



April 2022

NAVY SHIPBUILDING

Increasing
Supervisors of
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Why GAO Did This Study

Despite the efforts of the SUPSHIPs and others to assure construction quality and contract execution, Navy shipbuilding results have regularly fallen short of program expectations. These results have raised questions about the Navy's ability to effectively oversee shipbuilder performance throughout the construction of new ships.

Congress included a provision in a Senate report for GAO to review the SUPSHIPs' oversight efforts. GAO examined, among other objectives, the SUPSHIPs' role in assuring shipbuilding quality and any challenges that limit their ability to help improve shipbuilding program results.

To do this work, GAO reviewed federal regulations as well as policy, guidance, and reporting related to the SUPSHIPs' oversight activities and results. GAO also interviewed DOD and Navy officials about shipbuilding oversight and the SUPSHIPs' role in the execution of shipbuilding programs.

What GAO Recommends

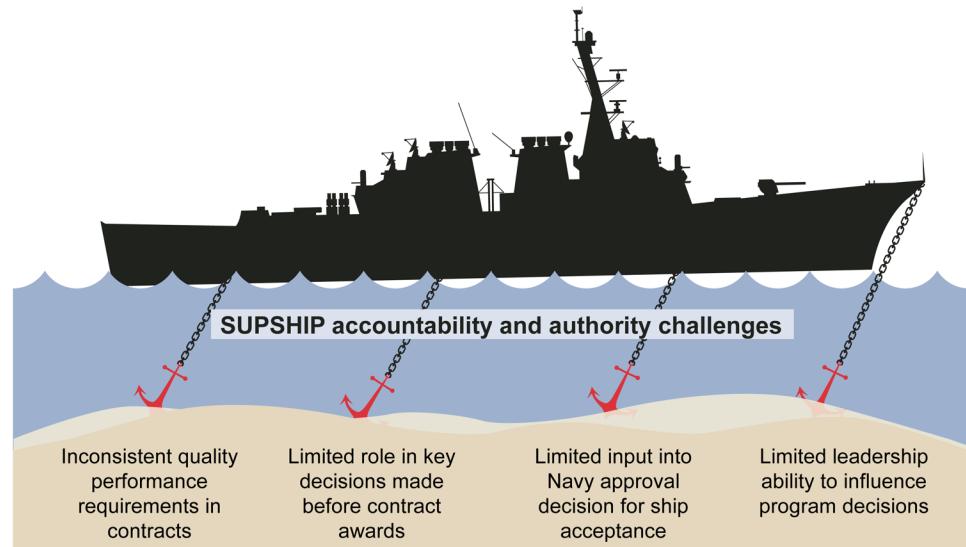
GAO is making five recommendations to the Navy, including that it take steps to ensure regular use of its quality program standard in shipbuilding contracts; provide the SUPSHIPs with direct representation in evaluation and decision-making processes prior to contract awards; and require the SUPSHIPs to report on the quality and readiness of each ship prior to the Chief of Naval Operations' approval decisions for ship acceptance. The Navy agreed with all five recommendations.

View GAO-22-104655. For more information, contact Shelby S. Oakley at (202) 512-4841 or oaileys@gao.gov.

What GAO Found

Over the past decade, GAO found that the U.S. Navy has faced significant challenges in meeting its shipbuilding goals, experiencing years of construction delays, billions of dollars in cost growth, and frequent quality and performance shortfalls. The Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP) serve as the Navy's on-site technical, contractual, and business authority for the construction of Navy vessels at major private shipyards. The SUPSHIPs are responsible for evaluating the construction and business practices of Navy shipbuilders, but face challenges in improving shipbuilding results (see figure).

Factors Limiting the Ability of the Navy's Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP) to Help Improve Shipbuilding Program Results



Source: GAO analysis of Navy information. | GAO-22-104655

These challenges impede the SUPSHIPs' effectiveness and accountability in a number of ways:

- Variation in quality requirements across Navy shipbuilding contracts hinders the SUPSHIPs' ability to provide consistent oversight of shipbuilding quality.
- Limited input from the SUPSHIPs prior to contract awards does not leverage their expertise to support well-informed decision-making.
- Omission of SUPSHIP reporting from the Navy's process for approving acceptance of ships from the shipbuilders reduces accountability and misses opportunities to ensure that independent SUPSHIP input on ship quality and readiness informs this key decision.
- The SUPSHIPs' position within the Naval Sea Systems Command and their accountability to different technical and acquisition organizations dilutes their ability to be a distinct, authoritative voice in decision-making for Navy shipbuilding programs. Congress passed legislation in December 2021 to establish a Deputy Commander dedicated to the SUPSHIPs, which should help improve their authority and accountability.

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Abbreviations

ASN (RDA)	Assistant Secretary of the Navy for Research, Development and Acquisition
CAQAP	Contract Administration Quality Assurance Program
CHENG	Chief Engineer
CNO	Chief of Naval Operations
DCAA	Defense Contract Audit Agency
DCMA	Defense Contract Management Agency
DFARS	Defense Federal Acquisition Regulation Supplement
DOD	Department of Defense
EVMS	Earned value management system
INSURV	Navy Board of Inspection and Survey
LCS	Littoral Combat Ship
NAVSEA	Naval Sea Systems Command
OPNAV	Office of the Chief of Naval Operations
PEO	Program Executive Office
SUPSHIP	Supervisors of Shipbuilding, Conversion and Repair

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U.S. GOVERNMENT ACCOUNTABILITY OFFICE

441 G St. N.W.
Washington, DC 20548

April 12, 2022

Congressional Committees

The U.S. Navy faces considerable challenges in meeting the shipbuilding goals identified in its Long-Range Shipbuilding Plan, with existing programs experiencing years of construction delays, billions of dollars in cost growth, and frequent quality and performance shortfalls. For example, we found in 2018 that the lead ships for six Navy programs experienced delays in providing the ships to the fleet, ranging from 6 months to 6 years, and cost growth as high as 154 percent.¹ We also found that the Navy regularly accepts delivery of incomplete ships with significant uncorrected deficiencies. Issues with the quality and readiness of delivered ships can lead to longer-term problems. Examples include:

- Persistent propulsion system problems that significantly limit engine power with the Freedom variant of the Littoral Combat Ships (LCS) resulted in the Navy halting the acceptance of newly constructed ships for most of 2021.
- Deficiencies with the CVN 78 aircraft carrier's 11 advanced weapons elevators impaired sailors' ability to transport weapons to the aircraft carrier's deck for more than 4 years after the Navy accepted delivery of the ship.
- Quality issues with a special treatment not adhering to the hulls of *Virginia* class submarines created challenges in meeting performance requirements and required costly unanticipated maintenance for the Navy.

Collectively, these results have raised questions about the Navy's ability to effectively oversee shipbuilder performance throughout the construction of new ships.

The Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP) are the Navy's on-site technical, contractual, and business authority for the construction of Navy vessels. Co-located with major Navy shipbuilders, the SUPSHIPS are responsible for overseeing construction and administering and managing the execution of shipbuilding contracts.

¹GAO, *Navy Shipbuilding: Past Performance Provides Valuable Lessons for Future Investments*, GAO-18-238SP (Washington, D.C.: June 6, 2018).

Other Department of Defense (DOD) organizations—such as the Defense Contract Audit Agency (DCAA), Defense Contract Management Agency (DCMA), and Navy Board of Inspection and Survey (INSURV)—also support the government's oversight efforts. Despite the efforts of the SUPSHIPs and other DOD stakeholders to oversee construction quality and the fulfillment of contractual requirements, we have consistently found for more than a decade that the results for Navy shipbuilding programs often fall short of expectations.²

Senate Report 116-236 to accompany the William M. “Mac” Thornberry National Defense Authorization Act for Fiscal Year 2021 contained a provision for us to review the SUPSHIPs’ oversight efforts. This report assesses (1) the SUPSHIPs’ practices and any challenges related to quality assurance for Navy shipbuilding programs; (2) the surveillance of contractor business systems provided by the SUPSHIPs and others to help manage government risk; and (3) any limitations to the SUPSHIPs’ responsibilities and authority that affect their ability to help improve shipbuilding program results.

To address these objectives, we reviewed DOD and Navy regulations, policy, instructions, guidance, and reporting. We selected 12 ships delivered across Navy ship classes since 2017 to support a case study review of the SUPSHIPs’ quality assurance and contractor business systems surveillance activities. We selected these ships to provide a sample of the different types of surface ships and submarines under construction in recent years at the four SUPSHIPs and their three SUPSHIP detachments. As part of our case study review, we analyzed quality assurance data—including corrective action requests and trial cards documenting construction deficiencies—that the SUPSHIPs and INSURV generated during ship construction and sea trials. This analysis supported our evaluation of any challenges faced by the SUPSHIPs in overseeing quality assurance for shipbuilding programs. We assessed the reliability of these data by reviewing information on the data collection system used by the SUPSHIPs and interviewing Naval Sea Systems Command (NAVSEA) officials about the measures they take to verify the accuracy of the data collected. Based on this assessment, we determined the data were sufficiently reliable for the purposes of our reporting. To support our broad review and specific case study activities, we also

²GAO, *Navy Shipbuilding: Policy Changes Needed to Improve the Post-Delivery Process and Ship Quality*, GAO-17-418 (Washington, D.C.: July 13, 2017); and *Navy Shipbuilding: Opportunities Exist to Improve Practices Affecting Quality*, GAO-14-122 (Washington, D.C.: Nov. 19, 2013).

interviewed officials from the SUPSHIPs, other NAVSEA organizations, INSURV, DCAA, and DCMA. See appendix I for a detailed description of our objectives, scope, and methodology.

We conducted this performance audit from November 2020 to April 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Over the past decade, we have identified concerns with the business cases for Navy shipbuilding programs that have led to persistent cost and schedule growth. In 2018, we reviewed our shipbuilding work over the prior decade and highlighted problems that Navy shipbuilding programs faced in achieving their cost, schedule, quality, and performance goals.³ We noted that programs had an imbalance between the capabilities the Navy sought to acquire and the resources planned to execute the programs. As a consequence of these conditions, Navy shipbuilding programs regularly faced cost and schedule growth before ships were accepted into the fleet. Further, we found that cost growth contributed to the erosion of the Navy's buying power over the 10-year period, with ship costs exceeding estimates by over \$11 billion during this time frame.

To overcome these outcomes, we concluded that the Navy needs to take steps to better ensure its business cases are built on attaining critical levels of knowledge at key points in the shipbuilding process before significant investments are made. Further, we concluded that decision makers need to embrace a more disciplined approach to buying ships that emphasizes having executable business cases for programs. Based on these findings, we made numerous recommendations aimed at helping ensure the Navy has better business cases in place before

³GAO-18-238SP.

significant investments are made.⁴ While the Navy has taken action to implement some of these recommendations, it has not taken action to implement many of them.

Additionally, we previously found that ship quality and reliability often falls short of expectations at the point when the Navy accepts delivery of ships from the contractor, as well as when the full responsibility for ships is transferred to the operational fleet. For example, we found in 2013 that, while the number of significant deficiencies generally had dropped, the Navy continued to accept the delivery of ships with open deficiencies that lingered after ship delivery.⁵ We also found that after several cases of poor ship quality, the Navy began taking steps in 2009 to improve the SUPSHIPs' oversight of ship construction by establishing the Back to Basics initiative focused on improving efficiency and quality during ship construction. We recommended in 2013, among other things, that the Navy clarify in its policy when contractor-responsible deficiencies should be fully corrected during the acquisition process for shipbuilding programs and ensure the policy is followed. In response, DOD indicated that it would monitor whether additional guidance was necessary but took no further action to implement our recommendation.

In July 2017, we found that problems with quality, completeness, and reliability persisted when ships were turned over to the Navy's fleet.⁶ Although a certain number of deficiencies can be expected for something as complex as a Navy ship, we found that the Navy's routine acceptance of ships with significant unresolved deficiencies and reliability problems consumed limited resources, diminished ship performance, and added to sailors' workloads. With no action taken to revise Navy policy as we recommended in 2013, we recommended a revision to Navy policy in 2017. Specifically, we recommended that the Secretary of the Navy revise the service's ship delivery policy to clarify what types of

⁴GAO, *Ford-Class Aircraft Carrier: Follow-On Ships Need More Frequent and Accurate Cost Estimates to Avoid Pitfalls of Lead Ship*, GAO-17-575 (Washington, D.C.: June 13, 2017); *Arleigh Burke Destroyers: Delaying Procurement of DDG 51 Flight III Ships Would Allow Time to Increase Design Knowledge*, GAO-16-613 (Washington, D.C.: Aug. 4, 2016); *Littoral Combat Ship: Knowledge of Survivability and Lethality Capabilities Needed Prior to Making Major Funding Decisions*, GAO-16-201 (Washington, D.C.: Dec. 18, 2015); and *Best Practices: High Levels of Knowledge at Key Points Differentiate Commercial Shipbuilding from Navy Shipbuilding*, GAO-09-322 (Washington, D.C.: May 13, 2009).

⁵GAO-14-122.

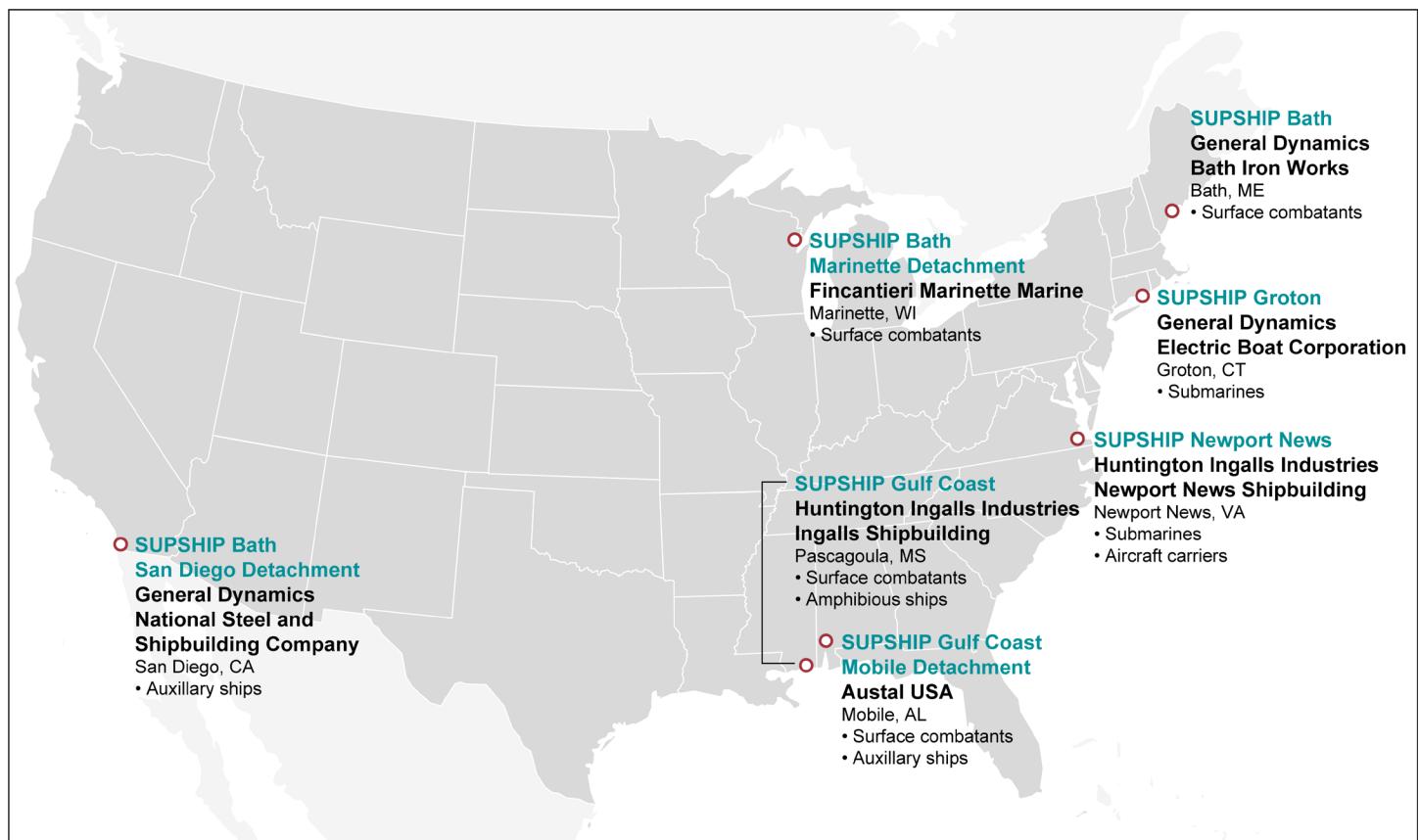
⁶GAO-17-418.

deficiencies need to be corrected and what mission capability must be achieved at acceptance of ship delivery from the shipbuilder and when the ship is provided to the fleet. DOD did not agree with this 2017 recommendation and has yet to take action to implement it. However, DOD officials stated, in October 2021, that they would consider the recommendation during regularly scheduled policy updates. Action to clearly define what constitutes a complete ship and when such completion should be achieved would address the intent of this recommendation and help prevent the Navy from providing deficient and incomplete ships to the fleet.

Navy Shipbuilding Oversight

While prime contractors are responsible for controlling the quality of their work, the Navy relies on the SUPSHIPs, as the government's primary on-site representatives, to perform quality assurance oversight during ship construction at private shipyards. In general, the Federal Acquisition Regulation and Defense Federal Acquisition Regulation Supplement (DFARS) set the foundation for the SUPSHIPs' roles and responsibilities, with the SUPSHIP Operations Manual laying out expectations for execution at the shipyards. As the Navy's representatives at the shipyards during construction, the SUPSHIPs are responsible for providing quality assurance; surveillance of contractor business systems; contract administration; and project management, logistics, and financial administration for shipbuilding contracts. The SUPSHIP offices and their detachments conduct their activities at the locations of major shipyards across the country, as shown in figure 1.

Figure 1: Locations of Major Navy Contractor Shipyards and Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP)



Source: GAO analysis of Navy and shipbuilding contractor data; MapResources (map). | GAO-22-104655

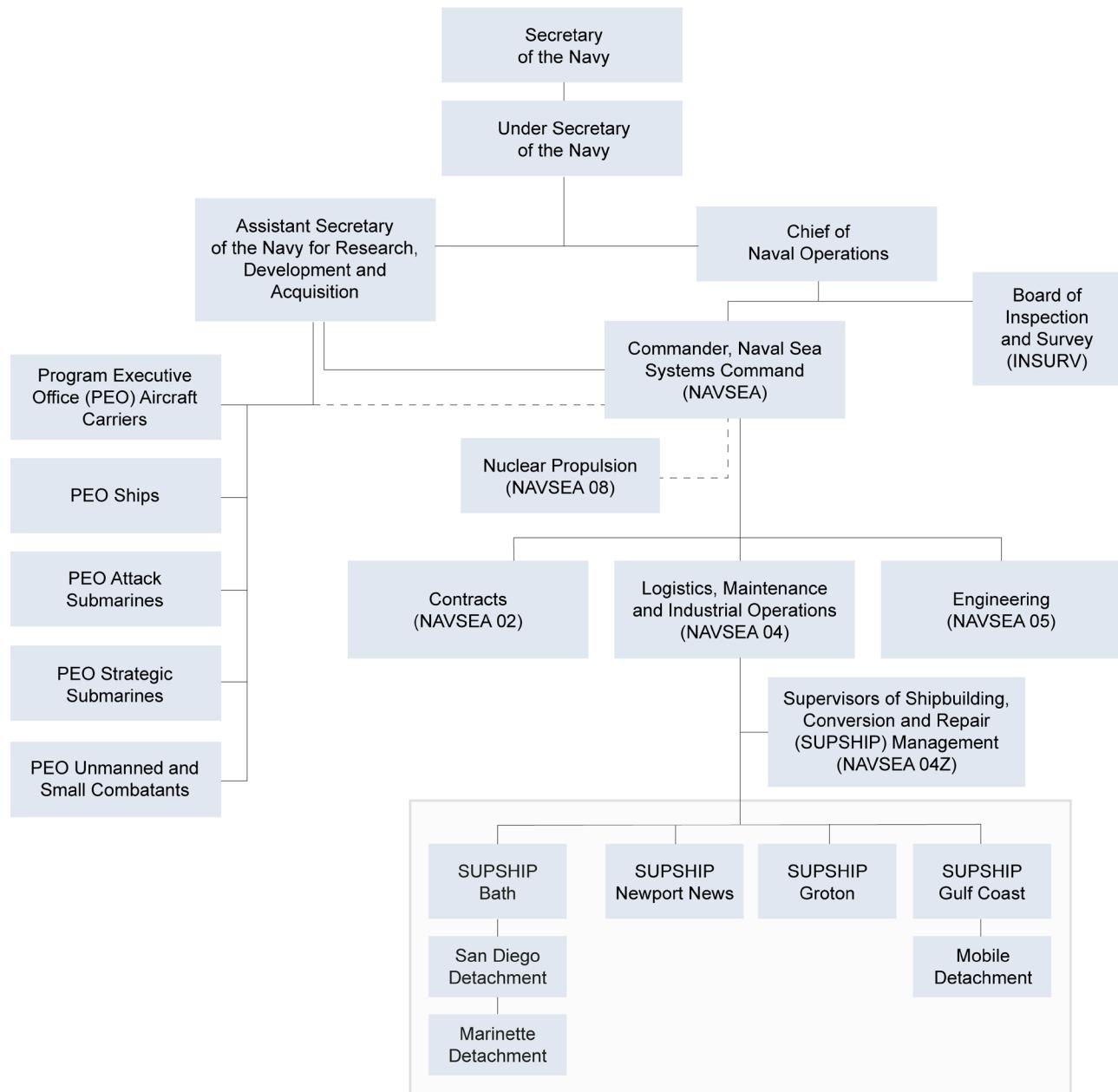
Key Navy Organizations for Ship Construction

The four SUPSHIP commands operate under the direction of the Deputy Commander of NAVSEA's Logistics, Maintenance and Industrial Operations Directorate.⁷ Within this directorate, the Director of SUPSHIP Management provides policy, guidance, and resourcing for the SUPSHIPs. The SUPSHIP Management organization is a small group of officials who oversee the SUPSHIPs' contracting, engineering, and quality

⁷The National Defense Authorization Act for Fiscal Year 2022, signed into law in December 2021, requires the Secretary of the Navy to establish and appoint an individual to the position of Deputy Commander of NAVSEA for the supervision of shipbuilding, conversion, and repair. This requirement takes effect 30 days after the enactment of the National Defense Authorization Act for Fiscal Year 2023.

assurance performance. Figure 2 provides the structure of key Navy organizations that support shipbuilding programs.

Figure 2: Key Navy Organizations Supporting Navy Shipbuilding Programs



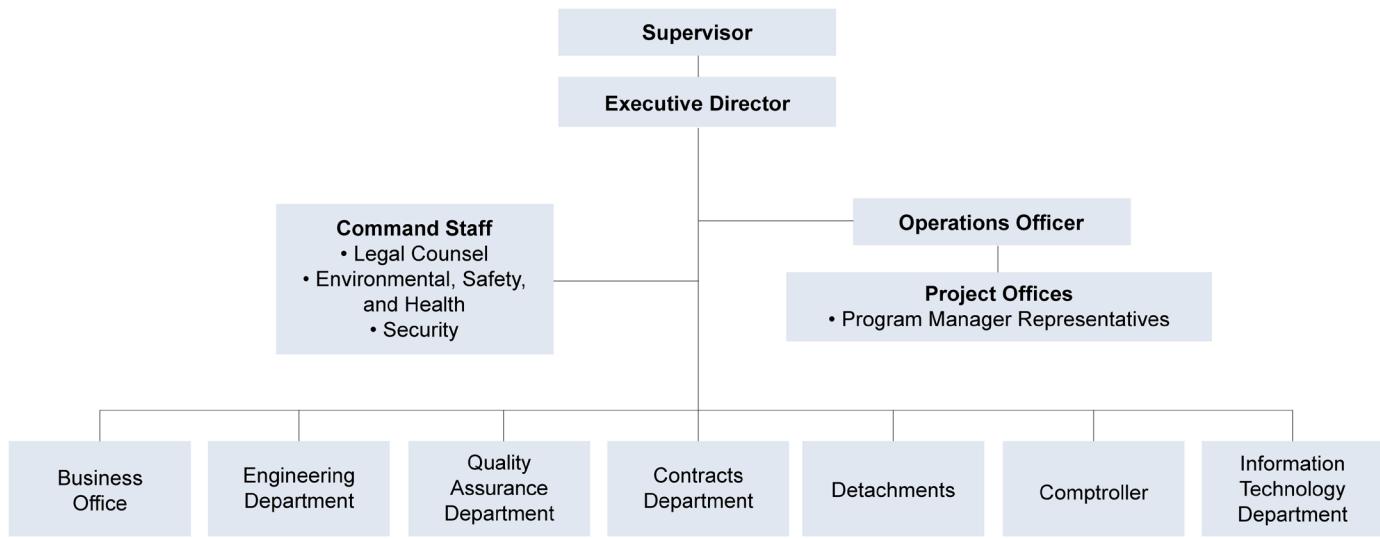
Source: GAO presentation of Navy information. | GAO-22-104655

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- As part of fulfilling the command's responsibility to acquire, maintain, and modernize the Navy's fleet, the Commander of NAVSEA oversees the SUPSHIPs' performance and the policies that guide them.
 - Program Executive Offices (PEO), including the program managers who report to them, manage the life cycle for shipbuilding acquisition programs, including program initiation, ship design, construction, testing, and delivery activities.
 - NAVSEA's Contracts Directorate (NAVSEA 02) awards contracts for new ship construction, delegates contract administration responsibilities to the SUPSHIPs, and shares oversight of SUPSHIP contracting staff and other officials supporting the administration of ship building contracts.
 - NAVSEA's Engineering Directorate (NAVSEA 05) provides engineering and scientific expertise and technical authority for the Navy's vessels. It shares some shipbuilding oversight responsibilities with the SUPSHIPs because the Waterfront Chief Engineers that serve as the local technical authority at each shipyard report to SUPSHIP leadership and to the Engineering Directorate's leadership.
 - NAVSEA's Nuclear Propulsion Directorate (NAVSEA 08) is responsible for the Navy's nuclear propulsion plants for aircraft carriers and submarines, including their research, design, construction, and operations.
 - INSURV is an independent organization within the Navy that inspects newly constructed and in-service Navy ships to determine their material condition and reports these assessments to Congress and Navy leadership.

SUPSHIP Organizational Structure

The SUPSHIPs structure their organizations to address their broad range of responsibilities, as shown in figure 3.

Figure 3: Typical Organizational Structure for Supervisors of Shipbuilding, Conversion and Repair



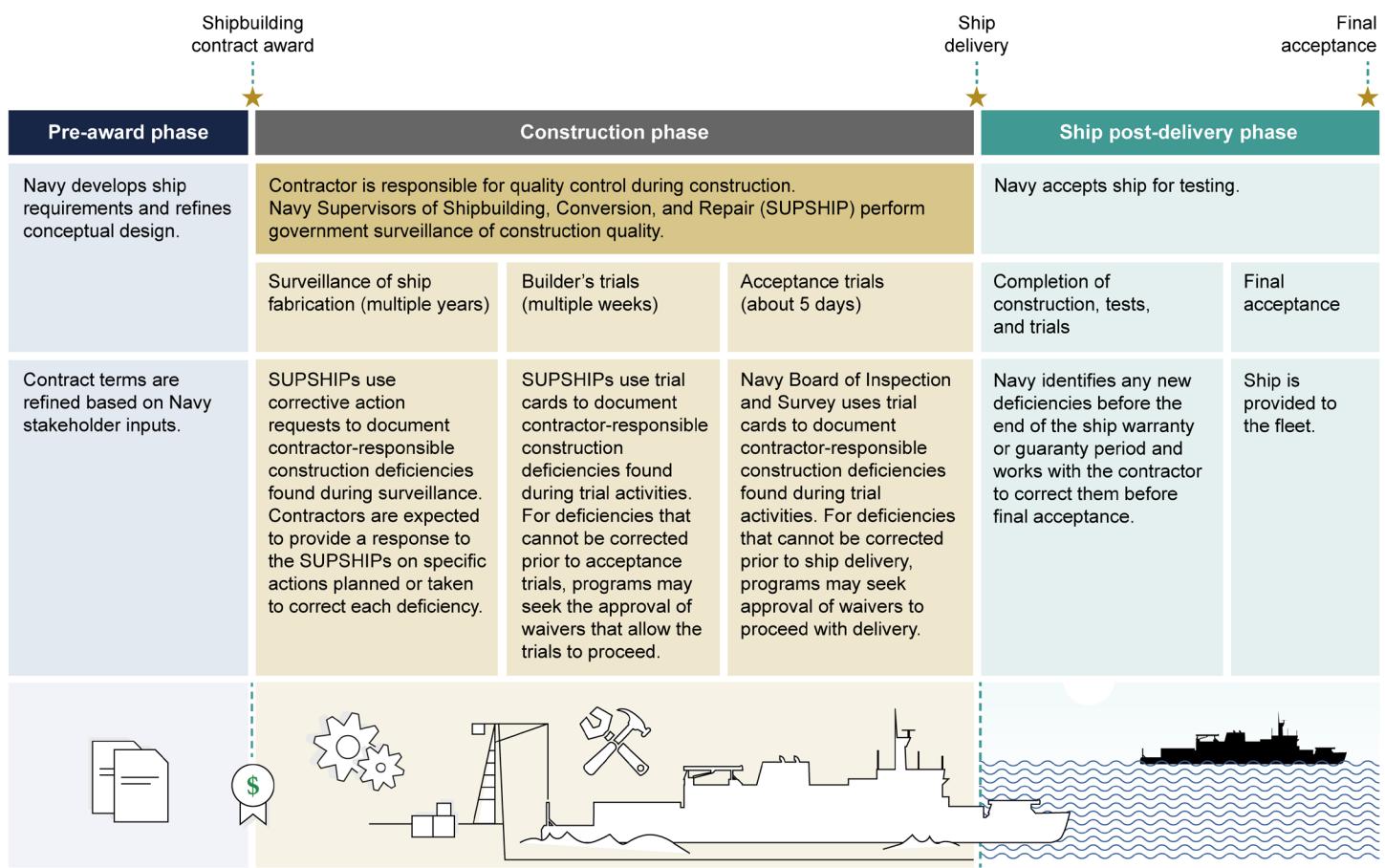
Source: GAO presentation of Navy information. | GAO-22-104655

The Operations Officer serves as the senior manager responsible to the Supervisor for the day-to-day operations of the project offices and manages cross-program coordination and project issue resolution. Under the Operations Officer, the SUPSHIPs have project offices led by Program Manager Representatives who maintain dual-hatted responsibility for balancing the interests of the SUPSHIPs with those of the Navy's shipbuilding acquisition community. Each Program Manager Representative acts on behalf of the program manager for the Navy shipbuilding program to provide direction or guidance to the SUPSHIP or to the shipbuilder. The representatives also report to both their respective SUPSHIP commander and Navy program manager.

Quality Assurance

As shown in figure 4, the Navy's typical quality assurance process for Navy shipbuilding relies on significant SUPSHIP participation in the period between contract award and ship delivery.

Figure 4: Typical Quality Assurance Process for Navy Shipbuilding



Source: GAO analysis of Navy documentation. | GAO-22-104655

Note: The Navy normally conducts combined trials—a combination of acceptance trials and final contract trials—for newly constructed nuclear-powered submarines. Other types of trials can also be conducted to support ship delivery and final acceptance.

The Navy's selection of contract type—which is the key factor in determining risk apportionment between the Navy and the shipbuilder—can affect the SUPSHIPs' oversight of shipbuilding quality. For example, under a cost-reimbursement contract, the government agrees to reimburse the contractor's allowable incurred costs of performance, regardless of whether the work is completed. This contract type requires shipbuilders to give their best efforts to complete the specified work up to each contract's estimated cost. Therefore, in cases of significant cost growth, the Navy may not exercise some quality-related terms of the

contracts intended to facilitate delivery of ships that are complete, tested, and free of deficiencies. These contract terms can include the completion of various trials and correction of contractor-responsible deficiencies discovered before, during, or after the trials.

Once contracts are awarded, the SUPSHIPs' activities include participation in observations during construction, which SUPSHIP officials confirmed regularly number in the tens of thousands for each ship. Observations could include addressing specific problems, such as witnessing contractor staff actions that do not comply with the contract, or other planned activities, such as procedure evaluations and product verification inspections. Through these observations, SUPSHIP personnel help identify any ship construction quality deficiencies from the start of construction through sea trials and delivery. During the construction period, the SUPSHIPs' quality assurance activities can document identified deficiencies using corrective action requests. The SUPSHIPs assess the significance of these deficiencies and categorize them into different types. The types range from minor deficiencies that are often immediately fixed to critical defects that frequently require higher-level communication between the Navy and the contractor.

The SUPSHIPs, shipbuilders, and other Navy organizations—including program offices and INSURV—coordinate and communicate during the construction and trials process to address different quality assurance elements. DCMA—through letters of delegation from the SUPSHIPs—also regularly supports Navy shipbuilding quality assurance efforts by providing oversight for shipbuilding parts and equipment suppliers away from the shipyard and communicating to the SUPSHIPs about supplier performance.⁸

Builder's Trials and Acceptance Trials

As ship construction progresses, each ship undergoes a series of dockside and at-sea tests to evaluate overall quality and performance against contract requirements. Navy shipbuilding programs generally

⁸As outlined in Defense Contract Management Agency, *Delegate Surveillance*, DCMA Manual 2101-04 (July 30, 2018), it is DCMA policy to use subcontract delegations in an effective, efficient, safe, and ethical manner, and only when it is in the government's interest. When delegations are considered, they will only be issued when the conditions of Federal Acquisition Regulation §§ 46.401-46.406 and 42.202 (e) and (f) have been met. In addition to delegations involving the SUPSHIPs and DCMA for Navy shipbuilding programs, DCMA Centers receive delegations from and issue delegations to other Centers and Contract Management Offices within DCMA to perform surveillance of suppliers for other DOD acquisition programs.

conduct two sets of sea trials—builder’s trials and acceptance trials.⁹ Prior to sea trials, the SUPSHIPs engage stakeholders to understand the current state of the ship’s readiness and completeness. These stakeholders include the program office and others, such as Navy officials managing the development and acquisition of systems that will be provided to the shipbuilder as government-furnished equipment.

For builder’s trials, SUPSHIP inspectors observe performance in an effort to identify and address any deficiencies before the acceptance trials. Following builder’s trials, Navy Program Executive Offices, with the permission of the NAVSEA Commander, can recommend that the Chief of Naval Operations (CNO) waive specific deficiencies to allow ships with incomplete work or uncorrected construction deficiencies to proceed with acceptance trials.

For acceptance trials, INSURV independently evaluates a ship’s performance at sea to determine its readiness for introduction into the fleet. Following the trials, INSURV reports the results and recommends to the CNO whether to approve acceptance of ship delivery. To document results and support this reporting, INSURV inspectors categorize any deficiencies—including those related to waived items—based on their significance and severity. Starred deficiencies reflect the most severe deficiencies identified by INSURV. These deficiencies can significantly degrade a ship’s ability to perform an assigned primary or secondary operational capability or the crew’s ability to safely operate and maintain ship systems. Given their importance, starred deficiencies must be corrected by the shipbuilder or waived by the CNO prior to the Navy’s acceptance of ship delivery. In addition to starred deficiencies, INSURV uses three other categories to document deficiencies—including those related to operational safety—in support of its evaluation and report on ship performance during trials.¹⁰

⁹For newly constructed nuclear-powered submarines, INSURV normally conducts combined trials—a combination of acceptance trials and final contract trials.

¹⁰According to Naval Sea Systems Command, *Ships’ 3-M Manual*, NAVSEA Instruction 4790.8D (June 17, 2021), additional categories of deficiencies include Parts I, II, and III. Part I deficiencies are very significant, as they are likely to cause the ship to be unseaworthy or considerably reduce its ability to carry out an assigned mission. All starred deficiencies are Part I deficiencies, but not all Part I deficiencies are starred. Part II deficiencies are less significant material degradations that need to be corrected to restore the ship to required specifications. Part III deficiencies are those that would require either a major design alteration to correct or are considered too costly by the Navy to change on the inspected ship.

Surveillance of Contractor Business Systems

To manage government risk for Navy shipbuilding programs, the SUPSHIPs are responsible for performing surveillance of six contractor business systems:

- accounting systems;
- earned value management systems;
- cost estimating systems;
- material management and accounting systems;
- purchasing systems; and
- property management systems.¹¹

These systems can help ensure that the contractor stays on schedule and at cost when building ships. They also help the government guard against potential fraud, waste, and abuse of federal funding for shipbuilding programs. Surveillance of these systems includes an overall assessment of contractor performance, progress, or compliance with business system requirements defined by defense acquisition regulations and Navy contracts.

Navy contracting officials at the SUPSHIPs are responsible for taking actions to bring contractors into compliance when issues are identified that require correction. To do this, the SUPSHIPs depend on DCAA and DCMA to support the overall surveillance for shipbuilding prime contractors. Both of these DOD agencies perform comprehensive reviews to determine whether contractor business systems comply with defense regulations. DCMA Earned Value Management System Centers perform initial earned value management systems (EVMS) compliance assessments and DCAA audits the accounting systems, cost estimating systems, and material management and accounting systems. For property management and purchasing systems, the SUPSHIPs rely on their own compliance review activities to assess prime contractors. For more details on surveillance and each type of contractor business system, see appendix II.

In their role as administrative contracting officers, the SUPSHIPs can withhold payments from contractors if they identify significant deficiencies

¹¹For uncommon cases where the shipbuilder is not a prime contractor, the government generally does not provide direct surveillance of the shipbuilder's business systems.

in one or more of the contractors' business systems.¹² The DFARS limits withhold percentages to no more than 5 percent when significant deficiencies are confined to one business system, and no more than 10 percent when multiple business systems have significant deficiencies. It also outlines a formal process for the government and the contractor to communicate about the deficiencies, including expectations for corrective action plans and execution. If the contractor submits an acceptable corrective plan in a timely manner and the SUPSHIP determines that plan is being effectively implemented, withholding is reduced to 2 percent.

SUPSHIPS Have Improved Their Practices, but Inconsistent Contract Requirements and Supplier Oversight Limitations Impede Quality Assurance Efforts

SUPSHIPS Have Continued Efforts to Enhance Quality Assurance

The SUPSHIP organization has focused on implementing consistent guidance and practices that support quality assurance improvements. However, the Navy has not used its quality program standard in shipbuilding contracts, which was intended to promote consistent quality assurance requirements across contracts. Further, we found that the Navy's use of shipbuilding contract incentives has limited influence on the SUPSHIPS' ability to promote quality improvements and help improve shipbuilding results. The SUPSHIPS' limited involvement in identifying quality concerns with equipment or suppliers away from the shipyard can also present challenges to overall quality assurance results.

To help address the Navy's persistent challenges with ensuring ships meet quality requirements when delivered, the SUPSHIPS have continued to build on efforts to improve quality assurance during ship construction that began in 2009 as part of the Navy's Back to Basics initiative. For example, SUPSHIP Management and the individual SUPSHIPS made extensive updates to the SUPSHIP Operations Manual over the past decade. These updates reflect the Navy's interest in better defining the quality assurance functions, responsibilities, organizational structure, and operational approach used by the SUPSHIPS.

Along with the guidance updates, the SUPSHIPS have taken action to improve the consistency and reliability of construction deficiency data. Since 2013, the SUPSHIPS have progressed in their use of the Technical Support Management system—the Navy's electronic repository where documentation of the government's quality assurance activities is stored

¹²Defense Federal Acquisition Regulation Supplement, *Contractor Business Systems*, DFARS § 252.242-7005.

for Navy shipbuilding programs. Specifically, we found that the SUPSHIPs now uniformly use this system to document quality assurance information and communicate with Navy stakeholders on shipbuilder performance. For example, the SUPSHIPs use data from this system to support common critical process metrics.¹³ The SUPSHIPs report on these metrics quarterly to provide current information about each shipbuilder's construction performance. Quarterly reporting includes information on trends and explanations of issues for the most significant defect rates, along with actions being taken to address them.

SUPSHIP Management has also demonstrated a commitment to performing Contract Administration Quality Assurance Program (CAQAP) audits and other functional audits on a 2-year cycle.¹⁴ These internal audits of the SUPSHIPs help ensure that the government's quality assurance processes are functioning as intended by evaluating the SUPSHIPs on nine different elements, such as quality assurance planning, product verification inspections, and corrective action.¹⁵ Based on the results of each audit, SUPSHIP Management provides the audited SUPSHIP with performance ratings and recommendations to correct any findings of noncompliance. The regular completion of these audits provides the SUPSHIPs with a mechanism to identify and share lessons learned. In particular, the audit team structure promotes real-time knowledge sharing of quality assurance challenges, lessons learned, and strong practices across the SUPSHIPs. The audit teams include officials

¹³The complete list of common critical process metrics used by the SUPSHIPs includes pipe welding, structural welding, electrical installation, pipe installation, mechanical installation, structural installation, coatings, and system cleanliness.

¹⁴For SUPSHIPs Groton and Newport News, which provide quality assurance for the construction of nuclear submarines, SUPSHIP Management completes CAQAP audits in conjunction with other functional audits. The functional audits assess the SUPSHIPs' internal processes, procedures, and controls related to the Navy's submarine safety, deep submergence systems, and fly-by-wire ship control systems programs. All the SUPSHIPs conduct self-assessments in the off-year from receiving CAQAP audits using the same criteria, with the results provided to SUPSHIP Management for review.

¹⁵As outlined in the SUPSHIP Operations Manual, the SUPSHIPs are evaluated on their planning, document review, procedures evaluation, product verification inspection, quality audits, corrective actions, and quality data evaluation. The manual states that these elements provide a systemic quality assurance program and assure compliance with contract requirements. The evaluations also can address government contract quality assurance at the source and management and training. Audit reports outline the results from evaluating the SUPSHIPs' performance in ensuring compliance with contract requirements for each element and identify areas of noncompliance that require corrective action.

from the SUPSHIP locations not being audited, allowing them to directly observe the performance of other SUPSHIPS and take information back to their respective locations. These efforts are consistent with leading practices for lessons learned that we and others previously identified.¹⁶

Since our 2013 report, we found that SUPSHIP Management has demonstrated consistent use of these audits. The overall results from the audit reports that we reviewed indicate steady performance by the SUPSHIPS in executing their quality assurance responsibilities. The audits also highlighted two instances where categories were rated as needing improvement. For example, a November 2019 audit cited a SUPSHIP for not implementing corrective action to address an issue with proper use of checklists for quality assurance activities. When the audits identify deficiencies, the SUPSHIPS must create a corrective action plan and submit the plan to SUPSHIP Management. This overall approach to corrective action creates accountability for the SUPSHIPS to address areas in need of improvement.

We found that key Navy stakeholders in shipbuilding—namely, officials from the program offices for our case study ships and INSURV—believe that the SUPSHIPS' efforts to improve quality assurance support positive results for ships delivered to the Navy. Officials from multiple Navy program offices told us that they rely heavily on the SUPSHIPS' quality assurance efforts at the shipyards, and that the SUPSHIPS continue to be vital to the successful construction and delivery of ships. INSURV officials told us that they work closely with the SUPSHIPS in the lead up to acceptance trials to learn about what the SUPSHIPS found during construction and builder's trials. They also said that deficiencies found during acceptance trials generally do not come as a surprise because the SUPSHIPS perform extensive quality assurance prior to the trials. This work characterizes the condition of the ship and outstanding deficiencies and incomplete work.

¹⁶We identified key lessons-learned practices in a number of reports, including GAO, *Army Modernization: Army Should Improve Use of Alternative Agreements and Approaches by Enhancing Oversight and Communication of Lessons Learned*, GAO-21-8 (Washington, D.C.: Oct. 1, 2020); and *Project Management: DOE and NNSA Should Improve Their Lessons-Learned Process for Capital Asset Projects*, GAO-19-25 (Washington, D.C.: Dec. 21, 2018).

NAVSEA Has Not Included Its Quality Program Standard in Contracts to Support Consistent Oversight of Shipbuilding Quality

In 2013, we found that the Navy developed a quality program standard in June 2010 as part of its Back to Basics initiative to improve its oversight of ship construction.¹⁷ According to SUPSHIP officials, the Quality Program Standard for Construction of Naval Vessels was developed for use in shipbuilding contracts because inconsistencies in contractual quality requirements decreased the Navy's ability to effectively conduct oversight. This standard for shipbuilding includes contract language that would require shipbuilders to:

- develop and submit a quality assurance plan for the government's approval;
- conduct a review to identify special controls, processes, equipment, and skills required for assuring product quality;
- have a quality system that ensures that work is inspected, tested, or both, at points necessary to ensure conformance with contract requirements;
- respond to corrective action requests within 21 days (7 days for safety issues) and indicate when corrective action will be completed;
- maintain and use cost data related to the prevention, detection, and resolution of defects;
- provide the government electronic access to quality, accuracy control, and manufacturing process data; and
- use results-oriented metrics, such as the rate of defects found in welding, to demonstrate quality program effectiveness.

Despite the Navy's efforts over 10 years ago to develop and issue a published standard for use in contracts, SUPSHIP Management officials told us they are not aware of the quality standard ever being incorporated in a shipbuilding contract. Consistent with their statement, we found that none of the contracts for our 12 case study ships include the standard. These results echo our findings in 2013 that the standard had yet to be incorporated into any shipbuilding contracts or contract modifications—more than 3 years after its development.¹⁸ At that time, we recommended that the Secretary of Defense direct the Secretary of the Navy to provide additional guidance on the incorporation of the standard in contracts. DOD partially concurred with this recommendation, but stated that efforts related to other guidance on quality requirements and other quality

¹⁷ GAO-14-122.

¹⁸ GAO-14-122.

assurance activities were sufficient to support better ship quality. The Navy took no action in response to this recommendation, and we closed it as unimplemented.

Officials from NAVSEA's Contracts Directorate and the SUPSHIP organization did not provide a specific reason for why the quality program standard was not incorporated in shipbuilding contracts over the past decade. Similar to what we found in 2013, a lack of awareness among NAVSEA leadership that the standard exists could be a contributing factor to it not being included. SUPSHIP Management officials noted that the SUPSHIPS previously attempted to have the standard included in contracts. However, they said their general lack of representation for quality-related issues in the pre-award process for shipbuilding contracts prevented them from having insight into why the standard never made it into contracts.

Although the contracts we reviewed did not include the quality program standard, some contained certain requirements that align with the standard.¹⁹ However, as shown in our assessment in table 1, none of the contracts for the 12 case study ships included all of the quality-related requirements from the NAVSEA standard.

Table 1: GAO's Assessment of Quality Requirements Contained in 12 Navy Shipbuilding Contracts

Naval Sea Systems Command's Quality Program Standard for Construction of Naval Vessels							
	Develop a government-approved quality assurance plan	Review equipment and skills for quality	Quality system to track inspections and tests	Timely response to corrective actions	Use cost data for quality	Government electronic access to quality data	Use results-oriented metrics for data quality
Contracts contain quality requirement	2	0	8	0	0	2	2
Contracts partially contain quality requirement	5	8	1	3	7	0	5
Contracts do not contain quality requirement	5	4	3	9	5	10	5

Source: GAO analysis of Navy contract information. | GAO-22-104655

¹⁹Among our case studies, the Navy awarded the base contracts for four ships—CVN 78, LCS 19, LCS 26, and SSN 791—before June 2011 when NAVSEA published the quality program standard. The Navy could have attempted to modify the contracts for these ships to include the standard.

As noted by SUPSHIP officials in our current and prior work, the regular omission of quality requirements included in the standard impedes their ability to have consistent quality assurance expectations for shipbuilder activities and for information across different ship classes and shipyards.²⁰ This inconsistency reduces the Navy's ability to effectively conduct oversight and can lead to insufficient quality assurance data.

SUPSHIP Management officials told us that they continue to see value in using a common contractual standard to create consistent quality requirements that support effective surveillance of shipbuilding quality. These officials added that, since the Navy did not use the quality standard over the past decade, a Navy evaluation of the existing standard's requirements would help ensure the requirements remain relevant and account for changes in shipbuilding. For example, there could be requirements that contractors are already addressing through adherence to current industry standards. Without an evaluation of the standard, the Navy risks continuing to have the standard left out of its shipbuilding contracts on account of concerns with certain requirements that could otherwise be amended.

Quality Incentives and Retentions Have Limited Influence on SUPSHIP Quality Assurance Efforts and Results

We found that the Navy infrequently uses specific quality incentives in contracts, and that, when used, they have minimal effect on the SUPSHIPs' quality assurance activities, such as helping ensure timely shipbuilder correction of construction deficiencies or delivery of ships without significant deficiencies. SUPSHIP officials told us that, prior to contract awards, they sometimes participate in shipbuilding program office assessments that include options for specific quality-related incentives, such as providing shipbuilders additional financial incentives to meet quality targets. Based on these assessments, Navy shipbuilding programs can choose to include additional incentives in contracts that promote construction quality from the outset. These incentives can also support results directly related to the SUPSHIPs' oversight responsibilities. We found through our case studies that the Navy included additional quality incentives in four of 12 cases. For those cases, we found that the incentives' potential financial value to the shipbuilder was minimal compared to the overall construction cost.

We also found that the use of such incentives did not necessarily result in the desired shipbuilding outcomes. For example, we found that the detail design and construction contract for one ship included several different

²⁰GAO-14-122.

quality incentives that provided mixed results in supporting improvements to shipbuilding quality. The incentives included a \$3 million quality incentive for the shipbuilder to deliver the ship on time and minimize the number of open trial cards at ship delivery. This incentive included requirements to correct all starred and significant safety deficiencies not waived by the CNO. The shipbuilder ultimately delivered the ship to the Navy with 1,701 open trial cards, including two starred cards that INSURV stated significantly degraded the ship's performance. SUPSHIP officials stated that the shipbuilder received less than 20 percent of the incentive based on these results. In contrast, the shipbuilder received most of a \$1.5 million performance incentive focused on the shipbuilder's success in applying a spray to the flight deck that helps avoid heat and skid issues.

Similar to additional quality incentives, we found that the use of payment retention provisions in Navy shipbuilder contracts to promote construction progress did not necessarily result in the timely correction of deficiencies or completion of work. Through retentions, the Navy holds back a minimum amount of the shipbuilder's payment to account for uncorrected deficiencies or incomplete work during construction and at delivery. As discussed above, the SUPSHIPs—as the administrative contracting officers—have the lead role in making recommendations to Navy shipbuilding program offices to retain payments based on construction progress.

SUPSHIP officials said that retentions serve as their primary means of motivating shipbuilders to improve their construction performance. However, we found that the Navy may be constrained in terms of how it can incentivize shipbuilders to correct deficiencies once ship construction is largely completed since the bulk of payments are made during the course of construction rather than at delivery. As it is common for Navy ships to have deficiencies and incomplete work items at delivery, the amount retained may not sufficiently motivate the shipbuilder to promptly correct all deficiencies. In 2013, we also found issues with retention effectiveness and recommended that the Navy provide additional guidance on the use of payment retentions as a means to incentivize the shipbuilding contractor to promptly correct deficiencies and deliver ships with limited or no defects.²¹ DOD initially concurred with our

²¹GAO-14-122.

recommendation, but later stated that existing guidance was sufficient. As a result, we closed this recommendation as not implemented.

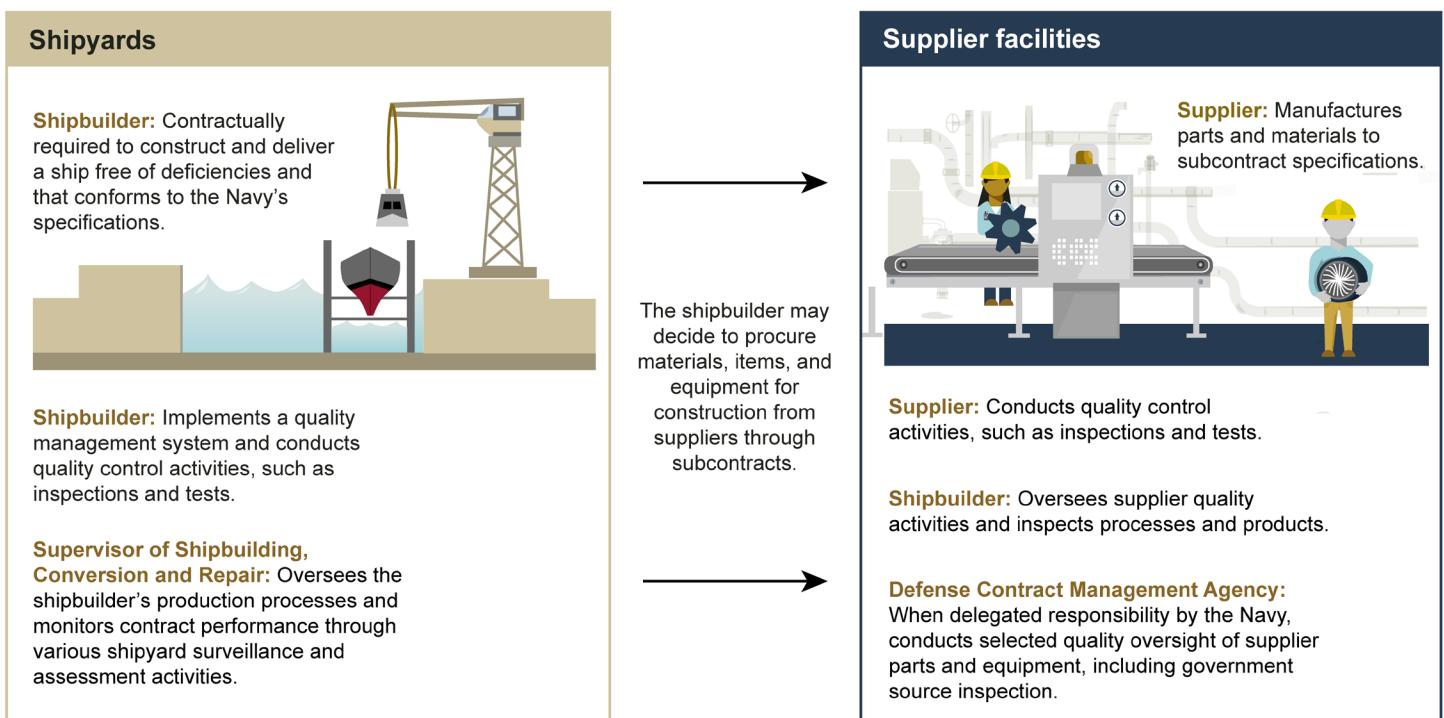
NAVSEA officials confirmed that as of December 2021, the SUPSHIPs continued to retain payments for all 12 delivered case study ships. Among our case studies, the Navy's payment retention percentages were as high as 6.5 percent for early construction and generally decreased as ship construction progressed toward completion. At delivery, the fixed-price contracts enabled the Navy to retain a minimum amount of the shipbuilder's payment as a performance reserve, ranging from 0.75 to 1.5 percent of the ship's contract value.

The retained amounts available to incentivize the contractor's performance are small compared to the hundreds of millions of dollars that shipbuilders regularly receive prior to delivery. For example, the SUPSHIP retained a minimal amount of payment at delivery for one ship based on over 100 open items, including the closeout of trial cards.

SUPSHIPs' Limited Oversight Away from Shipyards Can Pose Challenges to Shipbuilding Quality

In contrast to their responsibilities for overseeing shipbuilder performance at the shipyards, the SUPSHIPs traditionally perform limited or no on-site quality assurance of the ship systems and components developed and produced away from the shipyards. Instead, as outlined in the SUPSHIP Operations Manual, the Navy generally relies on the shipbuilding prime contractor and DCMA to oversee quality assurance for suppliers. The manual states that the primary purpose of the government's quality assurance away from the shipyards is to assist the SUPSHIPs in determining if the prime contractor is ensuring compliance with contract requirements. Figure 5 shows key requirements, responsibilities, and participants typically involved in supplier quality assurance efforts for Navy shipbuilding programs both at and away from the shipyards.

Figure 5: Quality Assurance Requirements, Responsibilities, and Participants for Navy Shipbuilding Suppliers



Source: GAO analysis of Federal Acquisition Regulation, Department of Defense, Navy, and shipbuilder information. | GAO-22-104655

The shipbuilder bears responsibility for quality control based on contract requirements and uses internal quality oversight activities to verify the quality of materials. As part of fulfilling this responsibility, the shipbuilder may flow down contract quality requirements in its subcontracts when procuring materials and equipment from suppliers. The shipbuilder and its suppliers can ensure they are meeting quality requirements and product specifications by performing inspections, evaluations, audits, and self-assessments.

The oversight support that the SUPSHIPs receive from DCMA through letters of delegation provides quality assurance that can cover critical items or higher risk suppliers. This oversight includes inspections of supplier processes and products, which can involve comparing parts to specifications, drawings, or other instructions. It also helps inform the government about how well prime contractors are performing their role in assuring that suppliers are meeting quality expectations. DCMA indicated that, in 2019 and 2020, the agency received over 600 letters of delegation.

from the SUPSHIPs each year to perform surveillance of quality at contractor facilities away from the shipyards. For shipbuilding programs involved in our case studies, SUPSHIP officials noted a broad range in the use of delegated quality surveillance. For example, SUPSHIP Groton typically uses over 200 letters of delegation to support DCMA supplier oversight for *Virginia* class submarines. In contrast, the SUPSHIPs used roughly 15 to 20 letters of delegation to support surveillance of supplier quality related to the construction of the LCS 19 and ESB 5 expeditionary sea base ship.

While the quality assurance support that DCMA provides enables the SUPSHIPs to focus their resources on demands at the shipyards, this overall oversight approach creates an indirect role in supplier quality assurance for the SUPSHIPs. This lack of direct SUPSHIP involvement can reduce their ability to effectively recognize and address supplier-related challenges away from the shipyards, particularly challenges related to complex systems or components that are critical to the ships' performance. For example, we previously found with the *Columbia* class submarine program that a lack of oversight of critical suppliers can increase the risk of significant quality problems—such as those encountered with the submarine's missile tubes.²² Such problems can require time-intensive repairs and rework, which can negatively affect a program's schedule. Based on these findings, we recommended in January 2021 that the Secretary of the Navy should ensure that the SUPSHIP organization and management for the *Columbia* class submarine program collaboratively assess whether additional materials require contract quality assurance inspections at the source.

The Navy acknowledged the issues with effectively mitigating shipbuilder supply chain oversight risks, such as those encountered by the *Columbia* class submarine program. In response, it established the Strategic Outsourcing and Supply Chain Management Tiger Team in late 2020 to reassess the current supply chain oversight approach supporting quality assurance for the Navy's nuclear-powered submarines and aircraft carriers. The Tiger Team completed its work as of November 2021, with Navy officials telling us that initial briefings to senior leadership were completed on the full scope of the assessment, findings, and recommendations.

²²GAO, *Columbia Class Submarine: Delivery Hinges on Timely and Quality Materials from an Atrophied Supplier Base*, GAO-21-257 (Washington, D.C.: Jan. 14, 2021).

SUPSHIP Management officials said that the Tiger Team concluded that the SUPSHIPs need to provide increased oversight of the shipbuilder's management of suppliers with dedicated quality oversight staff for nuclear-powered shipbuilding programs. SUPSHIP Management officials noted, however, that the Navy has yet to fully determine the funding approach and total staffing needed to support targeted quality assurance efforts for critical systems away from the shipyards.

Greater targeted involvement, such as what the Navy is considering based on the Tiger Team's results, could improve the SUPSHIPs' ability to identify opportunities to reduce government risk. This involvement could be accomplished through additional government inspections or the inclusion of other quality assurance activities. Such improvements could increase the likelihood of the government identifying defects sooner and taking action to mitigate them. The SUPSHIPs' involvement in these targeted activities could include their direct oversight of the shipbuilders' quality management for key suppliers. It could also include greater use of information by the SUPSHIPs about recent supplier performance to improve decisions and communication with DCMA on what materials require contract quality assurance away from the shipyards.

Similar to the issues evaluated by the Tiger Team, the Navy's oversight approach for government-furnished equipment—specifically, equipment that the Navy deems critical to a ship's performance—also imposes limits on the SUPSHIPs' ability to independently identify quality concerns during construction.²³ Government-furnished equipment is commonly included in shipbuilding programs to provide key systems like ship radars or other combat or mission systems. Navy shipbuilding programs can involve a number of stakeholders outside of the program that oversee government-furnished equipment coming from vendor facilities. The oversight responsibility for these resource managers includes decisions to delegate quality assurance to DCMA. For this equipment, the SUPSHIPs' direct quality assurance activities begin with receipt-of-delivery inspections at the shipyards, which focus on any damage or incompleteness of the equipment.

As with the quality assurance approach for suppliers outlined by the SUPSHIP Operations Manual, the overall oversight approach for government-furnished equipment is intended to provide adequate quality

²³Government-furnished equipment is property in the possession of or acquired directly by the government, and subsequently delivered or made available to the contractor for performance of a contract.

assurance away from the shipyards. However, for key complex systems that must be integrated into the ships, the SUPSHIPs' lack of involvement prior to the equipment's arrival at the shipyard reduces opportunities to leverage their expertise to address known problems. It can also contribute to problems going undetected or being identified late in the construction cycle if the equipment—especially complex systems—is not delivered in time for the SUPSHIPs to evaluate it as part of the shipboard test plan.

For example, the CVN 78 aircraft carrier's advanced arresting gear—a critical system used to catch landing aircraft—is government-furnished equipment with a long history of performance issues. A Navy official stated that personnel from DCMA and the Naval Air Systems Command performed in-process and final government inspections of the system at the supplier's facilities. However, as noted by CVN 78 program officials, SUPSHIP personnel did not examine the system prior to its arrival at the shipyard. The SUPSHIP's lack of earlier involvement limited its ability to help the program office address issues with this new, high-risk system in the lead-up to acceptance trials and the Navy's subsequent decision to accept ship delivery. Prior to the acceptance trials, the CNO also approved a waiver for the advanced arresting gear that excluded the system from inspection during the trials. This further reduced opportunities for the SUPSHIP overseeing CVN 78 to observe the performance of this integrated system and understand any quality concerns before the Navy's ship delivery decision.

Given the Navy's current and potential future plans to use government-furnished equipment for new programs, proceeding with those plans without examining the SUPSHIPs' current oversight role for these integrated systems could miss an opportunity to improve quality assurance for those programs. For example, we previously found the new FFG 62 Frigate program is integrating a substantial amount of government-furnished equipment, which is expected to provide critical mission capabilities.²⁴ In particular, limited SUPSHIP involvement in direct oversight of complex government-furnished equipment before it arrives at the shipyard reduces opportunities for earlier direct learning about systems that are critical to the overall performance of a ship. It is also inconsistent with oversight and risk management principles from

²⁴GAO, *Weapon Systems Annual Assessment: Updated Program Oversight Approach Needed*, GAO-21-222 (Washington, D.C.: June 8, 2021); and *Guided Missile Frigate: Navy Has Taken Steps to Reduce Acquisition Risk, but Opportunities Exist to Improve Knowledge for Decision Makers*, GAO-19-512 (Washington, D.C.: Aug. 9, 2019).

SUPSHIPs Expanded Their Surveillance of Contractor Business Systems, but Challenges Remain

SUPSHIPs' Increased Capabilities Have Mitigated Past Surveillance Shortfalls

standards for internal control. These standards advocate for establishing processes that include the right stakeholders at the right time to optimize the effectiveness of oversight to help achieve overall program goals.²⁵

Over the past several years, the SUPSHIPs made significant changes to their organizational structure, resourcing, and practices in response to their increasing responsibility for contractor business systems compliance and to mitigate past shortfalls in surveillance, but challenges remain. For example, the SUPSHIPs continue to experience staffing challenges related to the surveillance of business systems. Further, we found that despite the SUPSHIPs' use of payment withhold to incentivize shipbuilders to promptly correct significant business system deficiencies, it can take years to resolve them. The SUPSHIPs also are limited in their ability to perform business systems surveillance when the shipbuilder is a subcontractor. This last challenge, in particular, can limit the government's ability to independently ensure the reliability of information produced by the systems.

The SUPSHIPs developed a more defined organizational structure and increased staffing for business systems surveillance over the past decade in response to expanded responsibilities and reductions in the surveillance support they received from DCAA and DCMA. SUPSHIP officials noted that these changes were set in motion in 2010 and finalized in the DFARS in 2012. Specifically, under the regulatory changes, SUPSHIP administrative contracting officers can have direct responsibility to determine contractor payment withhold associated with noncompliant business systems.²⁶ The changes prompted a reevaluation of the SUPSHIPs' role and approach to business systems surveillance. Around the same time the SUPSHIPs received this new surveillance responsibility, we found that they began to encounter challenges and changes that affected their surveillance for several years.

According to our analysis of DOD documentation and interviews with DOD officials, the key factors that diminished the SUPSHIPs' ability to

²⁵GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

²⁶DFARS § 252.242-7005 outlines contracting officer requirements in the event of finding a significant deficiency—a shortcoming in a contractor business system that materially affects the ability of DOD officials to rely upon information produced by the system that is needed for management purposes. If the contracting officer determines that the contractor's business system contains significant deficiencies, a final determination by the contracting officer will include a notice to withhold payments.

ensure that shipbuilding prime contractors received adequate surveillance of their business systems in the 2011 to 2016 time frame included:

- Limitations in the SUPSHIPs' staffing and organizational structure that supported surveillance of contractor business systems
- DCAA halting its typical compliance audits used by the SUPSHIPs for surveillance of accounting, cost estimating, and material management and accounting systems
- DCMA and the SUPSHIPs disagreeing about the compliance of EVMS for several shipbuilders and lacking consensus on metrics that should be used to assess system compliance

These factors put the Navy at greater risk of potentially paying for unallowable or unreasonable costs and weakening its defense against potential fraud, waste, and abuse of federal funding for shipbuilding programs. Specifically, Navy officials said that the SUPSHIPs historically relied heavily on DCAA and DCMA to conduct surveillance of business systems. In this context, these officials said that the SUPSHIPs' primary surveillance approach had been to respond to business system deficiencies found by those agencies as opposed to performing comprehensive surveillance themselves. We found that when DCAA and DCMA stopped conducting their typical review activities for shipbuilding prime contractors, the subsequent reduction in audits created a temporary void in business systems surveillance capability and information. This void occurred because the SUPSHIPs lacked the staffing and organizational structure to take on those surveillance activities themselves.

DCAA officials said that, from 2011 to 2016, they reduced the resources available to perform their usual audits of shipbuilder business systems for accounting, cost estimating, and material management. The purpose of the reduction was to address DCAA's incurred cost audit backlog, which we outlined in prior work.²⁷ Our work in 2019 confirmed the effect of

²⁷DCAA officials said that responding to the agency's backlog in incurred cost audits consumed significant resources and limited the agency's auditing capacity to complete full scope audits of contractor business systems. DCAA conducts incurred cost audits to identify whether costs incurred on flexibly-priced contracts are allowable, allocable, and reasonable—information that contracting officers need to close the contracts.

DCAA's increased focus on incurred cost audits, finding that DCAA conducted few business system audits of DOD contractors after 2013.²⁸

For EVMS, the surveillance challenges developed over a couple of years and culminated with DCMA's Chief Operating Officer notifying NAVSEA in May 2014 that the agency was suspending all business system review activities at the shipyards where the four SUPSHIPs reside. At that time, DCMA stated that the suspension was in response to the Navy's lack of action taken in response to DCMA's EVMS compliance review recommendations. DCMA also cited a lack of consensus on appropriate EVMS compliance criteria for shipbuilding programs as a source of concern. DCMA's suspension of activities left the SUPSHIPs without EVMS surveillance support from DOD's designated subject matter expert for earned value management until they could sufficiently address DCMA's concerns.

Based on the increasing surveillance responsibilities and the evolving circumstances related to decreased surveillance support from DCAA and DCMA, the SUPSHIPs undertook a number of efforts. Specifically, in addition to staffing increases and organizational changes noted by NAVSEA officials, the SUPSHIPs improved the guidance for business systems surveillance. Officials from NAVSEA's Contracts Directorate and SUPSHIP Management said they built on the 2012 defense acquisition regulatory changes by updating operational guidance from 2015 to 2018. The guidance includes a requirement for the SUPSHIPs to consider and address contractor business systems deficiencies identified by DCMA and DCAA audits.²⁹ Consistent with this guidance, NAVSEA officials said the SUPSHIPs and others undertook efforts to improve implementation of business systems oversight by working to clarify the individual responsibilities of the SUPSHIPs, DCAA, and DCMA. Based on these efforts, NAVSEA officials further revised SUPSHIP guidance from 2019

²⁸GAO, *Contractor Business Systems: DOD Needs Better Information to Monitor and Assess Review Process*, GAO-19-212 (Washington, D.C.: Feb. 7, 2019).

²⁹Naval Sea Systems Command's Deputy Division Director for Shipbuilding, *Contractor Business Systems Guidance (CBSG)*, NAVSEA letter 022/007 (Nov. 28, 2018). This document provides detailed guidance establishing policies, assigning responsibilities, and providing procedures for all SUPSHIP contracting activities to consistently manage and disposition audit reports received from organizations performing audits on a contractor's business systems. The Cognizant Federal Agency can be DCAA, DCMA, SUPSHIP, or other auditing authority.

through 2021 for contract administration and surveillance of all of the contractor business systems.

In addition to improving guidance, SUPSHIP officials said they began establishing offices dedicated to contractor business systems surveillance in 2016 and reengaged with DCAA and DCMA. DCAA officials stated that they developed a strong working relationship with the SUPSHIPS since the Navy staffed these offices. DCAA officials also told us that they addressed their agency's incurred cost audit backlog in 2018 and are on track to fulfill a commitment made that same year to audit all applicable business systems for DOD contractors by the end of fiscal year 2022. As we previously found in 2019, DCAA's successful execution of this plan is dependent on several factors. These factors include the ability to shift resources from conducting incurred cost audits to business systems audits, the use of public accounting firms to perform a portion of the incurred cost audits, and the ability of DCAA auditors to use new audit plans and complete the required audits in a timely manner.³⁰ NAVSEA officials stated that DCAA resumed shipbuilder business systems audits in 2018. DCMA officials stated they rescinded their 2014 suspension of EVMS compliance activities at the four shipyards after re-engaging with the SUPSHIPS for some EVMS activities. Additionally, they said that the creation of earned value compliance metrics helped bring the two organizations back together based on a common understanding of expectations for EVMS compliance.

To support these continued improvements in business systems surveillance, NAVSEA performs regular inspections of the SUPSHIPS as part of the Procurement Surveillance Program.³¹ NAVSEA guidance states that these inspections generally are expected to occur every 3 to 4 years. Led by NAVSEA's Contracts Directorate, these inspections evaluate the SUPSHIPS' performance in executing their delegated contracting authority for shipbuilding contracts, including contractor business systems surveillance activities. NAVSEA issues a report following each inspection that documents strengths, promising practices, and best practices, as well as deficiencies or areas for improvement. For

³⁰GAO-19-212.

³¹The SUPSHIPS complete annual self-assessments in the off-years from the Procurement Surveillance Program inspections. The self-assessments provide insight to NAVSEA officials on the general health and conditions of the surveillance process. This includes the SUPSHIPS' staffing, metrics, policy changes, and contractual issues they are tracking. NAVSEA officials said the inspection teams use community of practice events and the associated issues discussed to inform future SUPSHIP inspections.

significant findings and deficiencies, NAVSEA generally expects the SUPSHIPs to submit a plan to correct them within 45 days of being provided the inspection results. NAVSEA officials noted that inspectors report results to Navy leadership through briefings and the reports are available on an internal Navy website.

In the reports we reviewed from SUPSHIP inspections performed in 2018 and 2019, we found that the inspectors assessed the SUPSHIPs to have demonstrated satisfactory overall performance or better. Although these reports noted areas requiring correction, they also indicated progress from previous years' inspections that reduced risks associated with deficient contractor business systems. For example, a 2019 report noted improved collaboration, coordination, and human capital management for business processes by SUPSHIP Gulf Coast. The type of information provided in the reports—and the accessibility of the reports across the SUPSHIPs—supports the collection and sharing of lessons learned in a manner consistent with leading practices we and others previously identified.³²

**Several Remaining
Business Systems
Surveillance Challenges
Could Restrict
Improvements and
Increase Government Risk**

Staffing Challenges

Although the SUPSHIPs took a number of actions to develop their surveillance capabilities, we found several challenges that could impair their ability to provide consistent surveillance of contractor business systems.

The Procurement Surveillance Program inspection reports we reviewed from inspections in 2018 and 2019 indicate that the most consistent issue across the SUPSHIP inspection results has been the effect of staffing challenges on business systems surveillance. According to a SUPSHIP official, the four SUPSHIPs had from seven to 25 full-time personnel dedicated to business systems surveillance in fiscal year 2021, with an average of about 15 staff at each. SUPSHIP Management officials told us that the challenges related to staffing identified by the inspections in prior years have continued to a certain degree across the SUPSHIPs, but actions are being taken to address them. The officials also said they account for the results of the NAVSEA inspections in resource planning and continue to work with each SUPSHIP to monitor staffing levels against the need for additional business system surveillance. As part of

³²[GAO-21-8](#) and [GAO-19-25](#).

these efforts, they work to mitigate known challenges like the competitive labor market for the SUPSHIP detachment in San Diego and regular funding constraints for the SUPSHIP organization as a whole. They also noted that annual assessments of staffing and skill set availability issues support their resourcing decisions.

Limited Incentives to Promptly Resolve Deficiencies

The SUPSHIPs use payment withhold to incentivize shipbuilders to correct business system deficiencies; however, resolution by the shipbuilders is not always prompt. As previously noted, the SUPSHIPs—in their role as administrative contracting officers—can withhold payments from shipbuilding prime contractors if they identify significant deficiencies in one or more of the contractors' business systems. This authority serves as the SUPSHIPs' primary tool for incentivizing shipbuilders to correct business system compliance shortfalls that otherwise can increase the risk of inappropriate payments as well as fraud, waste, and abuse. Navy officials said the withhold process and requirements provide formal recognition of the severity of deficiencies and incentivize the prime contractor to develop and receive Navy approval for a corrective action plan that supports resolution. They added that withhold provide a useful tool for getting the shipbuilders' attention and exerting pressure to fix business system issues. However, we found that the value of the payments withheld from the shipbuilders is small relative to the overall payments received by the shipbuilders.

According to SUPSHIP officials, in general, their use of payment withhold has been limited. They also stated that, since May 2011, they withheld payments from five shipbuilders totaling about \$63 million based on deficiencies across five contractor business systems. In comparison, tens of billions of dollars were spent over the past decade on Navy shipbuilding. We found that full resolution of the associated business system deficiencies can take years to complete. For example:

- General Dynamics-Electric Boat—builder of *Virginia* and *Columbia* class submarines, each costing billions of dollars—took about 2½ years to resolve deficiencies for which SUPSHIP Groton withheld payments. SUPSHIP officials said it took an additional 2½ years to fully validate that the contractor's corrective actions restored system compliance. Program officials noted that SUPSHIP Groton held regular meetings with senior leadership from the shipbuilder to resolve these deficiencies, receiving status briefs on actions taken toward compliance and providing a good forum for discussing issue areas.

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- SUPSHIP Gulf Coast determined that significant deficiencies with Austal USA's accounting system warranted the use of withhold after DCAA identified deficiencies through multiple business systems audits between 2014 and 2016. SUPSHIP officials stated that withhold were effective in encouraging the shipbuilder to develop a corrective action plan and resolve the 16 identified deficiencies, though it took until June 2021 to fully do so.³³

Limited Surveillance for Subcontracted Shipbuilders

We found one case among our 12 case study ships where the nature of the contract did not allow for government surveillance of all the shipbuilder's relevant business systems. The case could be instructive to future Navy shipbuilding contract decisions. Specifically, for most of the past decade, the SUPSHIPs performed no business systems surveillance for the shipbuilder of the Navy's LCS Freedom variant. The shipbuilder—Fincantieri Marinette Marine—is a subcontractor for LCS rather than the prime contractor and, until April 2020, was not a prime contractor for any other Navy contract. As a result, for much of its time constructing LCS, this shipbuilder was not subject to the direct government routine business systems surveillance under defense acquisition regulations that Navy shipbuilding prime contractors receive.³⁴

Instead, the prime contractor—Lockheed Martin—received business systems surveillance from DCMA, which is responsible for this surveillance for DOD's non-shipbuilding programs. According to DCMA officials, DCMA only provided direct surveillance of the subcontracted shipbuilder's EVMS, as was required by the contract. For the other five business systems, DCMA officials said that the conditions of the contract and the shipbuilder's status as a subcontractor precluded the government from providing the independent surveillance commonly performed when the shipbuilders are prime contractors.

As is typical for Navy shipbuilding contracts, the prime contractor was generally responsible for managing its subcontracts, including relevant subcontractor business systems. A prime contractor is also generally

³³As noted by SUPSHIP officials, DCAA halted business system audit activities at Austal for over a year beginning in January 2019, which impeded SUPSHIP Gulf Coast's ability to validate Austal's corrective actions.

³⁴In April 2020, Fincantieri Marinette Marine received a prime contract for another Navy ship class, making the shipbuilder subject to business systems surveillance consistent with the other shipbuilders included in our case study review, which were all prime contractors for Navy programs. If a subcontractor is a prime contractor for other government contracts, then its business systems may be surveilled under the terms of another contract.

responsible for ensuring the correction of any business system deficiencies, without direct government involvement. Thus, Lockheed Martin—not the government—generally bore direct financial risk related to the subcontracted shipbuilder's business systems. However, because the shipbuilder was a subcontractor, the Navy was limited in its ability to independently assess the shipbuilder's business systems and associated internal controls to ensure it maintained acceptable business systems.

NAVSEA officials noted that having a shipbuilder that was not a prime contractor was inefficient. Specifically, it required them to work with DCMA and the administrative contracting officer within the U.S. Coast Guard to figure out how to mitigate government risk without any SUPSHIP surveillance of the shipbuilder's business systems. NAVSEA officials said that this collaboration included developing memoranda of understanding to support limited government oversight of the shipbuilder's business systems.

While the surveillance challenges were recently resolved for the LCS Freedom variant when the shipbuilder became a Navy prime contractor, the Navy could face similar circumstances in the future. In 2021, DOD's Office of Industrial Policy reported that the increase in ship construction to reach a U.S. Navy fleet of 355 ships by 2035 will strain the U.S. shipbuilding sector. DOD anticipated that the resulting additional workload will be a significant increase from current production levels and will challenge shipyards and their suppliers as they expand and adjust to meet larger production volumes. DOD also projected that contractors not currently participating in U.S. Navy shipbuilding would likely see new opportunities, particularly for building small and uncrewed vessels in the future.³⁵ This DOD projection presents the potential for future teaming efforts that result in new shipyards entering into Navy shipbuilding as subcontractors to existing prime contractors.

If such circumstances arise for future contract decisions, a concerted effort by NAVSEA to ensure clear government understanding of risk related to a shipbuilder's business systems could help avoid a recurrence of the conditions that existed for the LCS Freedom variant. Without evaluating the risks presented when awarding a shipbuilding contract to a

³⁵Office of the Under Secretary of Defense for Acquisition and Sustainment, Office of Industrial Policy, *Report to Congress: Fiscal Year 2020 Industrial Capabilities* (January 2021).

SUPSHIPs' Ability to Improve Shipbuilding Results Is Limited by Their Decision-Making Roles

SUPSHIPs Have Limited Involvement in Key Program Decisions Prior to Contract Awards

prime contractor that is not the shipbuilder, the Navy will not be positioned to address any such risks on future contracts.

We found that the SUPSHIPs face several challenges that hamper their ability to fulfill their responsibilities to help improve ship quality and cost, schedule, and performance results for Navy shipbuilding programs. These challenges include (1) limited involvement in key early program decisions that inform contract requirements; (2) organizational positioning within NAVSEA that limits the SUPSHIPs' authority and accountability; and (3) Navy practices prior to ship delivery that diminish the SUPSHIPs' accountability and ability to influence shipbuilding results.

We found that the Navy largely limits the SUPSHIPs' involvement in key decision-making activities for shipbuilding programs prior to contract awards. NAVSEA Instruction 5450.36C outlining the SUPSHIPs' mission, functions, and tasks states that their role effectively begins after contracts are awarded.³⁶ As a result, the SUPSHIPs have a limited role in the Navy's overall program deliberations prior to contract awards for ship construction. As described in our prior work on shipbuilding practices, the Navy makes key decisions during the pre-contract award phase that determine a ship's performance requirements and the systems needed to meet those requirements, as well as inform early-stage design work.³⁷ These decisions on requirements and design can have enduring effects on ship reliability, availability, and maintainability—all with linkages to ship quality. We previously found that these three factors require early consideration in the Navy's acquisition process to help ensure longer-term ship sustainability and affordability.³⁸

Although NAVSEA's Program Executive Offices can seek input from the SUPSHIPs before contract award, officials from the SUPSHIPs and shipbuilding programs for our case studies said that, in practice, they generally provide limited, ad hoc input during the pre-award phase of the shipbuilding process. As a result, the Navy does not consistently leverage the SUPSHIPs' unique subject matter expertise on how past decisions

³⁶Naval Sea Systems Command, *Mission, Functions and Tasks of the Supervisors of Shipbuilding, Conversion and Repair, United States Navy*, NAVSEA Instruction 5450.36C (Washington, D.C.: Sept. 22, 2017).

³⁷[GAO-14-122](#) and [GAO-09-322](#).

³⁸GAO, *Navy Shipbuilding: Increasing Focus on Sustainment Early in the Acquisition Process Could Save Billions*, [GAO-20-2](#) (Washington, D.C.: Mar. 24, 2020).

and performance across Navy shipbuilding programs have affected cost, schedule, and quality outcomes to inform early program decisions.

Officials across the SUPSHIP enterprise said that when they do receive requests for support from other Navy organizations in the pre-award phase, the requests are typically limited to a few issues. These requests involve reviewing contractor labor rates, assessing contractor facilities to ensure they have the capabilities to build planned ships, and ensuring contract language provides for basic SUPSHIP needs at the shipyards, like dedicated workspaces and phone connectivity. Officials from the DDG 51 and LHA 7 programs included in our case study review also indicated that the SUPSHIPS had limited involvement in their pre-award activities. Navy officials noted that submarine programs generally have some additional engagement with the SUPSHIPS in early program activities. This engagement has included seeking input from SUPSHIP personnel related to their experiences with existing submarine classes. However, SUPSHIP officials stated that their additional involvement with submarine programs has not included SUPSHIP representation in pre-award activities focused on shipbuilding quality.

SUPSHIP Management officials told us that they previously tried to contribute to the pre-contract evaluation and decision-making processes by advocating for contracts to include consistent quality requirements through the use of the NAVSEA quality program standard that we previously discussed. However, they said that once the contract award process began, their input did not result in the quality program standard being included in the contracts awarded. They noted that because they do not have a dedicated role prior to contract award, they lack visibility into contract decisions related to quality requirements.

Positioning the SUPSHIPS to formally share their knowledge during the pre-contract phase could better enable the Navy to use the SUPSHIPS' expertise to support early identification of otherwise unforeseen shipbuilding challenges. Further, SUPSHIP representation during this phase could facilitate better-informed Navy decision-making that sets a solid foundation before making substantial commitments to programs that often continue for decades. Consistent involvement by the SUPSHIPS would align with leading project management practices. These practices promote the use of expertise from individuals or organizations with specialized knowledge of industries or types of project deliverables when making decisions, such as those affecting program requirements and

design.³⁹ The SUPSHIPs' consistent involvement in pre-award activities would also reflect internal control principles. These principles emphasize management's responsibility to ensure communication of quality information throughout an organization to meet objectives and promote effective organizational interactions to achieve goals and address risks.⁴⁰

In addition, the SUPSHIPs' involvement in the evaluation and decision-making processes prior to contract award could provide them with increased understanding of decisions made by shipbuilding programs. It would also be a direct opportunity to provide input for decisions affecting their oversight efforts. This input could support Navy decisions on the use of the NAVSEA quality program standard in shipbuilding contracts, as well as decisions that affect requirements, design, and the selection of key systems.

Organizational Limitations Affect the SUPSHIPs' Authority and Accountability, but Recent Legislative Change Should Strengthen Their Leadership

The SUPSHIPs' organizational position within NAVSEA and the lack of a Deputy Commander dedicated solely to their mission constrains the SUPSHIPs' authority and direct accountability, particularly when compared to their non-shipbuilding oversight counterpart, DCMA. For example, DCMA's organizational position outside of the military services creates distinct separation from the acquisition programs, which supports independent oversight of prime contractors. DCMA's charter gives its Director responsibility for organizing, directing, and managing the agency and all assigned resources. DCMA's Director also resides under the authority, direction, and control of the Under Secretary of Defense for Acquisition and Sustainment, and has direct accountability and access to senior DOD acquisition leadership.

In contrast to DCMA, the SUPSHIPs' position and leadership within NAVSEA does not provide the same type of authority, accountability, and direct access to senior Navy leadership. For example, instead of senior leadership exclusively dedicated to the SUPSHIPs' mission, the Deputy Commander overseeing the SUPSHIPs has responsibility for a range of organizations that includes the public naval shipyards, the radiological affairs support office, and the Navy's regional ship repair facility in Japan. This structure positions the SUPSHIP organization as one of several under NAVSEA's Logistics, Maintenance, and Industrial Operations

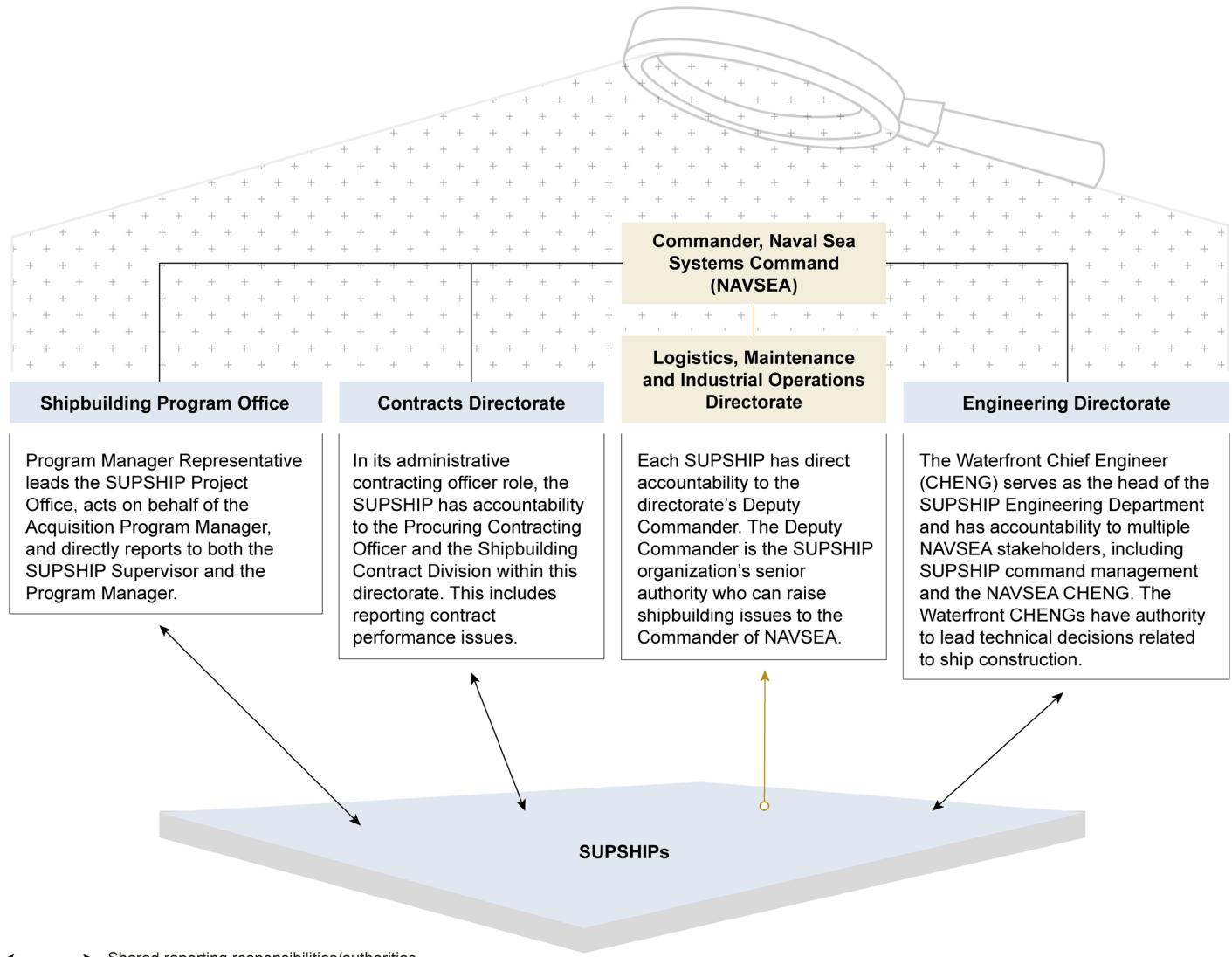
³⁹Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge* (Newtown Square, PA: 2017).

⁴⁰GAO-14-704G.

DIRECTORATE. This positioning can reduce the SUPSHIPs' ability to effectively raise issues in a timely manner and, when necessary, have those issues elevated to more senior Navy leadership.

The SUPSHIPs are also accountable to several NAVSEA directorates and shipbuilding programs based on their roles related to engineering, contract administration, and on-site management at the shipyards. Figure 6 provides an overview of the SUPSHIPs' distributed lines of accountability and channels for leveraging the authority of the organizations above them to influence decision-making for shipbuilding programs.

Figure 6: Distributed Accountability and Authority of the Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP)



Source: GAO presentation of Navy information. | GAO-22-104655

As a result of their responsibilities to meet the needs of different NAVSEA organizations, the SUPSHIPS have organizational accountability to a diverse group of direct and indirect stakeholders. However, the SUPSHIPS' position within the NAVSEA organization dilutes their ability to be a distinct, authoritative voice in decision-making for Navy shipbuilding programs.

Consistent with interests in improving the SUPSHIPs' accountability and authority, the National Defense Authorization Act for Fiscal Year 2022 establishes a Deputy Commander dedicated to the SUPSHIPs.⁴¹ This new position will report directly to the NAVSEA Commander and oversee the independent administration and management of the execution of Navy shipbuilding contracts. This change aligns with leading practices for effective management that promote clearly defined leaders who are empowered to make decisions and be held accountable for them. It also is consistent with the need for sustained enterprise-level leadership to support sound management decisions emphasized in leading practices.⁴²

SUPSHIPs' Influence and Accountability Is Limited by Navy Decision-Making for Sea Trials and Delivery

Although the SUPSHIPs play a critical role in identifying and helping correct deficiencies prior to acceptance trials and ship delivery, we found through our review of the Navy's delivery decisions for our 12 case study ships that the Navy commonly proceeds through the sea trials phase with unresolved construction deficiencies and incomplete work. This is despite the fact that the sea trials phase is ultimately intended to demonstrate whether a ship's readiness supports a Navy decision to accept its delivery from the shipbuilder. When these shortfalls exist, the relevant Program Executive Office can request waivers from the CNO. These waivers enable the program to proceed with acceptance trials or support the approval of ship delivery following acceptance trials. As part of a waiver request for acceptance trials, the Program Executive Office must specify to the CNO the nature of the deficiency, when the deficiency is expected to be resolved, and identify the operational risks associated with granting the waiver. The Navy uses a similar process when requesting a waiver to obtain CNO approval for acceptance of ship delivery.

In deciding to waive known deficiencies, the CNO considers whether it makes sense to proceed with deficiencies rather than keep the ship in the contractor's shipyard and any operational risks associated with that decision. For example, Navy officials noted it can be costly to keep a ship in the shipyard and can negatively affect the construction schedules of other ships at the shipyard. Officials added that correcting some

⁴¹Pub. L. No. 117-81, § 1012 (2021). The appointment of an individual to the new Deputy Commander position of the SUPSHIPs is required 30 days after the enactment of the National Defense Authorization Act for Fiscal Year 2023.

⁴²GAO, *Weapon System Acquisitions: Opportunities Exist to Improve the Department of Defense's Portfolio Management*, GAO-15-466 (Washington, D.C.: Aug. 27, 2015); and Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge*.

deficiencies can also require costly dry-docking measures that the Navy may determine are not appropriate to immediately pursue.

We found that five of 12 case study ships used deficiency waivers approved by the CNO—50 waivers in total—to proceed with acceptance trials.⁴³ Additionally, the Navy’s subsequent acceptance of ship deliveries for five of the ships was supported by 59 waivers for starred card deficiencies identified by INSURV during the trials.⁴⁴ Table 2 shows the distribution of these waivers for our 12 case study ships.

Table 2: Waivers Approved for Acceptance Trials and for the Navy’s Acceptance of Ship Delivery from Contractors

Ship	Waivers approved by Chief of Naval Operations (CNO) for acceptance trials	Waivers approved by CNO for ship delivery
CVN 78 aircraft carrier	15	36
DDG 1001 destroyer	29	18 ^a
DDG 116 destroyer	0	0
DDG 119 destroyer	0	0
EPF 12 expeditionary fast transport	0	0
ESB 5 expeditionary sea base	0	0
LCS 19 littoral combat ship	0	0
LCS 26 littoral combat ship	0	0
LHA 7 amphibious assault ship	2	2
LPD 27 amphibious transport dock	0	2
SSN 791 attack submarine	2	1
SSN 792 attack submarine	2	0

Source: GAO analysis of Navy documentation. | GAO-22-104655

^aThe Commander of NAVSEA requested 18 delivery waivers for DDG 1001. Navy officials could not confirm the CNO’s approval of these waivers.

⁴³As part of our case study review, we found that the Navy has received standing waivers for some deficiencies with *Virginia* class submarines that will never meet Navy specifications or cannot be completed prior to acceptance trials due to time restrictions. These waivers are for issues like sound testing that will not be completed before trials or Navy habitability standards that will not be met on this class of submarine. We did not include these permanent waivers in our analysis of waivers requested from the CNO at acceptance trials and at ship delivery.

⁴⁴The Commander of NAVSEA requested waivers for 18 starred deficiencies as part of its request for the CNO’s approval to accept ship delivery of DDG 1001. Navy officials could not provide evidence confirming the CNO’s approval of the waivers, but the ship was delivered as planned.

As outlined in Navy policy, the CNO may approve waivers for deficiencies when it is considered in the best interest of the Navy to deviate from established requirements.⁴⁵ However, the use of waivers can create challenges for the SUPSHIPs. For example, waiving incomplete or deficient equipment through trials and delivery reduces the SUPSHIPs' ability to hold the shipbuilder accountable for timely correction of deficiencies by allowing shipbuilders to deliver ships that have yet to meet requirements. Further, CNO approval of waivers for incomplete work reduces the SUPSHIPs' opportunities to interact with the equipment through inspections and testing to better understand its condition prior to ship delivery.

The Navy's use of waivers and the corresponding limits to the SUPSHIPs' shareable knowledge of the condition of waived systems also have the potential to mask construction problems with longer-term quality and performance consequences that can limit ship operations for the fleet forces. CVN 78's advanced weapons elevators provide an example of these consequences. Specifically, the CNO approved waivers for the aircraft carrier's system of 11 weapons elevators prior to acceptance trials and ship delivery in May 2017. After more than 4 years of limitations in sailors' ability to transport weapons to the carrier's deck, the Navy stated that the elevators were completed in December 2021.

We also found that the SUPSHIPs are not required to formally attest to each ship's construction quality, remaining risks, and readiness for delivery as part of the CNO's approval process. The SUPSHIPs recommend dates to program managers for all trials and notify them when ships are ready to begin acceptance trials. SUPSHIP officials noted that their inspectors at the shipyard also communicate regularly with the shipbuilders about construction deficiencies, shipbuilding milestones, and sea trial plans and results. However, despite the SUPSHIPs being recognized as uniquely positioned to provide independent oversight and ensure ship quality, Navy policy for ship acceptance has no requirement that they attest to the CNO about the ship's condition prior to the delivery decision and provides no forum to do so.⁴⁶ In contrast, INSURV provides a report to the CNO that assesses the material condition of each ship relative to Navy requirements and recommends whether the Navy should

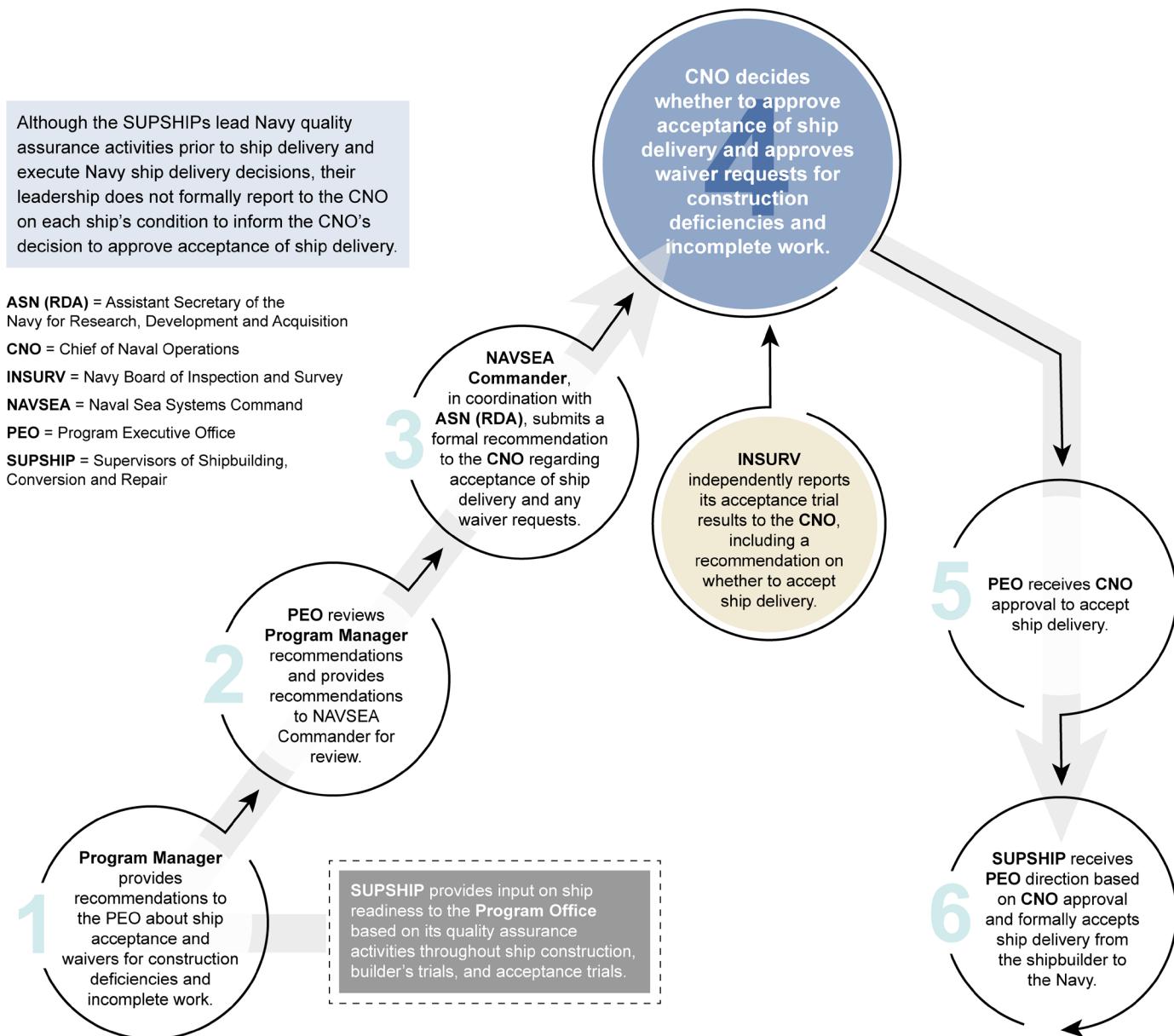
⁴⁵Office of the Chief of Naval Operations, *Trials, Acceptance, Commissioning, Fitting Out, Shakedown, and Post-Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion*, OPNAV Instruction 4700.8L (Sept. 3, 2021).

⁴⁶OPNAV Instruction 4700.8L.

accept delivery of the ship. This fulfills INSURV's role during acceptance trials as the Navy's independent inspector examining ships against Navy standards to determine readiness for ship delivery.

As shown in figure 7, the SUPSHIPs' opportunity to provide input to support the CNO's approval decisions for ship acceptance involves routing their input through multiple organizational layers that include the Navy's shipbuilding acquisition chain and the NAVSEA Commander.

Figure 7: General Navy Process Supporting the Approval and Acceptance of Ship Delivery



Source: GAO analysis of Navy information. | GAO-22-104655

This process could dilute the SUPSHIPs' input before it can reach the CNO, thus reducing the opportunity for the CNO to make approval decisions fully informed by the SUPSHIPs' insights from their direct experience overseeing ship construction. The lack of reporting from the Deputy Commander responsible for the SUPSHIPs to the CNO about the ship's condition in this process also omits direct, independent attestation from the Navy's lead shipbuilding quality assurance organization. Such reporting by the SUPSHIPs' Deputy Commander would align with standards for internal control that promote the need for management to identify, analyze, and respond to risk related to achieving defined objectives.⁴⁷ Applying these standards includes identifying the risks throughout the broader organization and considering the interactions within the organization to identify those risks. Independent reporting by SUPSHIP leadership about each ship's readiness for delivery would also better ensure that the CNO receives distinct information, covering the broad range of cost, schedule, and technical considerations to inform ship acceptance decisions. Further, this reporting could support improved accountability for ship delivery decisions by creating a formal record of the SUPSHIPs' perspectives on ship readiness for delivery that inform the acceptance decisions.

Conclusions

Improving the SUPSHIPs' involvement and accountability in supporting decision makers for Navy shipbuilding programs will not on its own eradicate the long-standing problems that these programs have had with cost, schedule, and performance. However, improvements to maximize the SUPSHIPs' value in shipbuilding oversight and better harness their direct knowledge of shipbuilding activities can contribute to the Navy making better-informed decisions when setting and attempting to fulfill expectations. Unless the Navy takes action to ensure NAVSEA's existing quality program standard reflects relevant requirements and to incorporate the standard in contracts, the SUPSHIPs' oversight activities will continue to be hampered by inconsistent requirements across contracts. In addition, without formal consideration of increasing the SUPSHIPs' involvement in targeted oversight of critical government-furnished equipment, the Navy could be overlooking opportunities to improve the results once those systems arrive at the shipyards. Further, if the Navy does not account for unique risks when awarding contracts where the shipbuilder is not a prime contractor, it may miss opportunities to limit its risks related to shipbuilder business systems. Finally, without expanding the SUPSHIPs' involvement in early decision-making for

⁴⁷[GAO-14-704G](#).

programs and prior to Navy decisions to accept the delivery of ships, the Navy will continue missing opportunities to incorporate the SUPSHIPs' understanding of the complexities of shipbuilding into its decision-making.

Recommendations for Executive Action

We are making five recommendations to the Department of the Navy:

The Secretary of the Navy should determine if the Naval Sea Systems Command's Quality Program Standard for Construction of Naval Vessels requires any updates and then take steps to ensure regular use of the standard in Navy shipbuilding contracts. (Recommendation 1)

The Secretary of the Navy should evaluate whether opportunities exist for additional targeted oversight by the SUPSHIPs of critical government-furnished equipment away from the shipyards to support improvements to overall shipbuilding results. (Recommendation 2)

The Secretary of the Navy should ensure that, prior to contract award decisions, the Naval Sea Systems Command evaluates the extent to which awarding a shipbuilding contract to a prime contractor that is not the shipbuilder presents additional government risk related to contractor business systems compliance and determine options, as needed, to mitigate the risk. (Recommendation 3)

The Secretary of the Navy should ensure that Naval Sea Systems Command Instruction 5450.36C, *Mission, Functions, and Tasks of the Supervisors of Shipbuilding, Conversion and Repair, United States Navy*, is updated to provide the SUPSHIPs direct representation in the evaluation and decision-making processes for all shipbuilding programs, beginning with the pre-contract award stages of requirements development and ship design. (Recommendation 4)

The Secretary of the Navy should require that, in coordination with the Commander of Naval Sea Systems Command, the SUPSHIPs' Deputy Commander provide a report to the Chief of Naval Operations that attests to the quality and readiness of each ship prior to the approval of ship acceptance. (Recommendation 5)

Agency Comments and Our Evaluation

We provided a draft of this report to the Navy for review and comment. The Navy provided written comments in response to the recommendations, which are reprinted in appendix III. The Navy and DCMA also provided technical comments, which we incorporated as appropriate. The Navy concurred with our five recommendations, and we noted comments on two, as discussed below.

In response to the second recommendation to evaluate whether opportunities exist for additional targeted oversight by the SUPSHIPs of critical government-furnished equipment away from the shipyards, the Navy concurred with comments. Specifically, the Navy stated that additional oversight by the SUPSHIPs is appropriate for shipbuilding activities performed away from the primary shipyard, but oversight of government furnished equipment would be duplicative because it is already performed by DCMA. Our recommendation is not intended to duplicate or replace existing oversight efforts. Rather, we are recommending that the Navy identify opportunities to supplement existing oversight for government-furnished equipment that it deems critical, which could improve program results. Targeted involvement by the SUPSHIPs—as determined by the Navy—before this equipment reaches the shipyards could better position the SUPSHIPs to understand and help address issues before the Navy's decisions to accept ship delivery.

In response to the fifth recommendation to require that the SUPSHIPs' Deputy Commander attest to the quality and readiness of each ship before the approval of ship acceptance, the Navy concurred with the intent of the recommendation but not the proposed method. Specifically, the Navy stated that its chain of command structure supports the SUPSHIPs reporting directly to the Commander of NAVSEA, which provides endorsement of the readiness for ship delivery to the CNO through the Assistant Secretary of the Navy for Research, Development and Acquisition. We did not intend to circumvent the Navy's chain of command as part of the recommendation. As a result, we amended our recommendation to remove "direct" SUPSHIP reporting to the CNO and instead, focus on ensuring that the SUPSHIPs formally contribute to NAVSEA's approval requests.

We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; and the Secretary of the Navy. In addition, the report is available at no charge on the GAO Website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or OakleyS@gao.gov. Contact points for our offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Shelby S. Oakley". The signature is fluid and cursive, with "Shelby" on top and "S. Oakley" below it.

Shelby S. Oakley
Director, Contracting and National Security Acquisitions

List of Committees

The Honorable Jack Reed
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Jon Tester
Chairman
The Honorable Richard Shelby
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

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

The Honorable Betty McCollum
Chair
The Honorable Ken Calvert
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Objectives, Scope, and Methodology

Senate Report 116-236 to accompany the National Defense Authorization Act for Fiscal Year 2021 contained a provision for GAO to review the Supervisors of Shipbuilding, Conversion and Repair's (SUPSHIP) oversight efforts. This report assesses (1) the SUPSHIPS' practices and any challenges related to quality assurance for Navy shipbuilding programs; (2) the surveillance of contractor business systems provided by the SUPSHIPS and others to manage government risk; and (3) any limitations to the SUPSHIPS' responsibilities and authority that affect their ability to help improve shipbuilding program results.

To gain an understanding of the SUPSHIPS' practices and challenges related to Navy shipbuilding quality assurance, we reviewed our prior reporting on Navy shipbuilding, relevant federal and Department of Defense (DOD) regulations, and relevant Navy policy and guidance documentation. As part of this review, we also assessed the relevance of standards for internal control to the SUPSHIPS' quality assurance practices and challenges. We determined that the control environment and risk assessment components of internal control were significant to this objective, along with the underlying principles supporting processes that include the right stakeholders at the right time to optimize the effectiveness of oversight.

We conducted interviews with officials from SUPSHIP Management as well as the SUPSHIPS, which include:

- SUPSHIP Bath in Bath, ME, and detachments in Marinette, WI, and San Diego, CA;
- SUPSHIP Groton in Groton, CT;
- SUPSHIP Gulf Coast in Pascagoula, MS, and a detachment in Mobile, AL; and
- SUPSHIP Newport News in Newport News, VA.

We also interviewed officials from directorates within the Naval Sea Systems Command (NAVSEA), the Navy Board of Inspection and Survey (INSURV), selected Navy shipbuilding program offices and Program Executive Offices, and the Defense Contract Management Agency (DCMA).

We selected 12 ships delivered since 2017 to conduct case studies on the roles that the SUPSHIPS and others within DOD played in overseeing shipbuilding performance and results. The ships include

- CVN 78 aircraft carrier;
- DDGs 116 and 119 destroyers;
- DDG 1001 destroyer;
- EPF 12 expeditionary fast transport;
- ESB 5 expeditionary sea base;
- Littoral Combat Ship (LCS) 19 Freedom variant and LCS 26 Independence variant;
- LHA 7 amphibious assault ship;
- LPD 27 amphibious transport dock; and
- SSNs 791 and 792 attack submarines.

These ships provided a sample of the different types of surface ships and submarines under construction in recent years at the four SUPSHIPs and their three SUPSHIP detachments. For each case study ship, we completed data analysis of construction results. The data we analyzed included corrective action requests and trial cards, generated by the SUPSHIPs and INSURV, that document deficiencies during construction and sea trials prior to ship delivery to the Navy. We assessed the reliability of these data by reviewing information on the data collection system used by the SUPSHIPs and interviewing NAVSEA officials about the measures they take to verify the accuracy of the data collected. Based on this assessment, we determined the data were sufficiently reliable for the purposes of our reporting.

We also reviewed the construction schedule and contract clauses for the case study ships to assess the extent to which they include quality-related performance incentives and provisions that reflect the quality requirements of NAVSEA's Quality Program Standard for Construction of Naval Vessels. Our review of contract incentives included an assessment of overall performance incentives to identify those with specific quality-related attributes. To determine the quality-related requirements from NAVSEA's quality program standard that the Navy included in contracts for our case study ships, we assessed the contract provisions to identify any requirements that aligned with the standard. For each contract, we assessed whether it fully included, partially included, or did not include language that aligned with seven quality-related requirements from the standard. We identified requirements as partially included for cases where we determined that the contract included a requirement that fulfilled some, but not all, of a requirement as defined by the NAVSEA

standard. Additionally, we assessed a requirement as partially met for some cases where we found that the contract cited additional documentation or attachments to the contract that detailed contractor requirements that aligned with quality requirements in the standard. We did not assess contract attachments.

Among our 12 case study ships, we selected seven ships—one ship overseen by each SUPSHIP and key detachment—for more in-depth analysis. These ships included CVN 78, DDG 116, ESB 5, LCS 19, LCS 26, LHA 7, and SSN 792. Our analysis included interviews with the relevant program offices and SUPSHIPS to gain additional insight on shipbuilding results and the SUPSHIPS' role in overseeing construction at the shipyards. We also interviewed selected shipbuilders associated with our case study ships to obtain their perspectives on the overall shipbuilding process and SUPSHIP oversight.

To assess the surveillance of six contractor business systems performed by the SUPSHIPS and other supporting DOD organizations to manage government risk, we reviewed relevant federal and defense acquisition regulations and Navy guidance, such as the SUPSHIP Operations Manual. The six contractor business systems include the (1) accounting system, (2) earned value management system, (3) cost estimating system, (4) material management and accounting system, (5) property management system, and (6) purchasing system. Further details on these systems are available in appendix II.

We also reviewed the efforts by the SUPSHIPS, Defense Contract Audit Agency (DCAA), and DCMA that supported surveillance of contractor business systems for the shipbuilders related to the case study ships. Additionally, we interviewed officials from SUPSHIP Management, the individual SUPSHIPS, DCAA, and DCMA about shipbuilder compliance with requirements and practices supporting surveillance, communication, and decision-making. As part of reviewing the SUPSHIPS' efforts related to business systems surveillance, we assessed the relevance of standards for internal control. We determined that the risk assessment component of internal control was significant to this objective, along with the underlying principles that emphasize management's responsibility to identify, analyze, and respond to risks related to achieving defined objectives.

For each SUPSHIP, we reviewed the Navy's most recent Procurement Surveillance Program reports—periodic inspections led by NAVSEA's Contracts Directorate to assess SUPSHIP performance of its delegated

contracting authority. We used these reports to understand recent performance of the SUPSHIPs in their surveillance of contractor business systems. We also reviewed documentation on contractor business systems for the shipbuilders related to our case study ships. These shipbuilders include:

- Fincantieri Marinette Marine in Marinette, WI;
- General Dynamics Bath Iron Works in Bath, ME;
- General Dynamics Electric Boat in Groton, CT;
- General Dynamics National Steel and Shipbuilding Company in San Diego, CA;
- Huntington Ingalls Industries-Ingalls Shipbuilding in Pascagoula, MS; and
- Huntington Ingalls Industries-Newport News Shipbuilding in Newport News, VA.

In cases where business systems deficiencies led to the government's use of payment withhold, we reviewed withhold information to better understand the extent of their use and the reason for the action taken. Additionally, we reviewed DCAA audits and information related to DCMA compliance reviews to understand their roles in oversight of shipbuilding contractors.

To assess any limitations to the SUPSHIPs' responsibilities and authority that influence their ability to help improve shipbuilding program results, we reviewed our prior reporting on Navy shipbuilding; relevant federal and DOD regulations; and relevant Navy organizational, policy, and guidance documentation. We reviewed NAVSEA Inspection and Audit Reports for the SUPSHIPs as well as INSURV reports and relevant construction deficiency information for the 12 case study ships. Review of these documents helped us assess how the organizational structures, regulations, policies, and practices used by the Navy have evolved over the past decade. It also helped us determine how the SUPSHIPs' organizational structure and responsibilities influence their support of the Navy's overall shipbuilding program efforts. We also interviewed officials from SUPSHIP Management, the SUPSHIPs, relevant NAVSEA directorates, INSURV, DCAA, DCMA, relevant program offices, and selected shipbuilders to discuss overall oversight of Navy shipbuilding programs. The interviews helped us identify any challenges with the roles, responsibilities, and mechanisms supporting that oversight.

As part of our overall review of any limitations to the SUPSHIPs' responsibilities, we assessed the relevance of standards for internal control. We determined that the control activities and information and communication components of internal control and their underlying principles were significant to this objective. Of specific relevance were internal control principles that emphasize management's responsibility to ensure effective communication of quality information throughout an organization, and to promote the need for management to identify, analyze, and respond to risk related to achieving defined objectives.

We conducted this performance audit from November 2020 to April 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Surveillance of Contractor Business Systems for Navy Shipbuilding Programs

Table 3: Description of Typical Contractor Business Systems Surveillance Roles and Responsibilities for Navy Shipbuilding Programs

Contractor business system	System purpose	Surveillance organizations	Description of surveillance
Accounting System	The contractor's system(s) to gather, record, classify, analyze, summarize, interpret, and present accurate and timely financial data for reporting in compliance with applicable laws, regulations, and management decisions.	Defense Contract Audit Agency (DCAA) and Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP)	The SUPSHIPS and DCAA use a coordinated approach to surveil the accounting system. The SUPSHIPS provide routine ongoing surveillance and make system approval decisions. DCAA performs compliance audits and advises the SUPSHIPS. DCAA regularly audits the system—generally every 3-4 years—and upon request by the SUPSHIPS. DCAA audits identify any system deficiencies and express an opinion on the contractor's compliance with system requirements. The SUPSHIPS assess DCAA audit results and, as necessary, work with the contractor on a corrective action plan to resolve deficiencies. In cases of significant deficiency, SUPSHIP contracting officers invoke payment withholdings under Defense Federal Acquisition Regulation Supplement (DFARS) rules until the deficiencies are addressed. In the event the SUPSHIPS decline to take action on a DCAA recommendation, they must justify their position, as outlined in the SUPSHIP Operations Manual.
Cost Estimating System	The contractor's system of policies, procedures, and practices for budgeting and planning controls, and generating estimates of costs and other data.	DCAA and SUPSHIPS	Same as accounting system.
Material Management and Accounting System	The contractor's system(s) for planning, controlling, and accounting for the acquisition, use, issuance, and disposition of material.	DCAA and SUPSHIPS	Same as accounting system.

**Appendix II: Surveillance of Contractor
Business Systems for Navy Shipbuilding
Programs**

Contractor business system	System purpose	Surveillance organizations	Description of surveillance
Earned Value Management System (EVMS)	The contractor's management control system that integrates a program's work scope, schedule, and cost parameters for optimum program planning and control by both the contractor and government program managers.	Defense Contract Management Agency (DCMA) and SUPSHIPs	DCMA functional specialists from its Earned Value Management System Centers conduct the initial compliance assessment of the contractor's EVMS and contractor compliance with criteria in the Electronic Industries Alliance standard for EVMS (EIA-748). Once reviewed, DCMA Earned Value Management System Centers issue an Earned Value Management Business System Analysis Summary report, including identification of any deficiencies. The SUPSHIPs' contracting officers make initial and final determination decisions on system approval. DCMA Earned Value Management System Centers conduct no further reviews of the system unless the SUPSHIPs request assistance with contractors' corrective action plans or a review for cause. The SUPSHIPs conduct routine system surveillance activities to ensure the contractor's system continues to comply with EVMS guidelines. If noncompliance is found, the SUPSHIPs document the deficiency and notify the contractor of the required corrective action. In cases of significant deficiency, the SUPSHIP contracting officers can invoke payment withholdings under DFARS rules until the deficiencies are addressed.
Property Management System	The contractor's system for managing and controlling government property.	SUPSHIPs	The SUPSHIPs are responsible for the review, approval or disapproval, and ongoing surveillance of the system to determine compliance with DFARS requirements. A full scope review of the system is performed every 3 years, or more frequently if the risk posed to the government merits such action. The SUPSHIPs issue a report on the system's status to address the adequacy of the contractor's system and outline plans for resolving any deficiencies. In cases of significant deficiency, the SUPSHIP contracting officer can invoke payment withholdings under DFARS rules until the deficiencies are addressed.
Purchasing System	The contractor's system(s) for purchasing and subcontracting, including make-or-buy decisions, selection of vendors, analysis of quoted prices, negotiation of prices with vendors, placement and administration of orders, and expedited delivery of materials.	SUPSHIPs	Same as property management system.

Source: GAO analysis of the Federal Acquisition Regulation and Department of Defense documentation. | GAO-22-104655

Appendix III: Comments from the Department of the Navy



DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY OF THE NAVY
RESEARCH, DEVELOPMENT AND ACQUISITION
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

MAR 25 2022

Ms. Shelby S. Oakley
Director, Defense Capabilities Management
U.S. Government Accountability Office
441 G Street, NW
Washington DC 20548

Dear Ms. Oakley,

Attached are the Department of Defense response to the GAO Draft Report, GAO-22-104655, "NAVY SHIPBUILDING: Increasing Supervision of Shipbuilding Responsibility Could Help Improve Program Outcomes dated March 2022 (GAO Code 104655). The Department conducted a sensitivity review of this report, and the report is cleared for public release "AS AMENDED." The draft report contains Controlled Unclassified Information that would be excluded under Exemption 4 of the freedom of information act. While approved for controlled release to Congress, the information bracketed in red is not approved for public release. Enclosed is a copy of the Department's official review.

Sincerely,

Frederick J. Stefany
Principal Civilian Deputy Assistant Secretary of the Navy
(Research, Development and Acquisition)
Performing the Duties of the Assistant Secretary of the Navy
(Research, Development and Acquisition)

Attachments:
As Stated

**GAO DRAFT REPORT DATED 9 MARCH 2022
GAO-22-104655 (GAO CODE 104655)**

**"NAVY SHIPBUILDING: INCREASING SUPERVISOR OF SHIPBUILDING
RESPONSIBILITY COULD HELP IMPROVE PROGRAM OUTCOMES"**

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

RECOMMENDATION 1: The GAO recommends that the Secretary of the Navy should determine if the Naval Sea Systems Command's Quality Program Standard for Construction of Navy Vessels requires any updates and then take steps to ensure regular use of the standard in Navy shipbuilding contracts.

RESPONSE: The Navy concurs with comment. The Naval Sea Systems Command will review the previously developed common quality standards for continued validity and share with the Program Executive Officers (PEOs) for consideration in future contracts, where it is beneficial to do so.

RECOMMENDATION 2: The GAO recommends that the Secretary of the Navy should evaluate whether opportunities exist for additional targeted oversight by the SUPSHIPs of critical government-furnished equipment away from the shipyards to support improvements to overall shipbuilding results.

RESPONSE: The Navy concurs with comments. Government furnished equipment (GFE) includes both nuclear and non-nuclear items. Oversight of nuclear material is provided by NAVSEA Nuclear Propulsion Directorate. Oversight for non-nuclear items is performed by the cognizant Participating Acquisition Resource Managers (PARMs) where independent contracts are awarded with their vendors to include requirements for government oversight at vendor facilities. Additional oversight of GFE at vendor sites would insert additional, possibly contradictory, oversight and require modifications to existing and future contracts with increased cost for questionable benefit. The SUPSHIP oversight role should be focused on the waterfront in shipyards executing ship construction contracts and not on oversight of GFE in facilities away from the shipyards where the Defense Contract Management Agency already has that responsibility.

Concurrently, for shipbuilder outsourced work (e.g., traditional ship construction efforts outsourced to shipyards / fabrication sites away from/outside of the prime contractor shipyard (i.e. current efforts in place by Electric Boat and Newport News)), additional SUPSHIP oversight is required and is additive. Although the shipbuilders provide the first level of supplier oversight, further SUPSHIP/government oversight is complementary and helps to ensure earlier identification and resolution of shipbuilder quality and technical issues.

RECOMMENDATION 3: The GAO recommends that the Secretary of the Navy should ensure that prior to contract award decisions, the Naval Sea Systems Command evaluates the

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extent to which awarding a shipbuilding contract to a prime contractor that is not the shipbuilder presents additional government risk related to contractor business systems compliance and determine options, as needed, to mitigate the risk.

RESPONSE: The Navy concurs with the recommendation.

RECOMMENDATION 4: The GAO recommends that the Secretary of the Navy should ensure that Naval Sea Systems Command Instruction 5450.35C, *Mission, Functions, and Tasks of the Supervisors of Shipbuilding, Conversion, and Repair, United States Navy*, is updated to provide the SUPSHIPs direct representation in the evaluation and decision-making processes for all shipbuilding programs beginning with the pre-contract award stages of requirements development and ship design.

RESPONSE: The Navy concurs with comments. While the SUPSHIPs participate in acquisition planning and pre-award activities on various NAVSEA contracts, the SUPSHIPs and the NAVSEA Industrial Operations Directorate will continue to work with the PEOs and NAVSEA Contracting Directorate during the pre-contract award stages of requirements development and ship design. In addition, the SUPSHIP Mission, Functions and Tasks instruction will be reviewed for inclusion of best practices such as early contract involvement. Updates will also be codified in the Naval Sea Systems Command Instruction 5450.35C.

RECOMMENDATION 5: The GAO recommends that the Secretary of the Navy should require that, in coordination with the Commander of Naval Sea Systems Command, the SUPSHIPs' Deputy Commander provide a report directly to the Chief of Naval Operations that attests to the quality and readiness of each ship prior to the approval of ship acceptance.

RESPONSE: The Navy concurs with the intent of the recommendation, but not the proposed method. The applicable SUPSHIP, as an Echelon 3 command, reports directly to the Commander, NAVSEA (COMNAVSEA), an Echelon 2 command. COMNAVSEA is responsible for the technical, contracting, financial management and quality assurance authorities for all ship construction programs and provides endorsement of readiness for trials/delivery via the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RDA)) per the Office of the Chief of Naval Operations Instruction 4700.8. The SUPSHIPs provide critical input to Navy leadership on the vessel's quality and readiness throughout the construction, trials, and delivery processes.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact	Shelby S. Oakley, (202) 512-4841 or OakleyS@gao.gov .
Staff Acknowledgments	In addition to the contact named above, the following staff members made key contributions to this report: Diana Moldafsky (Assistant Director), Sean Merrill (Analyst-in-Charge), Jessica Berkholz, Brian Bothwell, Shelby Clark, Lorraine Ettaro, Lori Fields, Kurt Gurka, John Rastler-Cross, Miranda Riemer, Jodie Sandel, Edward J. SanFilippo, Sean Seales, Anne Louise Taylor, and Alyssa Weir.

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