



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
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WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO  
NAVSEAINST 5400.61D  
Ser 05BX/003  
3 FEB 2003

**NAVSEA INSTRUCTION 5400.61D**

From: Commander, Naval Sea Systems Command

Subj: SYSTEMS ENGINEERING AND TECHNICAL AUTHORITY POLICY

Ref: (a) NAVSEAINST 5400.97A, Engineering and Technical Authority Policy, of 3 Feb 2003  
(b) NAVSEAINST 5400.57D, Engineering Agent Selection, Assignment, Responsibilities, Tasking and Appraisal, of 3 Feb 2003

Encl: (1) Warfighting System Engineering Hierarchy

1. Purpose

a. To establish systems engineering and technical authority policy for NAVSEA that fulfills the responsibilities of reference (a) and supports programmatic authorities in providing best value engineering and technical products to the Fleet.

b. To establish the responsibility, accountability and authority of Warfare Systems Engineers (WSEs) and Ship Design Managers (SDMs).

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

2. Cancellation. NAVSEAINST 5400.61C of 1 May 2002.

3. Scope and Applicability. This instruction applies to systems engineering, technical work and technical authority performed within the scope and applicability of reference (a).

4. Discussion. Throughout NAVSEA, engineering is performed by a matrix organization, which implements systems engineering within a framework consisting of the warfighting system engineering hierarchy shown in enclosure (1). This framework provides a common perspective for understanding, integrating and communicating technical aspects of a warfighting system as well as an organizational construct for the execution of systems engineering. In general, NAVSEA Headquarters is responsible for performing NAVSEA's portion of Levels 1-3, performing Level 4 and parts of Level 5, and assuring appropriate Levels are executed by Warfare Centers, Naval Shipyards, SUPSHIPS and other field activities in accordance with their mission and leadership areas.

5. Policy

a. Delegation of Technical Authority. Consistent with reference (a), technical authority is delegated to Technical Warrant Holders, including WSEs and SDMs, for systems engineering functions under their purview and as described below. They are accountable to COMNAVSEA, their warranting Deputy Commander or SEA 00V, their Chain of Command and the programmatic authorities they support for all engineering and technical decisions made within the scope of this instruction. Because they represent different portions of a matrix engineering organization, disagreements among Technical Warrant Holders shall be resolved in accordance with reference (a).

b. System Engineering Levels 1-3. SEA 06 and SEA 07 are responsible and accountable for performing NAVSEA's portion of systems engineering Levels 1-3. This is accomplished by SEA 06 and SEA 07 warranting WSEs for specific warfare mission areas. In addition to the reference (a) Technical Warrant Holder responsibilities, WSEs shall:

- (1) Ensure battle force interoperability.
- (2) Interface with the CNO on battle force analysis and capstone requirements.
- (3) Ensure weapons systems are properly integrated into platforms to support battle force objectives.
- (4) Ensure future weapons systems development initiatives are in line with identified Navy needs.

c. Systems Engineering Level 4. SEA 05 is responsible and accountable for performing systems engineering Level 4. This is accomplished by assigning SEA 05 employees as SDMs for specific platforms. In addition to the reference (a) Technical Warrant Holder responsibilities, SDMs are responsible and accountable for performing systems engineering Level 4 for assigned acquisition and in-service ships, and shall:

- (1) Lead all total ship design efforts for NAVSEA and affiliated PEOs, and establish configuration requirements to meet customer needs.
- (2) Support Program Managers (PMs) in ensuring fighting units (total ship) meet Operational Requirements.
- (3) Coordinate the systems engineering Level 5-8 work performed in support of assigned programs for the PM.
- (4) Lead systems engineering teams for the PM, consisting of NAVSEA Headquarters, Warfare Center, Naval Shipyard, SUPSHIP and other field activity systems engineers, and engineering support contractors.
- (5) Ensure all mission systems (including C4ISR and combat systems), all hull, mechanical and electrical systems, and

all components are properly integrated into the ship design throughout its lifecycle.

(6) Conduct reviews and analyses as required for acceptability or certification of the total ship system for safety and performance.

d. Systems Engineering of Levels 5-8 and Foundational Areas. SEA 03, SEA 05, SEA 06, SEA 07, SEA 00V and their Technical Warrant Holders shall ensure that systems engineering of Levels 5-8 and foundational areas:

- (1) Is performed effectively and efficiently.
- (2) Supports WSEs in ensuring battleforce interoperability.
- (3) Supports SDMs in integrating systems and components into the total ship.
- (4) Supports Chief Engineers in quickly resolving Fleet technical issues and technical issues associated with construction, modernization, maintenance and repair.



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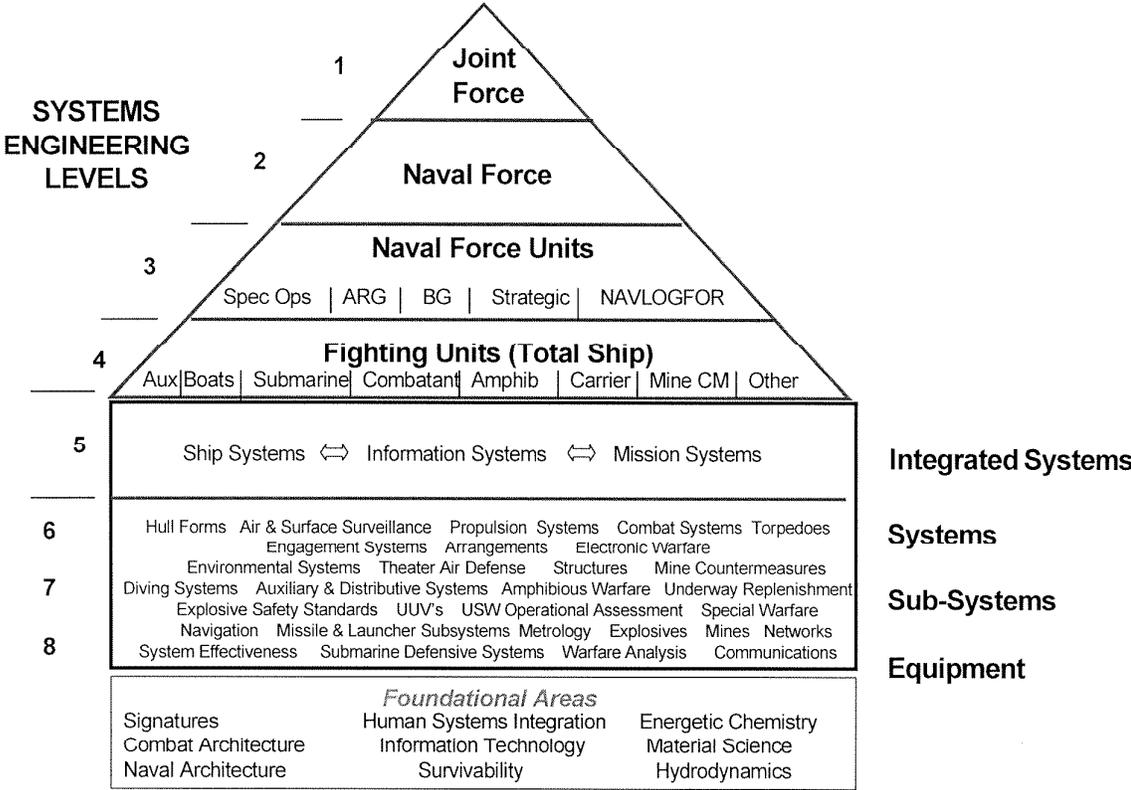
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WARFIGHTING SYSTEM ENGINEERING HIERARCHY



Note - detailed technical areas described in this chart are examples