



DEPARTMENT OF THE NAVY
CHIEF OF NAVAL OPERATIONS
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OPNAVINST 3090.1
N2/N6
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OPNAV INSTRUCTION 3090.1

From: Chief of Naval Operations

Subj: COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, AND
INTELLIGENCE (C4I) CAPABILITY REQUIREMENTS DEFINITION FOR
NEW CONSTRUCTION AND CONVERSION SHIPS

Ref: (a) SECNAVINST 5000.2D
(b) SECNAVINST 5400.15C
(c) OPNAVINST 1500.76A
(d) CJCSI 3170.01F, Joint Capabilities Integration and
Development System
(e) CJCSI 6212.01E, Interoperability and Supportability of
Information Technology and National Security Systems
(f) DNS memo 5000 Ser DNS/80110377 of 30 Oct 08,
Subj: Navy Information Technology Management Council
Charter (NOTAL)
(g) OPNAVINST 2300.44G
(h) OPNAVINST 5420.108B

1. Purpose

a. Define the responsibilities of Deputy Chief of Naval Operations (Total Force) (CNO (N1)); Deputy Chief of Naval Operations (Fleet Readiness and Logistics) (CNO (N4)); Deputy Chief of Naval Operations (Operations, Plans, and Strategy) (CNO (N3/N5)); Deputy Chief of Naval Operations (Information Dominance) (CNO (N2/N6)); Deputy Chief of Naval Operations (Integration of Capabilities and Resources) (CNO (N8)); Director, Warfare Integration (OPNAV (N8F)); Director, Expeditionary Warfare (OPNAV (N85)); Director, Surface Warfare (OPNAV (N86)); Director, Submarine Warfare (OPNAV (N87)); and Director, Air Warfare (OPNAV (N88)) in defining and resourcing the Command, Control, Communications, Computers, and Intelligence (C4I) capability requirements and systems for new construction ships, including submarines and aircraft carriers, and ships undergoing conversion during Shipbuilding and Conversion, Navy (SCN) and National Defense Sealift Fund (NDSF) funded availabilities.

b. Refine the processes for planning and programming for C4I systems that support the ship's operational and support requirements; improve interoperability and performance;

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integrate into the Navy Modernization Plan (NMP); and reduce Total Ownership Cost (TOC) for C4I systems.

c. Provide direction for the Office of the Chief of Naval Operations (OPNAV) Staff in defining C4I systems requirements for new construction ships and ship conversions funded by SCN and NDSF.

2. Scope

a. The provisions of this instruction apply to the requirements for and selection of ship systems which will compose the C4I suite in response to future ship operational capability requirements.

b. The processes of this instruction are encouraged, but not directed, for ship construction programs that have passed gate 5 as defined in reference (a) prior to the effective date of this instruction.

c. The ship C4I suite consists of exterior communication systems, Command and Control (C2) systems, intelligence and information processing and dissemination systems (e.g., tactical digital/data information links, global command and control system-maritime and distributed common ground station-Navy); information assurance products and services; and associated ship Local Area Networks (LANs) that support the exchange of information between C2 and intelligence systems and connect those components to the ship's combat systems and tactical support systems (e.g., navigation, ship control, machinery control). The C4I LAN supports tactical data and information distribution. The C4I LAN does not replace the combat system connectivity or networks. C4I LANs may transport non-tactical data and information as appropriate to the size and scale of the network.

3. Background. Shipbuilding programs are a complex integration effort that require the collaboration of all OPNAV directorates, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), systems commands, and designated Program Executive Officers (PEOs) to produce an affordable, mission-capable ship that can be supported and sustained by the training and logistics infrastructure from commissioning to disposal. The associated CNO (N8) and CNO (N2/N6) ship program sponsors are responsible for the total ship mission capability requirements. CNO (N1), CNO (N3/N5), CNO (N4), CNO (N8) and

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CNO (N2/N6) have responsibilities for C4I requirements development, sustainment (including training) and interoperability (reference (a)), and support the CNO (N8) and CNO (N2/N6) ship resource sponsors in the development of ship capability documents. To the maximum extent possible, C4I systems selected shall be common with those in development and procurement. Multiple C4I system baselines, unique to particular ship classes, complicate interoperability and supportability and increase costs across the lifecycle of a ship and support systems. A ship, staff, or system loses its military effectiveness if it is not interoperable in the Joint and coalition operational environment. References (a) through (e) provide direction for the development of operational capability requirements.

4. Objective

a. Deliver new construction ships at ship custody transfer with the C4I suite of systems that are the same or nearly the same as that being implemented by the NMP; and

b. Prevent the introduction of unique systems, which do not follow an established C4I roadmap.

5. Policy

a. Shipbuilding programs shall align with the NMP to optimize the:

(1) Investment in the development and procurement of C4I systems and supporting infrastructure;

(2) Use of existing and programmed training, logistics and materiel support; and

(3) Fleet operational integration and interoperability with other Naval, Joint and coalition forces.

b. The shipboard C4I suites for new construction and major conversion of in-service ships shall be composed of systems that are:

(1) Navy, Marine Corps, or Joint programs supported by existing training, materiel, and in-service engineering infrastructure; or

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(2) Funded, in development and aligned with the shipbuilding or conversion schedule.

6. Action. References (a) through (c) establish the policies and responsibilities of the Chief of Naval Operations (CNO) to identify, validate, prioritize, and program funds for Navy operational capability requirements.

a. The applicable CNO (N8) and CNO (N2/N6) requirements and resource sponsor for a given ship or ship class bears the responsibility to define the overall requirements, including C4I, for the new construction or conversion ship, to include interfaces. The ship program sponsor will be supported by all Navy requirements and resource sponsors (CNO (N1), CNO (N2/N6), CNO (N4), and CNO (N8)) and advised by Headquarters, U.S. Marine Corps for areas under their cognizance, in the development of the ship class operational requirements.

(1) The shipbuilding capability documents, System Design Specification (SDS), and acquisition strategy shall recognize the ship is a "system of systems".

(2) Responsibility for funding procurement, integration, installation, associated logistics support, and initial training costs of all ship's systems resides with the respective ship platform sponsor, to include all C4I systems. The cost of the C4I systems must be identified in the ship "end cost." Post-delivery funding will not be used for purchasing C4I systems.

b. CNO (N2/N6) is responsible for the development of C4I systems in response to Department of the Navy (DON) and Joint requirements.

(1) As the lead requirements sponsor for the C4I architecture and systems for new construction ships, CNO (N2/N6) will program research, development, test and evaluation, Navy funding for common systems development to meet the C4I capability requirements and that are supported by the OPNAV C4I programs roadmap.

(2) CNO (N8), and CNO (N2/N6), supported by Commander, Space and Naval Warfare Systems Command, Commander, Naval Network Warfare Command, and in coordination with the cognizant PEOs (e.g., PEO C4I, PEO ships, PEO integrated warfare systems), will develop, publish and biennially update:

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(a) C4I systems baseline by ship type and class, (reference (g));

(b) C4I systems program roadmap to align Navy C4I systems with shipbuilding and NMP; and

(c) Strategic C4I capabilities plan to articulate new construction ship and in-service modernization needs beyond the future years defense plan period.

(d) The C4I systems baseline, program roadmap and capabilities plan will support the Program Objective Memorandum (POM) development.

c. CNO (N2/N6) will ensure the interoperability of the new construction ship C2 and Communication systems with the National, Joint, and Defense agencies; and that the development, implementation and maintenance of necessary C4I architecture products and associated standards are consistent with Department of Defense, DoN and federal architectures.

d. The Analysis of Alternatives (AoA) will use the baseline capabilities and C4I suite of the existing like-ship types published in reference (g) as informed by the C4I program roadmap and strategic capabilities plan. These documents will inform the SDS and planning for the new construction design. The AoA report will include a section that identifies to CNO (N2/N6) the capability shortfalls not addressed by the C4I systems program roadmaps or strategic C4I plan.

e. The SDS shall be routed by the ship resource sponsor for comment, adjudication, and concurrence to the OPNAV directorates to support the ship program gate review or milestone decision.

f. The logistics supportability plan, reference (a), must identify the infrastructure required for C4I suite operator and maintainer training, and maintenance and logistics support such that proper planning and budgeting may occur to ensure that this infrastructure is in place for the systems as the ship enters service in the fleet.

g. The ship C4I suite of systems will be developed in accordance with paragraph 5, using the products of the C4I program plans and roadmaps, to employ common C4I systems,

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address the ship requirements and support the ship acquisition strategy.

(1) The ship program manager will propose the C4I suite developed from the C4I systems roadmap. Unique ship requirements (e.g., advanced mission capability; and space, weight, or manning limitations) may require a new or modification to an existing C4I system.

(2) The OPNAV requirements and resource sponsors will coordinate with the appropriate PEOs, the ship program manager, and participating C4I program managers to review the proposed C4I systems selections and associated trades-offs for operational performance, commonality, and TOC affordability. If they collectively determine that an existing C4I product, from the program roadmaps and strategic capabilities plan, will not be available to satisfy the ship requirements, the recommendation to deviate from the policy stated in paragraph 5 and pursue a suite composed of systems other than those that are established and funded, programmed, and supported by the Navy will be presented to an executive level decision meeting (reference (h)) (e.g., a gate review, or Requirements and Resources Review Board (R3B)).

(3) The ship design will accommodate space, weight, physical arrangement, and ship services for the projected C4I systems internal to the hull and topside; and supporting systems. The ship design shall be based upon programmed systems and planned to be in-service at the time specified by the shipbuilding contract.

(4) The decision to approve a non-program of record system or the development of a new system will identify the responsible requirements and resource sponsors, and materiel support program office.

h. Gate reviews are the principal executive level decision forum. CNO (N1), CNO (N2/N6), CNO (N3/N5), CNO (N4), and CNO (N8) are Navy principal members for all gate reviews as defined in reference (a). They shall be represented at each shipbuilding program gate review. Gate reviews, particularly gates 4, 5 and 6, will be the forum at which the program manager and requirements officer present recommendations to change the ship or C4I system/program requirements, or waive the policy of paragraph 5.

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i. The sponsor of a new construction or conversion ship will inform other applicable resource sponsors of changes in funding, schedule, cost, or risk that affect existing plans or decisions related to C4I and information operation system requirements. Conversely, it is critical that divisions and directorates, including C4I program sponsors, communicate their program requirements and limitations, program risks, and reprioritization of programs that utilize new construction ship key performance parameters, key system attributes, and contract milestones. Timely notification of issues, such as POM decisions, that impact the common vision of new construction ship mission systems will be reported to the gate review principal members. Resolution of any issues related to organizational responsibilities and resources will be resolved, if necessary, at a gate review or R3B, as appropriate.

j. Changes which affect the funding plans for new construction ships or conversions require the concurrence of OPNAV (N8F) as the appropriation sponsor.

7. Records Management. Records created by this instruction, regardless of media and format, shall be managed in accordance with Secretary of the Navy Manual 5210.1.



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