



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
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WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

NAVSEAINST 5400.97A  
Ser 05BX/001  
3 FEB 2003

**NAVSEA INSTRUCTION 5400.97A**

From: Commander, Naval Sea Systems Command

Subj: ENGINEERING AND TECHNICAL AUTHORITY POLICY

- Ref:
- (a) SECNAVINST 5400.15A, Department of the Navy Research, Development and Acquisition, and Associated Life Cycle Management Responsibilities, of 26 May 1995
  - (b) Operating Agreement between the Commander, Naval Sea Systems Command and Affiliated Program Executive Officers, of 18 Apr 1997
  - (c) OPNAVINST 11010.20F, Facilities Projects Manual, of 7 June 1996
  - (d) NAVSEAINST 5400.1E, NAVSEA Organizational Manual
  - (e) COMNAVSEA message R 160900Z OCT 02, Realignment of NAVSEA
  - (f) NAVSEANOTE 5400, Establishment of the Director for DON Ordnance Safety and DoD Explosive Ordnance Disposal Technology and Training, SEA 00V, of 2 Dec 2002
  - (g) NAVSEAINST C9210.4A, Changes, Repair and Maintenance to Nuclear Powered Ships (U), of 24 Sep 1990
  - (h) NAVSEAINST 5400.61D, Systems Engineering and Technical Authority Policy, of 3 Feb 2003
  - (i) NAVSEAINST 5400.95C, Waterfront Engineering and Technical Authority Policy, of 3 Feb 2003
  - (j) NAVSEAINST 5400.57D, Engineering Agent Selection, Assignment, Responsibility, Tasking and Appraisal, of 3 Feb 2003

1. Purpose

a. To define engineering and technical authority policy that fulfills the responsibilities of references (a) and (b) and supports Program Managers and the Fleet in providing best value engineering and technical products.

b. To define the responsibility, accountability and authority of Technical Warrant Holders.

c. To establish and define the functions of the Technical Authority Board.

d. This instruction is a major revision and should be read in its entirety.

2. Cancellation. NAVSEAINST 5400.97 of 1 May 2002, and NAVSEAINST 5400.98 of 1 May 2002.

3. Fleet Concurrence. This instruction applies to all Fleet activities doing technical work within the scope of this instruction. COMLANTFLT and COMPACFLT have concurred.

4. Scope and Applicability

a. This instruction applies to engineering, technical work and technical authority associated with ships, weapons, systems and infrastructure under the cognizance of NAVSEA and affiliated Program Executive Officers (PEOs), as delineated in reference (a), and as assigned to NAVSEA and affiliated PEO Program Managers (PMs). This instruction does not apply to: naval nuclear propulsion plant systems, equipment and facilities under the cognizance of the Deputy Commander, Nuclear Propulsion Directorate (SEA 08), to strategic weapons systems under the cognizance of the Strategic Systems Program (SSP), or to Class 1 and Class 2 property per reference (c).

b. This instruction does not change the responsibilities of PEOs, Direct Reporting Program Managers, PMs, Participating Managers or other Program Support Managers as delineated in the applicable DOD/SECNAV 5000 series guidance. In accordance with reference (a), PMs are vested with the authority, accountability, and resources necessary to manage all aspects of assigned programs from concept to disposal. This instruction does not change those responsibilities; it defines the processes required by reference (b) for partnering of the programmatic and technical authorities.

c. This instruction does not change the direct reporting relationships of Warfare Center Commanders, Shipyard Commanders, and Supervisors of Shipbuilding, who report directly to COMNAVSEA.

d. As outlined in reference (d), Executive Order 12344, statutorily prescribed by P.L. 98-525 (42 U.S.C. 715 Note), establishes the responsibilities and authorities of the Deputy Commander, Nuclear Propulsion Directorate (SEA 08) over all facilities and activities which comprise the Naval Nuclear Propulsion Program, a joint Department of Energy (DOE)/Navy organization. These responsibilities and authorities include all technical and logistical matters related to naval nuclear responsibilities and propulsion. Accordingly, nothing in this instruction supersedes or changes those authorities, and SEA 08 shall be consulted concerning all matters related to Naval Nuclear Propulsion.

5. Discussion. Reference (e) established the roles of NAVSEA Directorates with engineering and technical responsibilities. Consistent with references (d) and (e), the following have technical authority roles:

a. The Deputy Commander for Human Systems Integration (SEA 03) is the Command's technical authority for certifying that ships and systems delivered to the Fleet are ready to enhance sailor performance, optimize manpower, personnel and training, and promote personnel safety, survivability and quality of service.

b. The Deputy Commander for Ship Design, Integration and Engineering (SEA 05) is the Command's technical authority for platform and ship systems including areas common to both surface ships and submarines.

c. The Deputy Commander for Warfare Systems Engineering (SEA 06) is the Command's technical authority for surface ship combat and weapons systems, including top-level systems engineering and systems-of-systems engineering.

d. The Deputy Commander for Undersea Warfare (SEA 07) is the Command's technical authority for submarine-specific systems, as well as life cycle support of in-service submarines.

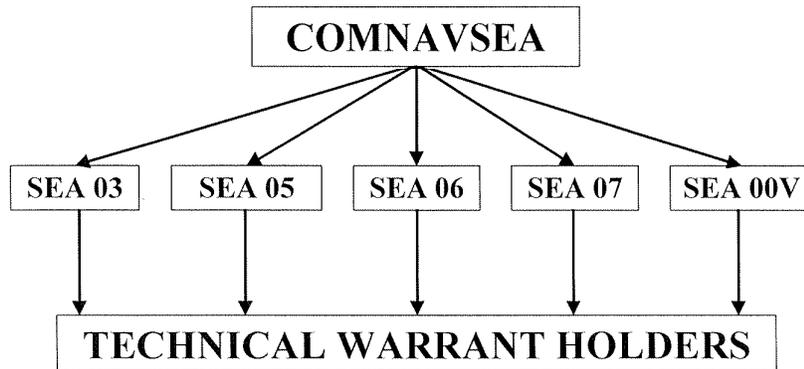
e. Consistent with reference (f), the NAVSEA Director for DON Ordnance Safety and DoD Explosive Ordnance Disposal Technology and Training (SEA 00V) is the Command's technical authority for ordnance.

## 6. Policy

a. Engineering. NAVSEA is a unified Command where our many activities are aligned and working together. NAVSEA maintains disciplined engineering processes that provide safe, effective, affordable integrated warfighting systems, and support those systems in a timely manner. Technical work that can be done by field activities is done by those activities, with work assignments based on assigned mission and leadership areas and on technical expertise. This makes the real costs of the Program more visible to the PM, who can then properly balance those costs with other program needs. NAVSEA's engineering workforce is empowered and accountable to make disciplined technical decisions, providing best value to the Fleet. The goal is for NAVSEA to be agile, effective and efficient in supporting the warfighter and capable of meeting the changing needs of the Navy.

b. Technical Authority. Technical authority is the authority, responsibility and accountability to establish, monitor and approve technical products and policy in conformance to higher tier policy. Individuals warranted as technical authorities are entrusted and empowered to make technically sound engineering decisions, and must do so with integrity and discipline. This allows decisions to be made in a timely and responsive manner, not requiring excessive review and oversight.

c. Warranting of Technical Authorities. In accordance with references (a) and (b), COMNAVSEA is the technical authority for ships, weapons, systems and infrastructure within the scope of this instruction. As depicted in Figure 1, COMNAVSEA warrants SEA 03, SEA 05, SEA 06, SEA 07 and SEA 00V for technical authority within their areas of technical responsibility. Jointly with COMNAVSEA, they warrant their respective Technical Warrant Holders. Where a Technical Warrant Holder will have responsibilities that fall under the responsibilities of more than one of these, the warranting Deputy Commander or SEA 00V shall coordinate with the others. Where a Technical Warrant Holder's responsibilities include engineering work on non-reactor plant systems and equipment in nuclear propulsion plants per reference (g), SEA 08 concurrence with the Warrant shall be requested. The current list of Technical Warrant Holders will be published in a NAVSEANOTE, which can be viewed on the NAVSEA instructions web site (<https://navseainst.navsea.navy.mil>).



Note: This does not circumvent the operational, administrative Chain of Command or its accountability

**Figure 1, Technical Authority Warrant Chain**

d. Technical Decision-Making. Technical decision-making will be done using disciplined processes. Technical Warrant

Holders will make authoritative decisions on technical matters, engineering practices, and processes related to the design, development, construction, testing, repair, operation, in-service support and/or disposal of platforms, systems or tools within the scope of this instruction. Technical Warrant Holders will ensure that sound technical decisions are made in a manner that complies with higher tier requirements, meets the needs of the responsible programmatic authority, and addresses risks, alternatives and trade-offs as appropriate.

7. Engineering and Technical Authority Roles. Technical Warrant Holders are subject matter experts. Within the defined technical areas being warranted they are responsible for establishing technical standards, entrusted and empowered to make authoritative decisions, and held accountable for the technical decisions made. There are at least four distinct types of Technical Warrant Holders: Technical Area Experts (TAEs), Warfare Systems Engineers (WSEs), Ship Design Managers (SDMs) and Chief Engineers (CHENGs). These roles are summarized here and discussed in more detail in references (h) and (i), which discuss engineering and technical authority policy for systems engineering and on the waterfront, and in reference (j), which discusses the engineering agents that make up the majority of the NAVSEA engineering workforce.

a. Technical Area Experts (TAEs). TAEs are the Navy's experts in their warranted technical areas. TAEs can be from any part of the NAVSEA organization, and lead technical efforts in the warranted area throughout NAVSEA, independent of organizational boundaries. The engineering workforce that supports each TAE is primarily comprised of engineering agents per reference (j).

b. Warfare Systems Engineers (WSEs). WSEs lead systems engineering efforts for assigned warfare mission areas, and are warranted to make interoperability decisions for those warfare mission areas, as discussed in reference (h). WSEs are warranted by SEA 06 or SEA 07, and are double-hatted as needed into PEO and PM organizations. WSEs provide technical leadership for NAVSEA, PEOs and PMs in the assigned warfare mission areas, including compliance with DoD/SECNAV 5000 series guidance.

c. Ship Design Managers (SDMs). SDMs lead systems engineering efforts for assigned platforms, and are warranted to make integration decisions for those platforms, as discussed in reference (h). SDMs are SEA 05 employees double-hatted into corresponding Program Offices. As such, SDMs lead the technical efforts of Program Offices, including compliance with DoD/SECNAV 5000 series guidance.

d. Chief Engineers (CHENGs). As discussed in reference (i), CHENGs are the Technical Warrant Holders at Naval Shipyards, Supervisors of Shipbuilding and Fleet Technical Support Centers. CHENGs are warranted by SEA 05. CHENGs lead and focus the technical efforts of NAVSEA from the waterfront to support and execute construction, modernization, maintenance and repair. CHENGs are warranted to make technical decisions within their technical capabilities, allowing NAVSEA to quickly respond to Fleet needs.

e. Engineering Agents. Engineering agents are organizations that provide technical services in support of Technical Warrant Holders, PMs and the Fleet within established technical policies and standards, in accordance with reference (j).

## 8. Coordination

a. Coordination with Programmatic Authorities. In accordance with reference (a), programmatic authorities manage all aspects of assigned programs from concept to disposal, including oversight of cost, schedule and performance, and direction of life cycle management. Programmatic authority is exercised by PMs and by the Fleet, depending on funding and program assignments. Programmatic authorities have the authority, responsibility and accountability to ensure compliance with technical policy and standards established by cognizant technical authorities. Programmatic authorities select from among technically acceptable alternatives identified by cognizant technical authorities and request approval of engineering changes and non-conformances from them in accordance with reference (i).

b. Technical Correspondence. PMs are the designated point of entry for correspondence coming into Headquarters that directly involve their program. Technical Warrant Holders and Engineering Agents are tasked, and where necessary, funded by the PM (with assistance of the SDM or WSE) to review and provide technical recommendations, evaluations and positions. Disagreements on technical decisions shall be resolved in accordance with this instruction prior to issuing technical correspondence.

c. Coordination and Conflict Resolution among Technical Warrant Holders. Where a technical decision involves aspects under the purview of more than one Technical Warrant Holder, those Technical Warrant Holders shall ensure proper coordination. For example, there may be concerns for integrating equipment into the ship design combined with shock requirements, where one Technical Warrant Holder is responsible for the equipment, another for total ship integration and another for shock

evaluation. If those Technical Warrant Holders can not agree on a technical decision, the issue shall be raised to the cognizant Deputy Commander(s)/SEA 00V for resolution. The final decision authority for technical issues under the scope of this instruction is COMNAVSEA.

d. Technical Authority Board. The Technical Authority Board is a Flag/SES-level board consisting of SEA 03, SEA 04, SEA 05 (Chair), SEA 06, SEA 07, SEA 00V, Commander NSWC, Commander NUWC, and the Fleet Maintenance Officers (N43). Within the scope of this instruction, the Technical Authority Board:

(1) Establishes common policies for technical authority, technical standards, metrics, systems engineering, certification and safety.

(2) Coordinates engineering and technical authority interfaces with PEOs, other Systems Commands, the ASN(RDA) Chief Engineer, and the Fleet.

(3) Resolves issues associated with the function, operation, organization, resources, and manning of engineering and technical authority. This includes ensuring proper coordination among numerous activities at headquarters and in the field, engineering workload performed by mission funded and working capital funded billets, and division of engineering workload between the Government and contractors, consistent with NAVSEA and higher tier policy.

(4) Provides guidance on technical authority matters such as general descriptions of different types of engineering agents and their responsibilities.

(5) Meets at least annually, more often as needed.

9. Responsibilities of SEA 03, SEA 05, SEA 06, SEA 07 and SEA 00V. Within their areas of technical responsibility, SEA 03, SEA 05, SEA 06, SEA 07 and SEA 00V shall:

a. Provide leadership and be accountable for all engineering and technical decision-making accomplished throughout NAVSEA, including field activities and affiliated PEOs.

b. Establish technical policy, standards, and processes for NAVSEA. This includes issuing NAVSEA Instructions that address critical technical processes such as systems engineering, interoperability, technology transition, and technical standards. As appropriate, these instructions shall be coordinated with and concurred in by activities outside NAVSEA, such as the Fleet Maintenance Officers and other Systems Commands.

c. Develop, qualify, designate and evaluate their Technical Warrant Holders. Selection of Technical Warrant Holders shall be based on demonstration of technical

responsibility, expertise, and integrity. The warranting Deputy Commander or SEA 00V may provide input to the Technical Warrant Holder's performance appraisal.

d. Ensure due diligence and oversight of engineering and technical authority.

e. Ensure financial and personnel (e.g. technical expertise) resources necessary for Technical Warrant Holders to execute their responsibilities and resolve issues with PMs and the Fleet.

f. In concert with field activity operational and administrative Chains of Command, develop, train and maintain a competent technical workforce both in the field and in Headquarters to ensure:

(1) The Navy is a smart customer by sustaining and exercising NAVSEA technical core equities, critical skills and capabilities.

(2) The Navy retains its core inherently Governmental competencies.

(3) Unnecessary redundancies are minimized or eliminated.

(4) There is a career progression to Technical Warrant Holder status.

10. Responsibilities of Technical Warrant Holders. Within the technical areas defined by their Warrant, Technical Warrant Holders shall:

a. Provide leadership and be accountable for all engineering and technical decision-making accomplished throughout NAVSEA, including field activities and affiliated PEOs.

b. Exercise integrity and discipline to ensure the soundness of technical decisions.

c. Support PMs and the Fleet by providing best value engineering and technical products.

d. Establish technical policy, standards, requirements and processes, including certification requirements. Ensure that broad based databases and web pages that list these identify the correct technical warrant holder or cognizant engineer as the technical point of contact.

e. Provide technical advice to the Fleet, CHENGs, and other Navy customers.

f. Identify and evaluate technical alternatives, determine which are technically acceptable, and perform associated risk and value assessments.

g. Ensure technical products are in conformance with technical policy, standards, and requirements. Where they are not, identify associated risks, and approve non-conformances or engineering changes in a manner that ensures risks are acceptable.

h. For deployed systems that do not meet technical requirements (e.g., due to unaccounted for variables, emergent Fleet requirements, or damage), quickly assess and recommend options, and identify associated risks.

i. Interface with other Technical Warrant Holders to ensure consistency in selection, interpretation and implementation of technical requirements and policies.

j. Assess concept or system performance based on experience, tests and analysis.

k. Certify technical principles, capabilities, concepts, equipment, systems, computer programs, readiness, etc., to defined standards and requirements.

l. Ensure lessons learned and best practices are implemented on in-service ships and integrated into new designs.

m. Promote and facilitate communications throughout the NAVSEA technical community to ensure appropriate individuals and organizations are aware of and involved in technical issues.

n. Interface with the Science and Technology community in technical areas related to their Warrant.

o. In support of the above responsibilities, delegate engineering responsibilities in writing to subordinates, engineering agents, and other technical organizations within the scope of the Warrant. The limits of that responsibility shall be clearly defined. Ensure reporting relationships and limits are available throughout NAVSEA, affiliated PEOs, Warfare Centers, Naval Shipyards, SUPSHIPS, other field activities, and the Fleet maintenance community. Delegating responsibility does not reduce the accountability of the Technical Warrant Holder.

p. Establish engineering agents per reference (j).

q. Provide expert testimony as required.

r. Keep their organizational and administrative Chain of Command informed of issues and decisions, since their Chain of Command remains responsible for the quality of their performance.

s. Maintain technical competency, expertise and infrastructure to effectively perform assigned missions. Develop engineering leadership skills in scientists and engineers and empower them consistent with technical competency, expertise and integrity.

t. Identify both immediate and future resources needed to properly exercise technical authority including funding, manpower, and training.

11. Action. SEA 00I and SEA 05 shall ensure that copies of the technical authority warrants are available to the NAVSEA and Fleet community on a web page or equivalent.

  
P. M. Balisle

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