governance (i.e., MyNavy HR Feeder Board).
Operational Metrics Forum	Provide metrics-based updates across all policies processes, and systems of MyNavy HR to ensure real time decisions and course corrections, as needed.	Not active	Monthly	The Forum is required to develop a memorandum for the record following each meeting, which outlines resulting decisions and follow-on action items based on metric trends presented. The Forum is also required to develop recommendations for any review at higher levels of governance (i.e., MyNavy HR Feeder Board).
MyNavy HR Feeder Board	Establish consensus and ensure that all relevant information is included prior to escalation to the Executive Decision Board.	Active	Weekly (as needed)	The Board is required to establish consensus and ensure that all relevant information is included prior to escalation to the Executive Decision Board.
Executive Decision Board	Create strategic alignment and provide enterprise decisions across all pillars of MyNavy HR and Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel as the highest level of the MyNavy HR Enterprise Support governance.	Active	Weekly (as needed)	The Board is required to generate a decisions guidance memorandum that captures the Chief of Naval Personnel's decisions and follow-on actions.

Source: GAO analysis of Navy information. | GAO-24-105811

## Appendix V: Comments from the Department of Defense



DEPARTMENT OF THE NAVY  
CHIEF OF NAVAL PERSONNEL  
701 SOUTH COURTHOUSE ROAD  
ARLINGTON VA 22204-2472

7500  
Ser N1/114449  
3 Apr 24


From: Chief of Naval Personnel  
To: Defense Capabilities and Management Division, U.S. Government Accountability Office  
Via: Assistant Secretary of the Navy (Manpower and Reserve Affairs)

Subj: DEPARTMENT OF NAVY RESPONSE TO GAO DRAFT REPORT  
GAO-24-105811 NAVY READINESS: ACTIONS NEEDED TO IMPROVE  
THE RELIABILITY AND MANAGEMENT OF SHIP CREWING DATA

Ref: (a) GAO ltr of 15 Feb 2024

Encl: (1) GAO Draft Report Response of March 21, 2024  
(2) GAO Draft Report to the Committee on Armed Services, House of Representatives of  
March 2024.

1. Per reference (a), enclosures (1) and (2) are provided.
2. My point of contact is Mr. Bernard D. Dunn, Jr., Deputy, Assistant Commander Navy Personnel Command for Career Management, who can be reached at (901) 874-3532 or via email at [bernard.d.dunn4.civ@us.navy.mil](mailto:bernard.d.dunn4.civ@us.navy.mil).

  
R. J. CHEESEMAN, JR

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

**GAO DRAFT REPORT DATED MARCH 1, 2024  
GAO-24-105811 (GAO CODE 105811)**

**“NAVY READINESS: ACTIONS NEEDED TO IMPROVE THE RELIABILITY AND  
MANAGEMENT OF SHIP CREWING DATA”**

**RECOMMENDATION 1:** The Secretary of the Navy should ensure that the Commander, U.S. Fleet Forces Command and Commander, U.S. Pacific Fleet amend guidance to require documentation of the review process—to include the factors they consider—when determining whether enlisted crewing target levels should be adjusted.

**DoN RESPONSE: Partially Concur.** Factors for consideration when evaluating change to manning thresholds for individual units were included in previous versions of COMUSFLT/COMUSFLT/COMUSFLT Notice 1000, ENLISTED SEA DUTY MANNING THRESHOLD LEVELS (Notice 1000). This information will be reinserted in the upcoming annual revision. Notice 1000 serves as the internal control system document which can be referenced for guidance.

**RECOMMENDATION 2:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—removes the rules that allow junior sailors to count as filling positions of senior sailors in the Navy’s fill and fit metrics, including when having to provide such data in certain reports to Congress pursuant to section 597 of the NDAA for Fiscal Year 2020.

**DoN RESPONSE: Partially concur.** The rules in use by Navy serve to more accurately represent unit personnel readiness than could be achieved without those rules in place. Navy purposely uses roll-ups in limited circumstances to fill billets by qualifications and certifications (e.g. Independent Duty Corpsman and Nuclear Propulsion Plant Watch Supervisors). Paygrade substitution (PAYSUB) is utilized where skills are more impactful than experience (paygrade) to achieving readiness, safety, and mission effectiveness. PAYSUB is codified in OPNAVINST 1300.21 which requires a formal Personnel Manning Action Request (PMAR) process be completed when substitutions cross pay bands. (e.g. journeyman Sailor to fill a supervisory billet based on existing qualifications). Navy will include a note on manpower utilization to improve clarity in reporting pursuant to section 597 of the NDAA for Fiscal Year 2020.

**RECOMMENDATION 3:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—reviews all business rules and source system data that inform the calculations for fill and fit metrics and aligns them across relevant documents for consistency to ensure the quality of data it uses to monitor ship readiness.

**DoN RESPONSE: Concur.** However, this data is used to monitor unit manning levels and does not directly indicate ship readiness.

Enclosure (1)

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

2

**RECOMMENDATION 4:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command, U.S. Pacific Fleet, and Navy Personnel Command Career Management Department—establishes thresholds for measuring Navy enlisted classification fill and fit metrics against funded positions and personnel requirements, and reports this information to Congress, when required to report pursuant to section 597 of the NDAA for Fiscal Year 2020.

**DoN RESPONSE: Non-concur.** We assess that we are in compliance with NDAA reporting requirements. Following the release of the NDAA for Fiscal Year 2019, the Navy Office of Legislative Affairs worked with the 4 Defense Committees on the reporting format Navy would use to submit documentation required pursuant to section 525. Rating Control Numbers (RCNs) and closed-loop Navy Enlisted Codes (NECs), which represent enlisted distribution groups, were determined to be the right way to satisfy the desire and intent of Congress for reporting ‘Manning Fit’ as defined in the NDAA. All reporting pursuant to section 525 of the NDAA for Fiscal Year 2019 was based on these enlisted distribution groups. In the NDAA of Fiscal Year 2020, section 525 became section 597 and added the additional fields to account for Billet Requirements along with the previous request for Authorized Billets. These revised reports have continued to use the enlisted distribution groups for ‘Manning Fit’.

**RECOMMENDATION 5:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Commander, U.S. Fleet Forces Command and the Commander, U.S. Pacific Fleet—updates guidance related to (1) personnel policies and procedures, and (2) enlisted crewing target levels to clearly and consistently describe those personnel requirements and what they represent in TFMMMS.

**DoN RESPONSE: Concur.** Clarification of what the manpower (position) requirements represent in TFMMMS is clearly provided in the Total Force Manpower Policies and Procedures (OPNAVINST 1000.16L). The Notice 1000 can be updated to provide better clarity that TFMMMS is the source database for manpower requirements.

**RECOMMENDATION 6:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Navy Manpower Analysis Center—updates guidance related to (1) personnel policies and procedures and (2) personnel management data elements and values to clearly and consistently reflect that only NAVMAC can validate personnel requirements for ships.

**DoN RESPONSE: Non-concur.** Total Force Manpower Policies and Procedures (OPNAVINST 1000.16L) establishes the policies and procedures required to develop, review, approve, implement total force manpower requirements and authorization for all Navy activities.

- CH3, Section 300, paragraph 2 states that NAVMAC is the primary agent in determining fleet manpower requirements.
- CH3, Section 400, paragraph 5.d states that Budget Submitting Offices (BSOs) and Type Commanders (TYCOMs) can also validate manpower requirements and enter into the TFMMMS Activity Manpower Document (AMD)

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

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3

NAVMAC, BSO, and TYCOM utilize the same standards (ONPAVINST 1000.16L) to validate requirements. BSO and TYCOM validated manpower requirements are necessary to allow for manpower changes needed outside of the NAVMAC study plan cycle. For example, shipboard configuration changes resulting in new equipment installation that requires new skills to safely operate and maintain. NAVMAC would then review and validate those manpower requirements during its next periodic study (5-year cycle).

**RECOMMENDATION 7:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with Navy Manpower Analysis Center—updates guidance concerning change requests—such as those made by budget submitting offices—to require that the Navy Manpower Analysis Center review and validate such changes when they concern personnel requirements data.

**DoN RESPONSE: Concur – Complete.** The Activity Manpower Management Guide (AMMG), Section 24, and TFMMS were modified to lock manpower requirements that were determined via NAVMAC manpower study plans (via Requirements Indicator (RI) code A). BSOs are prevented from changing NAVMAC-determined manpower requirements. BSOs & TYCOMs can add claimant validated manpower requirements when workload changes (differentiated by RI code V). NAVMAC reviews and validates BSO/TYCOM-determined manpower requirements (RI code V) on the next scheduled manpower study, therefore, this recommendation has already been implemented.

**RECOMMENDATION 8:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with the Navy Manpower Analysis Center—reviews the quality of personnel requirements data in TFMMS to ensure that such data reliably and accurately represent validated requirements for use within the Navy, to include within Navy personnel systems.

**DoN RESPONSE: Concur – Complete.** Prior to December 2022, BSOs & TYCOMs could change NAVMAC determined manpower requirements in TFMMS without NAVMAC cognizance. To ensure quality of manpower requirements, in December 2022, NAVMAC modified TFMMS to lock manpower requirements that were determined via NAVMAC manpower study plans. As of this change, only NAVMAC can change NAVMAC-determined manpower requirements. A new RI Code (restricted to NAVMAC) was applied to any manpower requirements identified under approved Manpower Requirements Determination (MRD) studies conducted between 1JUL2017 and 17JUL2021. This covers all studies within the 5-year review cycle for NAVMAC studies.

**RECOMMENDATION 9:** The Secretary of the Navy should ensure that the Deputy Chief of Naval Operations for Integration of Capabilities and Resources updates relevant guidance to specify what documents represent validated personnel requirements that should be used when making decisions about what positions to fund for the upcoming budget cycle during the Program Objective Memorandum process.

**DoN RESPONSE: Non-concur.** The purpose of POM serial guidance is to direct the process of making decisions in the POM. Manpower is only one element of building the POM. Other



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

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4

Navy instructions/documents define requirements for manpower, readiness, and other elements of the POM. Those instructions and POM serials are complementary vice duplicative. Listing the many requirements sources across the entire Navy portfolio is beyond the scope of the POM serial.

**RECOMMENDATION 10:** The Secretary of the Navy should ensure that the Department of the Navy Chief Information Officer develops and implements a timeframe to finalize the governance structure for the Business Mission Area for Navy's information technology.

**DoN RESPONSE:** Concur

**RECOMMENDATION 11:** The Secretary of the Navy should ensure that the Office of the Chief of Naval Operations—in coordination with Deputy Chief of Naval Operations for Personnel, Manpower, and Training/Chief of Naval Personnel—develops and implements a timeframe to finalize governance structures for data and information technology management as the Navy continues to transform personnel systems—including ensuring all boards and forums are active; and documenting data processes to help ensure the quality and reliability of system data used to inform and monitor crewing levels, such as fill and fit metrics data.

**DoN RESPONSE:** Concur

# Accessible text for Appendix V: Comments from the Department of Defense

DEPARTMENT OF THE NAVY  
CHIEF OF NAVAL PERSONNEL  
701 SOUTH COURTHOUSE ROAD  
ARLINGTON VA 22204-2472

7500  
Ser NI/114449

3 Apr 24

From: Chief of Naval Personnel

To: Defense Capabilities and Management Division, U.S. Government Accountability  
Office

Via: Assistant Secretary of the Navy (Manpower and Reserve Affairs)

Subj: DEPARTMENT OF NAVY RESPONSE TO GAO DRAFT REPORT GAO-24-  
105811 NAVY READINESS: ACTIONS NEEDED TO IMPROVE THE RELIABILITY  
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Enclosure (1)

**GAO DRAFT REPORT DATED MARCH 1, 2024**

**GAO-24-105811 (GAO CODE 105811)**

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systems—including ensuring all boards and forums are active; and documenting data processes to help ensure the quality and reliability of system data used to inform and monitor crewing levels, such as fill and fit metrics data.

**DoN RESPONSE: Concur**

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## Appendix VI: GAO Contact and Staff Acknowledgments

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### GAO Contact

Diana Maurer at (202) 512-9627 or [MaurerD@gao.gov](mailto:MaurerD@gao.gov)

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### Staff Acknowledgment

In addition to the contact named above, Cary Russell (Director, retired), Brent Helt (Assistant Director), Rebecca Guerrero (Analyst in Charge), Jerome A. Brown, Chad Hinsch, Jean McSween, Amie M. Lesser, Felicia Lopez, and Lillian Moyano Yob, made key contributions to this report.



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## Related GAO Products

*Military Readiness: Comprehensive Approach Needed to Address Service Member Fatigue and Manage Related Efforts.* [GAO-24-105917](#). Washington, D.C.: March 26, 2024.

*Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue.* [GAO-24-106819](#). Washington, D.C.: October 11, 2023.

*Navy Ship Fires: Ongoing Efforts to Improve Safety Should Be Enhanced.* [GAO-23-105481](#). Washington, D.C.: April 20, 2023.

*Financial Management: DOD Needs to Improve System Oversight.* [GAO-23-104539](#). Washington, D.C.: March 7, 2023.

*Business Systems: DOD Needs to Improve Performance Reporting and Cybersecurity and Supply Chain Planning.* [GAO-22-105330](#). Washington, D.C.: June 14, 2022.

*Navy Ship Maintenance: Actions Needed to Monitor and Address the Performance of Intermediate Maintenance Periods.* [GAO-22-104510](#). Washington, D.C.: February 8, 2022.

*Defense Nuclear Enterprise: DOD Can Improve Processes for Monitoring Long-Standing Issues.* [GAO-21-486](#). Washington, D.C.: August 18, 2021.

*Navy Readiness: Actions Needed to Evaluate and Improve Surface Warfare Officer Career Path.* [GAO-21-168](#). Washington, D.C.: June 17, 2021.

*Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training.* [GAO-21-366](#). Washington, D.C.: May 27, 2021.

*Navy Shipyards: Actions Needed to Address the Main Factors Causing Maintenance Delays for Aircraft Carriers and Submarines.* [GAO-20-588](#). Washington, D.C.: August 20, 2020.

*Navy Shipbuilding: Increasing Focus on Sustainment Early in the Acquisition Process Could Save Billions.* [GAO-20-2](#). Washington, D.C.: March 24, 2020.

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**Related GAO Products**

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*Navy Readiness: Actions Needed to Evaluate the Effectiveness of Changes to Surface Warfare Officer Training.* [GAO-20-154](#). Washington, D.C.: November 14, 2019.

*Navy Force Structure: Actions Needed to Ensure Proper Size and Composition of Ship Crews.* [GAO-17-413](#). Washington, D.C.: May 18, 2017.

*Military Readiness: Progress and Challenges in Implementing the Navy's Optimized Fleet Response Plan.* [GAO-16-466R](#). Washington, D.C.: May 2, 2016.

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