DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
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SECNAVINST 2400.2A
DON CIO
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SECNAV INSTRUCTION 2400.2A

From: Secretary of the Navy

Subj: ELECTROMAGNETIC ENVIRONMENTAL EFFECTS AND SPACE WEATHER EVENT PREPAREDNESS POLICY AND MANAGEMENT

Ref: See enclosure (1)

Encl: (1) References
(2) Environment
(3) Responsibilities

1. Purpose. This instruction:

a. Establishes the Department of the Navy (DON) Electromagnetic Environment (EME) policy and management consistent with national and Department of Defense (DoD) EME policy directives and instructions, per references (a) through (g) (enclosure (1)).

b. Establishes additional related DON policy for Electromagnetic Environmental Effects (E3), Space Weather Event Preparedness (SWEP), and continuity of operations, ensuring compliance with references (h), (i), and (j).

c. Assigns responsibilities in the DON for developing, implementing, managing, and evaluating EME and SWEP programs, policies, procedures, and controls.

2. Cancellation. SECNAVINST 2400.2

3. Definitions. The terms used in this instruction are defined in references (a), (b), (h), and (k).

4. Applicability. This instruction applies to the Office of the Secretary of the Navy (SECNAV), the Chief of Naval Operations, the Commandant of the Marine Corps, and all Navy and Marine Corps installations, commands, activities, field offices, and organizations.

a. Federal and DoD policy take precedence over any conflicting requirements of this instruction.

b. Implementing authorities should identify and report conflicting policy to the DON Chief Information Officer for resolution.

5. Policy. It is DON policy that:

a. The Electromagnetic Compatibility (EMC) program is expanded to include SWEP and continuity of operations programs.

b. DON organizations shall ensure that Communications-Electronics (C-E) equipment, systems, subsystems, and devices can perform within their intended operational environment while maintaining reliable, safe, and mission capable operations.

c. The DON will develop programs, procedures, requirements, and processes for the electromagnetic spectrum environment (see enclosure (2)). All DON efforts associated with E3, SWEP, and continuity of operations shall align with the applicable policies, guidance, and instructions cited within references (l) and (m).

d. EMC policy and management will be executed as follows:

(1) All DON EMC policy and management functions shall be in consonance with applicable international, national, Federal, DoD, joint, and DON policy.

(2) DON organizations shall continually identify, evaluate, and address risks to EMC associated with their respective environments in order to accomplish their warfighting missions.

(3) DON organizations shall develop EMC plans for ensuring continuity of operations, allowing reliable, safe, and mission capable operations of all systems, subsystems, and equipment within their intended operational environments. These systems include C-E systems and apply to all platforms, systems, subsystems, facilities, weapons, electrical or electronic equipment, networks, sensors, fuels, and ordnance developed, procured, acquired, operated, and maintained by the DON, including commercial items and non-developmental items.

References (a), (b), (f), (l), and (m) specify actions to obligate or expend funds for C-E equipment, systems, and subsystems.

(4) DON organizations shall employ processes, controls, and techniques to prevent, correct, and mitigate risks that negatively impact DON capabilities.

(5) DON organizations shall predict, prepare for, respond to, and recover from space weather events. This authorizes all actions to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose risk to the mission of the DON.

(6) DON organizations shall promote investment in associated technologies that:

(a) Enhance and expand Navy and Marine Corps operational capabilities;

(b) Manage, reduce, or mitigate impacts from Electromagnetic Pulse (EMP) and space weather events, including Coronal Mass Ejection (CME);

(c) Provide for the graceful degradation of E3 related capabilities in support of continuity of government and mission critical operations;

(d) Ensure the timely provision of operational weather and space weather observations, analyses, forecasts, and other products to support the mission of the DON, including alerts and warnings for weather and space weather phenomena that may affect weapons systems and military operations; and

(e) Reduce the radio frequency spectrum footprint of spectrum dependent systems and subsystems operated by the Navy and Marine Corps in compliance with current Federal and DON policy and guidance.

(7) DON organizations shall leverage best practices of Federal, public, and private E3 and SWEP sectors;

(8) DON organizations shall strive to achieve electromagnetic compatibility for all electronic and electrical systems, subsystems, and equipment developed, acquired, and operated by the Navy and the Marine Corps, including commercial items and non-developmental items;

(9) DON organizations shall ensure sound engineering, acquisition, and administrative practices are applied throughout the Department to ensure effective and prudent management of the EME; and

(10) DON organizations shall provide guidance and leadership to ensure all Navy and Marine Corps activities have resources available to comply with policies, directives, and instructions identified in references (a) through (m).

6. Responsibilities. See enclosure (3).

7. Records Management. Records created as a result of this instruction, regardless of format or media, must be maintained and dispositioned according to the Big Bucket Records Schedule found on the Directives and Records Management Division (DRMD) portal page:

https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/SitePages/Home.aspx

For questions concerning the management of records related to this instruction or the Big Bucket Records Schedule, please contact your local Records Manager or the DRMD program office.

8. Reports. The reporting requirements contained in enclosure (3), paragraph 1h are assigned SECNAV RCS 2400-1.

THOMAS B. MODLY
Under Secretary of the Navy

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

REFERENCES

(a) DoD Instruction 4650.01 of 9 January 2009
(b) DoD Instruction 3222.03 of 25 August 2014, Change 1, 8 January 2015
(c) 47 U.S.C.
(d) U.S. Department of Commerce, National Telecommunications Information Administration (NTIA), Manual of Regulations and Procedures for Federal Radio Frequency Management, May 2015
(e) SECNAVINST 5430.7R
(f) SECNAVINST 2400.1A
(g) DoD Instruction 3150.09 of 8 April 2015
(h) E.O. 13744, Coordinating Efforts to Prepare the Nation for Space Weather Events, 13 October 2016
(i) Presidential Policy Directive 35, 8 December 2015
(j) National Communications System Directive 3-10, Minimum Requirements for Continuity Communications Capabilities, 7 November 2011
(k) Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, 8 November 2010
(l) OMB Circular A-11, Part 2
(m) SECNAVINST 5000.2E

ENVIRONMENT

1. The Electromagnetic Environment (EME) is composed of all electromagnetic energy from natural and man-made sources that require coordinated management activities across all functional areas within the Department of the Navy (DON).

a. The EME includes man-made emissions from communications equipment and systems, commercial systems, electrical power lines and generators, and nuclear and non-nuclear Electromagnetic Pulse (EMP). The EME also includes natural emissions from lightning, cosmic radiation, and the sun, including Coronal Mass Ejection (CME). Propagation of the signals used by sensors and communication systems through the EME is highly influenced by changing terrestrial weather and space weather events.

b. The complex and dynamic EME significantly affects Navy and Marine Corps capabilities and impacts operations, training, and safety.

c. Electromagnetic effects can degrade the operational capability of Naval forces, equipment, systems, and platforms. Furthermore, a compromised EME places personnel, equipment, ordnance, and fuels at a safety risk. Therefore, it is critical to employ processes, controls, and techniques to prevent, correct, or mitigate a degraded EME per reference (g).

2. Space weather generated by variable conditions of the sun and the earth's upper atmosphere can affect the EME in space and on earth.

a. Solar events (i.e., solar flares and CMEs) can cause geomagnetic disturbances - changes in the earth's magnetic field and ionosphere. These events occur regularly, some with measurable effects on critical infrastructure systems and technologies, such as the Global Positioning System, satellite operations and communication, aviation, and the electrical power grid.

b. The risk to both DON personnel and infrastructure from these events requires planning, protocols, and standards to respond to and recover from space weather events.

RESPONSIBILITIES

1. The Department of the Navy (DON) Chief Information Officer (CIO) shall:

a. Ensure Electromagnetic Environmental Effects (E3), Space Weather Event Preparedness (SWEP), are considered and addressed in the procurement, planning, and operation of Information Technology (IT) systems and equipment throughout the system or equipment lifecycle;

b. Address and include E3 and SWEP management practices in IT policy;

c. Represent the DON in Department of Defense (DoD), Federal, national, international, and commercial E3 and SWEP related forums;

d. Leverage Navy and Marine Corps subject matter experts to support department efforts in DoD, Federal, national, international, and commercial E3 and SWEP related forums;

e. Establish cognizance and coordinate with the Assistant Secretary of the Navy (Research, Development and Acquisition) (ASN (RD&A)) to ensure that the responsibilities described in this instruction are integrated into processes for DON acquisition programs, including research and development;

f. Collaborate with appropriate stakeholders on the integration of E3 and SWEP requirements with DON strategic and operational planning and with the DON acquisition management process;

g. Periodically assess the posture of mission critical systems with regard to Electromagnetic Pulse (EMP) and Coronal Mass Ejection (CME) survivability;

h. Report periodically, in coordination with other senior officials, to the SECNAV on the effectiveness of these programs;

i. Coordinate with other DoD services and entities to share E3 and SWEP resources and information;

j. Coordinate with the Auditor General of the Navy for

recommendations for audits and reviews of current continuity of operations, programs, and processes related to E3 and SWEP; and

k. Standardize processes and collaborate with other Federal agencies and State, local, and tribal governments and organizations to support emergency communications and disaster response in accordance with DoD policy.

2. ASN (RD&A) shall:

a. Ensure E3 and SWEP are considered and addressed in all phases of RD&A, to include sensing, predicting, testing, and evaluation to mitigate negative impacts to DON capabilities;

b. Develop standards and oversee development of methodologies to test and assess future systems as related to EMP and CME survivability;

c. Consider E3 and SWEP for technologies being considered for immediate acquisition or for imminent ship integration;

d. Provide E3 and SWEP guidance to Navy acquisition programs relative to military standards, requirements, and design practices;

e. Ensure the implementation and execution of survivability standards, policies, and instructions for Navy and Marine Corps systems; and

f. Ensure that the Chief of Naval Research:

(1) Coordinates with the Air Force Research Laboratory, as the DoD Space Weather Center of Excellence, to ensure that the DON requirements described in this instruction are captured in the development of technology for forecasting and mitigating the effects of space weather events on DON systems and infrastructure;

(2) Encourages and promotes the inclusion of E3 and SWEP in research actions; and

(3) Explores new methods for testing and evaluating EMP and SWEP hardness and susceptibility.

3. The Assistant Secretary of the Navy (Financial Management and Comptroller) shall provide policy for the analysis of E3, and SWEP life cycle costs of major weapons systems and automated information systems.

4. The Assistant Secretary of the Navy (Energy, Installations and Environment) shall:

a. Ensure that E3 and SWEP concerns are considered and addressed in the planning, management, and operation of DON installations;

b. Ensure that E3 and SWEP concerns are considered and addressed in the construction and maintenance of utilities infrastructure; and

c. Ensure E3 and SWEP are adequately addressed for tenant and civilian safety at DON installations.

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

a. Ensure all applicable functional areas of their respective services consider and address E3 and SWEP related requirements and actions;

b. Plan, program, and budget resources in support of their respective E3 and SWEP service requirements;

c. Ensure management of the EME, to include E3, is addressed in Joint Capabilities Integration and Development System requirements and documents;

d. Develop respective service training, doctrines, procedures, tactics, techniques, and methods to manage and mitigate E3 and SWEP, including continuity of operations, per paragraph 5 of this instruction and other applicable guidance and instructions;

e. Support the DON CIO in DoD, Federal, national, international, and commercial forums addressing EME and SWEP matters;

f. Develop EMP and CME testing and assessment, guidance, surveys, and standards;

g. Ensure applicable policies, standards, and instructions identified in references (a) and (g) are maintained for relevance of existing guidance and are periodically reviewed and updated to include emerging risks and capabilities impacting EMP and CME survivability of Navy and Marine Corps Systems; and

h. Ensure survivability of mission critical systems in compliance with references (j) and (m).

6. In addition to the responsibilities above, the CNO shall:

a. Ensure that the Oceanographer of the Navy:

(1) Coordinates space weather and upper atmospheric observations, analysis, and prediction requirements for the DON; and

(2) Provides scientific guidance on the development of mitigation plans, protocols, and standards to respond to and recover from space weather events.

b. Plan, program, and budget resources in support of electromagnetic maneuver warfare and space weather event requirements.