



DEPARTMENT OF THE NAVY  
OFFICE OF THE SECRETARY  
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WASHINGTON DC 20350-1000

SECNAVINST 2400.1A  
DON CIO  
19 DEC 2014

SECNAV INSTRUCTION 2400.1A

From: Secretary of the Navy

Subj: ELECTROMAGNETIC SPECTRUM POLICY AND MANAGEMENT

Ref: See enclosure (1).

Encl: (1) References  
(2) Responsibilities  
(3) DON Spectrum Supportability Integrated Product Team  
(4) Spectrum Supportability Risk Assessment Guidance  
(5) Spectrum-Dependent Asset Value Determination  
(6) Definitions  
(7) Abbreviations and Acronyms

1. Purpose

a. To ensure the Department of the Navy's (DON) ability to develop and/or acquire spectrum dependent systems (SDS) through an enforceable and controlled system that assesses risks to or of those systems through a deliberate and repeatable process.

b. To implement within the DON, its uniformed military services, field activities, headquarters, forces, bases, installations, activities and functions, the applicable provisions of references (a) through (p) (enclosure (1)) and to assign roles and responsibilities for electromagnetic spectrum (EMS) policy, representation, management, and use within the DON (enclosure (2)). Specifically, to establish policy and/or procedures for:

- (1) The DON Spectrum Management Office (SMO),
- (2) The DON Spectrum Supportability (SS) Integrated Product Team (IPT) (enclosure (3)),
- (3) Spectrum supportability risk assessments (SSRA) (enclosure (4)), and
- (4) Spectrum-dependent asset value determinations (S-DAVD) (enclosure (5)).

2. Cancellation. This instruction cancels SECNAVINST 2400.1, dated 6 February 2006, and all other Secretary of the Navy (SECNAV) and subordinate instructions, orders, or memoranda providing guidance on policies or management of the EMS, and delegations of authority inconsistent with this instruction.

3. Applicability. This instruction applies to the SECNAV, the Chief of Naval Operations (CNO), the Commandant of the Marine Corps (CMC), and U.S. Navy and U.S. Marine Corps components and service activities, their personnel, and supporting contractors and consultants. No program or activity shall be exempt from the requirements of this instruction, regardless of sensitivity or classification.

4. Definitions and Acronyms. EMS related definitions are provided in enclosure (6) and abbreviations and acronyms are provided in enclosure (7).

5. Policy. It is DON policy that:

a. The DON shall obtain international allocation and authorization for use of the EMS through the proceedings of the International Telecommunication Union Radiocommunication Sector and other international bodies responsible for frequency allocations, EMS management, and international telecommunications standards.

b. The DON recognizes international bodies that may impact EMS use with specialized requirements, including the International Civil Aviation Organization, International Maritime Organization, International Organization for Standardization, and the World Meteorological Organization.

c. The DON shall obtain national allocation and authorization for use of the EMS from the National Telecommunications and Information Administration (NTIA) through DON membership in the NTIA's Interdepartment Radio Advisory Committee (IRAC).

d. DON EMS policy, management, and use shall be guided by the following principles:

(1) The DON shall ensure that the Electromagnetic Operational Environment (EMOE) is available through access and

control to accomplish both current and projected war fighting missions and operational needs.

(2) The DON shall ensure that all SDS it develops and/or acquires receive thorough EMS risk assessments and comply with applicable standards and procedures to reduce costly electromagnetic interference (EMI) mitigation.

(3) The DON Spectrum Supportability IPT shall ensure lifecycle continuity and integration of all SDS, subsystems, and equipment developed, acquired, and operated by the DON.

(4) The DON shall coordinate with industry and private sector organizations to achieve effective management and use of EMS.

(5) The DON shall participate in national EMS position and policy development.

(6) The DON shall support U.S. positions, policies, and interests in international spectrum proceedings and in negotiations for EMS allocation and use.

(7) The DON shall promote national sea commerce and the safety of life and property at sea for ships of all nations.

(8) The DON shall promote interdepartmental, interagency, and international efficiencies in EMS policy, management, processes, and procedures for use.

e. The DON shall consider EMS availability before approving the development or procurement of major SDS equipment and systems, including all systems employing space satellite techniques.

f. The DON shall apply sound engineering and administrative practices in the management and use of the EMS.

g. The DON shall work within existing Federal regulatory procedures and processes to share the EMS with Federal, state, local, tribal, and commercial EMS users, provided sharing is accomplished:

(1) Without degradation of the DON's mission.

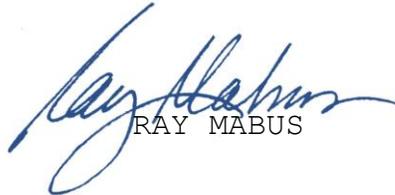
(2) With minimal risk that such sharing would result in the consequential loss of EMS required by the DON or the Department of Defense (DoD).

(3) With sufficient regulatory provisions to protect current and future DON uses.

6. Responsibilities. See enclosure (2).

7. Records Management. Records created as a result of this instruction, regardless of media and format, will be managed per SECNAV Manual 5210.1 of January 2012.

8. Forms. DD Form 1494 (AUG 1996), Application for Equipment Frequency Allocation is available for download from the DoD Forms Management website:  
<http://www.dtic.mil/whs/directives/forms/index.htm>.



RAY MABUS

Distribution:

Electronic only, via Department of the Navy Issuances Web site  
<http://doni.documentservices.dla.mil/>

**REFERENCES**

- a. DoD Instruction 4650.01, Policy and Procedures for Management and Use of the Electromagnetic Spectrum of 9 January 2009
- b. 47 U.S.C.
- c. Office of Management and Budget, Circular A-11
- d. U.S. Department of Commerce, National Telecommunications Information Administration (NTIA), Manual of Regulations and Procedures for Federal Radio Frequency Management (NOTAL)
- e. DoD Instruction 3222.03, DoD Electromagnetic Environmental Effects (E3) Program of 25 August 2014
- f. DoD Directive 5100.35, Military Communications-Electronics Board (MCEB) of 10 March 1998
- g. DoD Interim Instruction 5000.02, Operation of the Defense Acquisition System of 25 November 2013
- h. SECNAVINST 5000.2E Department of the Navy Implementation and Operation of the Defense Acquisition System and the Joint Capabilities and Integration System of 1 September 2011
- i. SECNAVINST 5430.7Q Assignment Of Responsibilities and Authorities in the Office of the Secretary of the Navy of 21 August 2009
- j. Federal Advisory Committee Act, Public Law 92-463
- k. Office of Management and Budget Memorandum M-09-02, Information Technology Management Structure and Governance Framework of 21 October 2008
- l. Assistant Secretary of the Navy for Research, Development and Acquisition/Department of the Navy Chief Information Officer Joint Memorandum, National Telecommunications and Information Administration Electromagnetic Spectrum Certification Requirement of November 3, 2008
- m. 22 U.S.C. §2707
- n. E.O. 13526
- o. Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112-96
- p. DON CIO MEMO, Department of Defense Information Technology Portfolio Repository (DITPR-DON) of 5 December 2011

### **RESPONSIBILITIES**

1. Assistant Secretary of the Navy (Research, Development and Acquisition) (ASN (RD&A)). The ASN (RD&A) shall:

a. Establish policy for development and acquisition of all SDS.

b. Ensure DON acquisition instructions address applicable provisions of references listed in enclosure (1).

c. Ensure that acquisition programs for SDS and equipment adhere to DON, DoD, Federal, national, and international EMS treaties, regulations, guidance, and policy.

d. Maintain awareness of emerging SDS technologies for potential incorporation into long-range strategic planning and acquisition programs.

e. Ensure SDS concept development, prototype development, prototype integration, and testing activities use the EMS in compliance with DON EMS policy, procedures, plans, initiatives, and objectives.

f. Ensure that program offices and procurement organizations developing and supporting SDS consider the economic value of the EMS and complete S-DAVDs per enclosure (5).

2. DON Chief Information Officer (DON CIO). The DON CIO shall:

a. Establish DON EMS policy, procedures, and strategic plans to support and enhance the DON warfighting capability in coordination with ASN (RD&A), the CNO, and the CMC.

b. Ensure DON implementation of applicable provisions of the references listed in enclosure (1).

c. Provide direction and guidance relative to specific EMS mandates required by international, U.S. Government, and DoD policies and procedures.

d. Designate representatives to international, national, regional, Federal, DoD, and DON EMS related bodies, committees,

and forums to represent the DON's interests and to present the DON's positions and contributions in economic, technical, and all other related preparations for such gatherings and associated negotiations.

e. Represent the DON in domestic EMS committees and forums to obtain coordination and authorization for DON use of the EMS, including designating representatives to the IRAC and to other EMS related forums.

f. Advise the Secretary of State, via the United States International Telecommunication Advisory Committee, on international telecommunications policies to protect and enhance the DON's capabilities.

g. Ensure that DON activities, installations, commands, and units that use and manage the EMS comply with DON spectrum policy, initiatives, and objectives.

h. Establish information technology policy for EMS policy and use.

i. Provide spectrum supportability determinations and approve SSRAs per reference (a).

j. Ensure that DON EMS policy supports DoD and Federal policies.

k. Provide direction and guidance relative to international, national, and DoD EMS policies and mandates, ensuring coordination with the ASN (RD&A).

l. Assign responsibilities to and coordinate with the CNO and the CMC, as appropriate, on EMS matters.

m. Ensure the CNO and the CMC represent the DON's policy interests within EMS panels and working groups (WGs).

n. In coordination with ASN (RD&A), the CNO, and the CMC, assign EMS responsibilities to the DON SMO.

o. Review and approve SSRAs for Acquisition Category (ACAT) I and IA SDS and other SSRAs referred to DON CIO for disposition.

3. Commandant of the Marine Corps (CMC) and Chief of Naval Operations (CNO). The CMC and the CNO shall:

a. Exercise operational authority and provide command structure and resources to ensure warfighter access and control of the EMS necessary to achieve freedom of maneuver in the EMOE.

b. Establish Service level policy, guidance, and procedures for effective and efficient EMS operations (EMSO) and management to:

(1) Ensure that their respective Service organizations, activities, commands, units, and installations manage and use the EMS in compliance with DON EMS policy, procedures, plans, initiatives, and objectives;

(2) Establish processes and procedures to support each Service's EMS requirements;

(3) Plan, program, and budget resources for Service frequency assignment, EMS supportability requirements, and NTIA annual EMS fees; and

(4) Refer EMS policy and EMS acquisition, research, and development policy issues to the DON SS IPT Executive Steering Committee (ESC).

c. Ensure that Service organizations, commands, units, and installations that procure SDS and equipment conduct EMS SSRAs.

d. Ensure that DON EMS policy, procedures, plans, initiatives, and objectives are represented in joint and inter-service EMS forums, committees, and panels.

e. Implement applicable provisions of references in enclosure (1) to ensure mutual electromagnetic compatibility (EMC) with the electromagnetic environment effects (E3) control among ground-, air-, sea-, and space-based systems and equipment.

f. In coordination with ASN (RD&A) and DON CIO, establish, maintain, and assign responsibilities to a SMO that supports departmental and service EMSO and management activities. This

organization will be responsive to force operational requirements.

g. Provide representation to international, national, Federal, DoD, and DON EMS bodies, committees, and forums.

h. Review and approve SSRAs for all SDS except ACAT I and IA, which shall be referred to DON CIO for approval. Other SSRAs may be referred to DON CIO for disposition, as required.

4. DON Spectrum Management Office (SMO). The DON SMO shall:

a. Support the DON, Navy and Marine Corps EMSO and, as directed, represent the DON in international, national, regional, Federal, DoD, and other EMS related forums including the IRAC.

b. Establish and maintain a DON SS portal to process and track SSRA submissions throughout the acquisition and operational lifecycle.

c. Coordinate equipment frequency allocation approval based on NTIA certification of spectrum support.

d. Review DON SSRAs.

e. Review DON S-DAVDs.

**DON SPECTRUM SUPPORTABILITY INTEGRATED PRODUCT TEAM**

1. DON SS IPT. The DON SS IPT will ensure lifecycle continuity and integration of all SS processes per references (a) through (h). The SS IPT WG will function in consonance with applicable national, international, federal, DoD, Joint, and DON policy, and shall:

a. Initiate mandatory 5-year review programs for all SSRAs and DD Form 1494 (AUG 96), Application for Equipment Frequency Allocation to ensure "cradle to grave" oversight is achieved.

b. Ensure that all SS risks are identified and incorporated into each SSRA and promptly submitted.

c. Identify, understand, and address SS in order to enhance warfighting readiness.

d. Mitigate SS risks that impact DON capabilities.

e. Employ best practices in all SS processes.

f. Achieve SS for all SDS, subsystems, and equipment developed, acquired, and operated by the DON.

g. Advocate for effective and efficient SS through proven engineering, acquisition, and administrative practices throughout the DON.

h. Advocate for enforceable, process driven SS for all SDS to reduce costly EMI mitigation and improve war fighting readiness.

2. DON IPT Executive Steering Committee (ESC). IPT ESC members (O-6/GS-15 Level) are as follows:

a. DON CIO (Co-Chair)

b. ASN (RD&A) (Co-Chair)

c. DON DEPUTY CIO NAVY

d. DON DEPUTY CIO MARINE CORPS

3. DON SS IPT WG. WG membership and areas of responsibility are as follows:

- a. Navy Marine Corps Spectrum Center, Chair
- b. Commander, Naval Air Systems Command, Vice Chair for AIRBORNE - Technical/E3/operational
- c. Commander, Naval Sea Systems Command, Vice Chair for Shipboard Electromagnetic Compatibility Improvement Program - Afloat/E3/technical
- d. Commander, Space & Naval Warfare Command - Ashore - Hazard of Electromagnetic Radiation to Ordnance / Hazard of Electromagnetic Radiation to Personnel / Hazard of Electromagnetic Radiation to Fuel
- e. Commander, Naval Surface Warfare Center, Dahlgren, VA - Afloat/E3/operational
- f. Commander, Information Dominance Forces, Suffolk, VA - Operational impact review
- g. U.S. Fleet Forces Command N6 - Operational impact and/or assessment review
- h. Commander, U.S. Pacific Fleet N6 - Operational impact and/or assessment review

**SPECTRUM SUPPORTABILITY RISK ASSESSMENT GUIDANCE**

1. Program offices and/or procuring organizations must submit SSRA requirements per DoD Instruction 4650.01 for all systems through DON SS portal site.

a. The DON SS portal site will be the centralized point to process and obtain approvals of SSRAs.

b. Program offices and/or procuring organizations are required to submit or update SSRAs to the SS IPT WG and ESC at each milestone, regardless of ACAT.

c. Line numbers will be used to aid in discussion of specific portions of SSRAs.

d. Draft SSRAs will be coordinated at the action officer level prior to submission for signature.

e. The DON SS ESC will provide final resolution of all disputes regarding DON SSRAs.

f. The DON SS IPT WG will ensure that the SSRA portal tracks, notifies, and stores SSRAs from cradle-to-grave for each program.

g. The SS IPT WG will coordinate with DON CIO to ensure that approved SSRAs are entered into the Department of Defense Information Technology Portfolio Repository-Department of the Navy (DITPR-DON).

h. The SS IPT WG will coordinate with DON CIO to ensure that approved SSRAs are entered into the DoD Acquisition Information Repository at each milestone.

i. The DON SS IPT WG will ensure that all associated SS legacy documents are attached to an SSRA in process and are available on the portal for review. Documents include:

(1) DD-1494

(2) JF/12 Data

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- (3) MS approval dates and/or comments
- (4) Gate and/or R3B dates and/or comments

**SPECTRUM-DEPENDENT ASSET VALUE DETERMINATION**

1. Purpose: A Spectrum-Dependent (S-D) Asset Value Determination (S-DAVD) must be included in every SDS procurement budget justification.
2. Each S-DAVD must indicate whether the system procured was the most spectrum efficient solution among qualified bids. If not, include:
  - a. The cost difference between the solution chosen and the more spectrum efficient qualified solution, and
  - b. The capability difference between the solution chosen and the more spectrum efficient qualified solution.
3. Each S-DAVD must include:
  - a. The Request for Proposal (RFP) requirement for which respondents addressed spectrum efficiency factors and assessed trade-offs between investment in equipment and spectrum requirements.
  - b. A statement of whether the system will share spectrum with existing Federal or non-Federal systems and/or operations. If so, include a description of the nature and extent of the shared relationship(s).
  - c. A statement confirming that non-spectrum dependent or commercial spectrum dependent alternatives were considered.
4. For new DON systems, each determination must state whether the capability requirement can be met by sharing an existing federal system and whether sharing capabilities of similar federal users was considered.
5. For system improvements, each determination must include a spectrum efficiency and effectiveness comparison to the prior and/or existing system.
6. Example RFPs requirement text. Procurement contracting officers will include the following, or equivalent, text in all RFPs for SDS or devices.

a. RFP Section C language for RFP solicitations of systems that affect the radio frequency spectrum: "The contractor shall comply with the spectrum requirements set forth in SECNAVINST 2400.1A to address spectrum value-added dependencies."

b. For RFP solicitations of systems that affect the radio frequency spectrum, procurement contracting officers will add a reference in one of the technical or management sub factors in RFP section L asking the offerors to address their spectrum selection, i.e., "efficiency" and "trade-offs", within the confines of the broader requirements identified in RFP section C.

7. Methodology to Evaluate Spectrum Efficiency.

a. Develop a baseline that provides:

(1) The technical characteristics of the frequency used by the system. Use Office of Management and Budget A-11 Section 31.12 Table 1 to assign a weighting factor to the frequency used by the system.

(2) The population of an area where spectrum is used. Use U.S. Census Bureau population information by metropolitan statistical area (MSA) or other relevant designation for non-metropolitan areas to develop estimates.

(a) Count only the U.S. population impacted.

1. For shipboard systems operating exclusively outside the U.S., use a value of "1".

2. For shipboard systems operating in coastal waters, use 29 percent of the U.S. population. (<http://www.census.gov/newsroom/emergencies/> or another value from an authoritative source may be used)

3. For shipboard systems operating in port, or in other specific MSAs, count the U.S. population impacted.

(b) Systems that use spectrum nationwide should use population information for the entire country.

(3) The amount of bandwidth used (in megahertz). This amount should include the total amount of bandwidth needed to operate the system in terms of megahertz, regardless of whether that spectrum is necessary to support transmitting or receiving equipment.

(a) The calculation should include necessary guard bands.

(b) Bandwidth in Hz, KHz, GHz, THz, etc. must be converted to MHz.

(4) To calculate spectrum efficiency, multiply the three factors (weighting factor, population impacted, and bandwidth) together.

b. Alternative methods for measuring spectrum efficiency must be approved by the Office of Management and Budget.

## DEFINITIONS

1. Certification of Spectrum Support. Certification by the NTIA that a candidate system conforms to the United States and Possessions (US&P) spectrum allocation scheme. Same as Spectrum Certification or ESC.
2. Frequency Allocation. DON acknowledgement that development and/or procurement of Communications-Electronics equipment can be supported for operation on a specific frequency or within a band of frequencies with the radio frequency spectrum. Frequency allocation and Spectrum Certification are synonymous.
3. Spectrum Dependent Systems. All electronic systems, subsystems, devices, and/or equipment that depend on the use of the spectrum to properly accomplish their function(s) without regard to how they were required (full acquisition, rapid acquisition, Joint Concept Technology Demonstration or procured (Commercial Off the Shelf, Government Off the Shelf, Non-Developmental Item, etc.)).
4. Spectrum Supportability. The assessment as to whether the EMS necessary to support the operation of a S-D equipment or system during its entire expected life-cycle is or will be available (that is, from the concept refinement phase through developmental and operational testing, to warfighter operation in the electromagnetic environment).
5. Spectrum Supportability Risk Assessment. Risk assessment performed by DON components for all S-D systems to identify risks as early as possible. The findings resulting from risk assessments can affect design and procurement decisions. These risks are reviewed at acquisition milestones and are managed throughout the systems lifecycle.

**ABBREVIATIONS AND ACRONYMS**

ACAT	Acquisition Category
ASN(RD&A)	Assistant Secretary of the Navy (Research, Development and Acquisition)
CMC	Commandant of the Marine Corps
CNO	Chief of Naval Operations
DD-1494	Application for Equipment Frequency Allocation
DITPR-DON	DoD Information Technology Portfolio Repository
DoD	Department of Defense
DON	Department of the Navy
DON CIO	DON Chief Information Officer
E3	Electromagnetic Environmental Effects
EMC	Electromagnetic Compatibility
EME	Electromagnetic Environment
EMI	Electromagnetic Interference
EMOE	Electromagnetic Operating Environment
EMS	Electromagnetic Spectrum
EMSO	Electromagnetic Spectrum Operations
ESC	Executive Steering Committee
IPT	Integrated Product Team
IRAC	Interdepartmental Radio Advisory Committee
MSA	Metropolitan Statistical Area
NTIA	National Telecommunications Information Administration
RFP	Request for Proposal
S-D	Spectrum-Dependent
S-DAVD	Spectrum-Dependent Asset Value Determination
SDS	Spectrum Dependent Systems
SECNAV	Secretary of the Navy
SMO	Spectrum Management Office
SS	Spectrum Supportability
SSRA	Spectrum Supportability Risk Assessment
US&P	United States and Possessions
WG	Working Group
WMO	World Meteorological Organization