ELECTROMAGNETIC SPECTRUM MANAGEMENT OPERATIONS IN THE ELECTROMAGNETIC ENVIRONMENT

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United States Coast Guard

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COMMANDANT INSTRUCTION 2400.1I

Subj: ELECTROMAGNETIC SPECTRUM MANAGEMENT OPERATIONS IN THE ELECTROMAGNETIC ENVIRONMENT

Ref: (a) Manual of Regulations and Procedures for Federal Radio Frequency Management, National Telecommunications and Information Administration (NTIA)
(b) Radio Regulations, International Telecommunications Union (ITU)
(c) 47 Code of Federal Regulations (CFR), Federal Communications Commission (FCC) Rules and Regulations
(d) 47 United States Code (U.S.C.) § 151, et seq. Communications Act of 1934, as amended
(e) Coast Guard Acquisition Procedures (CGAP)
(f) Preparation, Submission, and Execution of the Budget, Office of Management and Budget (OMB) Circular No. A-11 (series)
(g) Policy and Procedures for Management and Use of Electromagnetic Spectrum, Department of Defense Instruction (DODI) 4650.1
(h) Joint Spectrum Interference Resolution (JSIR) Procedures, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3320.02 (series) (overall document classification is SECRET)
(i) Joint Spectrum Interference Resolution (JSIR), CJCSI 3320.02 (series)
(j) Joint Spectrum Interference Resolution (JSIR), Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3320.02 (series)
(k) Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises, CJCSM 3212.02 (series)
(l) Performing Tests, Training, and Exercises Impacting the GPS, CJCSM 3212.03 (series)

1. PURPOSE. This Instruction promulgates Coast Guard (CG) Electromagnetic Spectrum (EMS) management operations in the electromagnetic environment (EME) for spectrum dependent (S-D) systems/equipment and frequency requirements, interference reporting, and federal and non-federal interoperability throughout the CG. This Instruction provides guidance to CG Spectrum Managers, commands and frequency users on the ability for CG units to effectively test, train, operate, or exercise in the EMS and EME.

2. ACTION. All Coast Guard unit commanders, commanding officers, officers-in-charge, deputy/assistant commandants, chief of headquarter directorates must comply with the policies contained.

3. AUTHORIZED RELEASE. Internet release is Authorized.

4. DIRECTIVES AFFECTED. The Spectrum Management Policy and Procedures, COMDTINST M2400.1H is cancelled.

5. DISCUSSON. National and international spectrum management organizations have been chartered to provide policies and procedures governing the use of the EMS. The EMS is a congested, contested, and constrained EME based on the demands for spectrum access, impacts of spectrum auctions, emerging technologies, and competition to access this limited resource. This Instruction supports a comprehensive management of the EMS that will enable CG afloat and ashore commands to effectively maneuver through the EMS.

6. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide administrative guidance for Coast Guard personnel and is not intended nor does it impose legally-binding requirements on any party outside the Coast Guard.

7. MAJOR CHANGES. Significant changes to this Instruction include:

   a. This Instruction, each Chapter, and its appendices have completed a full revision including the title changed from the "Spectrum Management Policy and Procedures" to the "Electromagnetic Spectrum Management Operations in the Electromagnetic Environment."

   b. CG spectrum duties and responsibilities to national agencies, subcommittees, working group, and ad hoc committees.

   c. Spectrum equipment certification process on the submission of spectrum-dependent (S-D) systems/equipment applications and diagrams on the certification process.

   d. Frequency request process on the submission of frequency requirements for CG units to radiate S-D systems/equipment.

   e. CG District Spectrum Managers' duties and responsibilities on validating and coordinating frequency requests to National Telecommunications and Information Administration (NTIA).

   f. Modification to the Joint Spectrum Interference Resolution Online program, satellite communications interference, and Federal Communications Commission (FCC) guidance to CG on FCC Public Safety Interference Complaint and FCC Maritime Radio Interference Reporting procedures.

   g. Chapter 5, Conducting Electronic Attack (EA) Test, Training, and Exercises, is new to this Instuction providing EA guidance to CG units on execution of EA, EA submission requirements, and Federal Aviation Administration and Federal Communications Commission responsibilities and EA authorizations.

   h. Appendix E, Glossary is new to this Instruction providing acronyms and definitions.

8. SCOPE AND AUTHORITIES. It is recommended the reader become familiar with the directives and publications noted as References (a) through (l) of this Instruction.

9. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS. The Office of Environmental Management, Commandant (CG-47) reviewed this Commandant Instruction and the general policies contained within, and determined that this policy falls under the Department of Homeland Security (DHS) categorical exclusion A3. This Commandant Instruction will not result in any substantial change to existing environmental conditions or violation of any applicable federal, state, or local laws relating to the protection of the environment. It is the responsibility of the action proponent to evaluate all future specific actions resulting from this policy for compliance with the National Environmental Policy Act (NEPA), other applicable environmental requirements, and the U.S. Coast Guard Environmental Planning Policy, COMDTINST 5090.1 (series).

10. DISTRIBUTION. No paper distribution will be made of this Instruction. An electronic version will be located in the Coast Guard Directives System Library internally, and if applicable on the Internet at https://www.dcms.uscg.mil/directives.

11. RECORDS MANAGEMENT CONSIDERATIONS. Records created as a result of this Instruction, regardless of format or media, must be managed in accordance with the records retention schedules located on the Records Resource Center SharePoint Online site: https://uscg.sharepoint-mil.us/sites/cg61/CG611/SitePages/Home.aspx

12. FORMS/REPORTS. The forms referenced in this Instruction are available on the Coast Guard Standard Workstation or on the Internet: https://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-C4IT-CG-6/The-Office-of-Information-Management-CG-61/Forms-Management/

13. SECTION 508. This Instruction was created to adhere to Accessibility guidelines and standards as promulgated by the U.S. Access Board. If changes are needed, please communicate with the Coast Guard Section 508 Program Management Office at Section.508@uscg.mil.

14. REQUEST FOR CHANGES. Units and individuals may formally recommend changes through the chain of command using the Coast Guard memorandum. Comments and suggestions from users of this Instruction are welcomed. All such correspondence may be emailed to Commandant (CG-672) at: HQS-SMB-CG-672-@uscg.mil.

/CHRISTOPHER A. BARTZ/
Rear Admiral, U.S. Coast Guard
ASSISTANCE COMMANDANT FOR C4IT (CG-6)

Appendix A. Frequency Authorization Request Form CG-6086
Appendix B. EMI Characterization and Resolution at the Local Level Checklist
Appendix C. Procedure for FCC Respose to USCG Report of Maritime Radio Interference
Appendix D. Report of Violation of Radio Regulations Form CG-2861A
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CHAPTER 1 ELECTROMAGNETIC SPECTRUM INTRODUCTION

A. Purpose. This Instruction describes the extensive usage of the congested, contested, and constrained use of the electromagnetic spectrum (EMS) and the proper need for comprehensive and coordinated management of this resource. The National Telecommunications and Information Administration (NTIA) grants authorization for Federal Government agencies to use approved radio frequency (RF) and specific RF assignments that are registered in the Government Master File (GMF). Coast Guard (CG) commands shall adhere to all federal and international spectrum regulatory policies and procedures on the utilization of the EMS. This Instruction does not provide an RF authorization to operate (ATO) unless specifically indicated.

B. Overview. This Instruction provides explanatory guidance on Spectrum Management (SM) processes and procedures for the use of the EMS.

C. Spectrum Management. SM is defined as the process and procedures used to obtain RF authorization, and the ability to efficiently and effectively utilize and coordinate the EMS for an electromagnetic interference (EMI) free environment internationally, nationally, regionally, and locally. This includes all approved spectrum-dependent (S-D) systems/equipment that radiates through the electromagnetic environment (EME) (e.g., radio, microwave links, radar). Exception to the policy is equipment identified by the Federal Communications Commission (FCC) as an FCC Part 15 device. FCC Part 15 devices are non-licensed devices that afford a user no protection from EMI. An FCC Part 15 device which causes EMI to an authorized licensed user of the EMS requires the Part 15 user to cease transmissions immediately. See Chapter 2 Paragraph D.2. of this Instruction for specific CG policy.

D. Electromagnetic Spectrum Goals. The United States is dependent upon the use of the EMS to execute national policies and achieve its national goals. The President has responsibility for assigning all RF used by the Federal Government agencies and has delegated this authority to the NTIA, within the Department of Commerce (DOC). Per Reference (a), NTIA states “the radio spectrum is a limited natural resource which is accessible to all nations. Therefore, consistent with our international treaty obligations and with due regard for the rights of other nations, the national objective for the use of the radio spectrum is to make effective, efficient, and prudent use of the spectrum in the best interest of the Nation, with care to conserve it for uses where other means of communications are not available or feasible.” Unauthorized use of RF will result in disrupted communications and harmful EMI to authorize users of the EMS.

E. International and National Spectrum Organizations. The following organizations have been established at the international and national level to allocate spectrum to specific services, develop regulations for the orderly use of spectrum, and issue approved RF assignments to authorized users.

1. International Telecommunications Union (ITU). Internationally, EMS is allocated and managed by the ITU per the provisions of Reference (b), which govern the use of EMS and geostationary satellite and non-geostationary satellite orbits.

2. National Telecommunications and Information Administration (NTIA). Nationally, the NTIA regulates all RF for Federal Government agencies usage per Reference (a).
3. Federal Communications Commission (FCC). Nationally, the FCC manages spectrum for Non-Federal Government agencies use, which includes the general public, state, local, and tribal governments per Reference (c).

CHAPTER 2 SPECTRUM MANAGEMENT AUTHORITIES

A. Purpose. Commandant (CG-6) establishes policies, responsibilities, and procedures for SM issues, and ensures enforcement of radio regulations on the protection of RF and S-D systems/equipment in support of CG commands ashore and afloat.

B. International and National Spectrum Authorities, Subcommittees, and Working Groups.

1. Communications Act of 1934. The purpose of this Act is to regulate interstate and foreign commerce in communication by wire and radio. A rapid, efficient, nationwide and worldwide wire and radio communication service with adequate facilities, for the purposes of national defense, promoting safety of life and property through the use of wire and radio communications, and securing a more effective execution of this Act. The FCC is the central authority to execute and enforce the provisions of this Act which is promulagated in Reference (d).

2. International Telecommunication Union (ITU). The United Nations specialized agency for information and communication technologies (ICT). The ITU's global membership consist of 193 member states, facilitating international connectivity in communication networks, allocating global EMS and satellite orbits, developing technical standards that ensure networks and technologies seamlessly interconnect, and striving to improve access to ICTs to underserved communities worldwide. The ITU global membership assembles every three to four years at the World Radiocommunication Conference (WRC) to revise Radio Regulations, and international treaties governing the use of the EMS, and satellite orbits.

3. National Telecommunications and Information Administration (NTIA). The Executive Branch agency principally responsible, by law, for advising the President on telecommunications policies pertaining to the Nation's economic and technological advancements. Manages the federal use of the EMS. Conducts studies and evaluations on telecommunications research and development. Coordinates economic, technical, operational, and preparation for U.S. participation to international telecommunications conferences and negotiations. Advises the Secretary of State on international policies to strengthen the U.S. positions that will serve the best interest of the U.S. in foreign affairs. (see Reference (a)

4. Interdepartmental Radio Advisory Committee (IRAC). Assists NTIA in assigning frequencies to U.S. Government radio stations and in developing and executing policies, programs, procedures, and technical criteria pertaining to the allocation, management, and use of the EMS. The NTIA IRAC membership is identified in Table 2-1, and is directly responsible for six IRAC subcommittees, each are chaired by the NTIA. The CG is an IRAC member and on five of the six IRAC subcommittees:

a. Frequency Assignment Subcommittee (FAS). Responsible for frequency assignment issues that are identified and require discussion and resolution. Conducts daily FAS agenda voting on frequency assignments, requests for RF authorizations, and voting resolution between inter-agency RF coordination.

   (1) The Aeronautical Advisory Group (AAG). AAG of the FAS is chaired by the Federal Aviation Administration (FAA), is responsible for engineering AAG frequency assignments and determines if a frequency assignment(s) is a primary concern to the aeronautical mobile, and if aeronautical radionavigation service should be approved by NTIA.

   (2) The Military Advisory Group (MAG). MAG of the FAS is chaired by the U.S. Air Force provides guidance and procedures on the management of the 225.000 – 328.600 MHz and 335.400 – 399.900 MHz frequency bands (also known as "the MAG bands") which are of primary concern to the military departments. The MAG will determine if a frequency assignment(s) should be approved by NTIA.

b. Spectrum Planning Subcommittee (SPS). Planning the use of the EMS in the National interest to include the apportionment of spectrum space for the support of established or anticipated radio services to include apportionment of spectrum space among federal activities and between federal and non-federal activities. Maintains current and future needs of various radio services and recommendations to the IRAC on changes to the NTIA Table of Frequency Allocations. SPS representatives adjudicates the certification of Stage 1 – Concept; Stage 2 – Experiential; Stage 3 – Developmental; and Stage 4 – Operational telecommunication systems and subsystems applications.

c. Technical Subcommittee (TSC). Responsible to develop new standards and improvement of existing standards pertaining to use of the EMS. Maintains awareness of the radio propagation programs, needs of the federal government for purposes of evaluating, and recommendations on better utilization of the EMS.

d. Radio Conference Subcommittee (RCS). Responsible for the planning, policies, and programs related to international telecommunications conferences and negotiations, including preparatory work for ITU WRC and development of essential U.S. agenda items.

e. Space Systems Subcommittee (SSS). Responsible for the international registration of federal government satellite systems within the ITU. CG is not a member to the SSS.

f. Emergency Planning Subcommittee (EPS). Responsible for formulating, guiding, and reviewing National Security Emergency Preparedness (NSEP) planning for S-D systems/equipment. EPS recommends changes to the NTIA Emergency Readiness Plan for Use of the EMS to reflect current plans and procedures.

Organization Name	Organization Name
U.S. Air Force	Department of State
U.S. Army	Department of Transportation
U.S. Navy	Department of Treasury
U.S. Coast Guard	United States Postal Service
Department of Commerce	Veterans Affairs
Department of Energy	
Federal Aviation Administration	Liaison:
Department of Homeland Security	Federal Communications Commission
Department of Interior	Observers:
Department of Justice	Department of Defense
National Aeronautics & Space Administration	Food & Drug Administration
National Science Foundation	National Security Agency

Table 2-1 NTIA IRAC MEMBERSHIP

5. Federal Communication Commission (FCC). Regulates interstate and international communications by radio, television, wire, satellite, and cable in all 50 states, the District of Columbia and U.S. territories. The FCC is a federal agency responsible for implementing and enforcing U.S. communications laws and regulations as stated in References (c) and (d), and an independent U.S. government agency overseen by Congress. In addition, the FCC is a liaison representative to the IRAC for coordinating non-government requirements.

6. Military Command, Control, Communications & Computers Executive Board (MC4EB) Frequency Panel (FP). Supports for the development of Joint Staff (JS) policies and procedures for implementing Department of Defense (DOD) EMS guidance. Per Military Command, Control, Communications, and Computers Executive Board, CJCSI 5116.05, the MC4EB is chaired by the C4/Cyber JS J6 and composed of appointed senior Spectrum and Electronics personnel from each DOD Military Department (MILDEP); all are voting members. MC4EB permanent and ad hoc working groups (WG) report to the MC4EB FP on committee's FP referrals, tasking, and updates. CG is an appointed member to the MC4EB FP and has designated representatives assigned to the following WGs:

a. MC4EB Permanent Working Groups (PWG).

(1) Spectrum Operations Permanent Working Group (SO PWG). Provides guidance and procedures for the management and system enhancements of the DOD RF record keeping system and DOD joint standard SM information systems and components, architectures, and operational procedural standard that affect joint and/or combined U.S. and Allied interoperability. Reviews DOD SM doctrinal issuances under review or rewrites and provides adjudicated doctrinal comments for final review and approval.

(2) Equipment Spectrum Guidance Permanent Working Group (ESG PWG). Provides and coordinates military guidance to DOD on S-D systems/equipment per DOD Directives, Allied, U.S. national, and international rules, regulations, and standards on SM. Conducts internal DOD technical review on preparing, disseminating, and voting on ESG S-D systems/equipment applications and Note To Holder (NTH) to include require S-D systems/equipment applications submission to NTIA SPS. Endorses S-D systems/equipment applications for Host Nation Coordination Request (HNCR) for release to Geographical Combatant Command (GCC) – Joint Frequency Management Offices (JFMO).

(3) Space System Permanent Working Group (SS PWG). Ensures proper and timely actions occur on the National and International Radio Regulations procedures for waiver, advance publication, coordination, and notification of frequency assignments for satellite networks to support DOD space systems. SS PWG briefs the FP on waivers, publications, coordination, and notification on technical and administrative comments which are forwarded directly to DOD commands / agencies and/or NTIA IRAC SSS.

(4) International Permanent Working Group (I PWG). In preparation for international and federal government meetings, the I PWG reviews agendas, documents, and proposals to identify potential impacts to military operations. Prepares and recommends U.S. positions, alternative, and negotiation strategies for the appointed U.S. representative attending national, international, regional, and other SM related forums such as ITU, North Atlantic Treaty Organization (NATO), and the Combined Communications Electronics Board (CCEB).

b. MC4EB Ad hoc Working Groups (WG).

(1) Joint Communications Electronics Operations Instruction (JCEOI). Serves as the focal point to coordinate CCEB, joint, and/or coalition JCEOI. Reviews and implements recommended lifecycle management, capabilities, and changes to the software production of the JCEOI to Joint Spectrum Center (JSC).

(2) Allied Communication Publication (ACP). As required, manages updates, reviews, evaluates, and coordinates recommended changes, and serves as the FP focal point to coordinate with State Department and coalition partners.

(3) Allotment Plan Management (APM). Manages and updates allotment and channeling plans to the 138-144 MHz, 148-150.8 MHz, and 225-399.9 MHz frequency bands. Reconciles spectrum policy involving 138-144 MHz, 148-150.8 MHz, and 225-399.9 MHz frequency bands with NTIA FAS, NTIA Ad hoc 170, and NTIA Ad hoc 181subcommittees.

(4) Dynamic Spectrum Access (DSA). Coordinator for spectrum issues, policies, and procedural matters. Participates and coordinates with agencies, committees, and WG at the DOD, national, and coalition levels that have responsibility for DSA spectrum policy, and for creating, visualizing, evaluating, verifying, certifying, managing, and distributing digital policies.

(5) Electromagnet Spectrum Enterprise Architecture (EMSEA). Coordinator for spectrum issues, policies, and procedures for EMSEA. Supports development of the DOD EMSEA by ensuring EMS related functions, processes, activities, and relevant information are accurate and consistent with approved doctrine and policy.

C. Coast Guard Spectrum Authorities.

1. Assistant Commandant for Command, Control, Communications, Computers, and Information Technology (C4IT) (CG-6). To enhance C4IT value in the performance of CG missions by developing and aligning strategies, policies, and resource decisions with CG's strategic goals, mandates, and customer requirements. Commandant (CG-6) exercises technical control of CG Command, Control, Communications, Computers, Cyber, and Intelligence Systems (C5I) programs through the Office of the C5I Program Management (CG-68), and serves as the Technical Authority as for all C5I programs.

2. Office of Enterprise Architecture and Technology Innovation (CG-67). Serves as the designated CG Chief Technology Officer, leading CG technology innovation to include development of concepts, technology, and capabilities to advance CG execution and mission readiness. Manages and maintains program oversight of the CG Enterprise Architecture Program and CG SM program. Representative to the Headquarters Innovation Council and CG Innovation Council on the research and development, experimentation and innovations programs within the CG, Federal government, and private sector.

3. Spectrum Management and Telecommunications Policy Division (CG-672). Under the direct supervision of Commandant (CG-67), represents the CG and civil maritime community at the national and international organizations developing and implementing radio regulatory and technical policies and procedures to include representation at the

Radio Technical Communications Maritime forum, ITU, NTIA IRAC SPS, International Maritime Organization, and MC4EB ESG PWG. Responsible for CG C4IT SM, CG RF Planning, developing SM plans and policies, and guidance to Program Offices on adequate spectrum availability for S-D systems/equipment electromagnetic compatibility (EMC) in an electromagnetic environment (EME); all in direct support of the CG mission and operational readiness.

4. Command, Control, Communications, Computers, Cyber, and Intelligence Systems (C5I) Service Center (C5ISC) Spectrum Management Section (C5ISC-ESD-ASB-SM). Under the direct supervision of the Chief, Architecture and Standards Branch (C5ISC-ESD-ASB), responsible for the CG EMS environment. C5ISC-ESD-ASB-SM supervises the geographic District Spectrum Managers (DSM) on the processing and coordinating permanent, special temporary authorization, or temporary RF requests and assignments, and S-D systems/equipment supportability to include managing CG RF requirements, Joint Spectrum Interference Resolution Online (JSIR-O), communications planning, and contingency communications. Appointed CG representative to NTIA IRAC and MC4EB FP subcommittees and WG. Engages with federal and non-federal government agencies on EMS interoperability supporting CG mission requirements. Advises Sponsor, Acquisition and Program Management Offices (PMO) to ensure existing and emerging technologies align with EMS policies and procedures. C5ISC-ESD-ASB SM portal:

   https://uscg.sharepoint-mil.us/sites/C5ISCSpectrumCodeplugManagement

5. CG Commands. Operational Commanders, Commandant Directorates, and Headquarters units are responsible for validating all RF requirements for the appropriate EMS usage within their geographic area of responsibility. The supporting element under the Command, Control, Communications, Computers, Cyber, and Intelligence Service Center (C5ISC) is responsible to the Operational Commander, Commandant Directorate, or Headquarters unit for obtaining and maintaining EMS authority for S-D systems/equipment via the C5ISC-ESD-ASB-SM.

6. CG Acquisition Programs. Per References (a), (e), (f), and (g) the use of the spectrum certification process performed by Commandant (CG-672) MC4EB ESP PWG representative and the frequency assignment process performed by C5ISC-ESD-ASB-SM is required for all new purchases or recapitalization of any S-D systems/equipment utilizing the EMS.

7. USCG Auxiliary. Serves as the volunteer, non-military component of the CG, Auxiliarists provide direct operational and administrative support to many local CG units. When in direct support of CG operations, frequency proposals shall be submitted though the local Sector to the District Commander for validation and further processing through the C5ISC-ESD-ASB-SM (see Chapter 3 of this Instruction). Per FCC policy, individual Auxiliary members may use amateur radio licenses or other authorized licenses.

D. Authority to Operate (ATO). NTIA is the authority to approve the use of all CG S-D systems/equipment and frequencies before a CG unit can radiate or operate on frequencies within the government band. The CG is a federal government agency and shall adhere to NTIA authority on the utilization of the government frequency bands, non-federal spectrum that is utilized, i.e. Part 80 of the 47 Code of Federal Regulations (CFR), CG shall adhere to the FCC rules and regulations within the 47 CFR.

1. Unauthorized EMS Use. All CG units are required to obtain authorization from C5ISC-ESD-ASB-SM prior to radiating on any RF spectrum. This includes S-D systems/equipment that emits an electromagnetic signal through the EMS environment (e.g, radio, microwave links, radar, etc.). Per national and international regulatory laws, S-D systems/equipment can be seized and/or monetary fines levied on individuals involved, if such S-D systems/equipment is radiated "illegally", e.g. Without proper authorization. Additionally, uncoordinated and unauthorized EMS usage leads to increased harmful electromagnetic interference (EMI), which can severely degrade command and control, safety of life, emergency response, and CG operational mission capability.

2. Non-Licensed Devices. FCC Part 15 devices are low power, commercial off-the-shelf, non-licensed devices that afford a user no protection from EMI. CG commands using Part 15 devices shall understand that Part 15 devices have no protection from EMI. A Part 15 device causing EMI to an authorized licensed user shall cease transmissions immediately without recourse or regard to the operational impact. In addition, *any* modification or tampering to a FCC Part 15 device will decertify that Part 15 device certification and it will no longer be a certified device. Non-licensed devices are not authorized for any planned communications system involving the safety of life or protection of property. Commandant (CG-6) will not endorse any FCC Part 15 devices.

E. Emergency Spectrum Use & Management. Chapter 12 of Reference (a), delineates NTIA policies on the use of frequencies for national security and emergency preparedness in response to emergency situations will include:

1. Continuing, insofar as possible, use of existing frequency assignments
2. Continuing to coordinate frequency assignments through NTIA.
3. Emphasize the need to preplan the use and management of the EMS before emergencies arise.
4. Ensuring that all agency communications are electromagnetically compatible with other authorize use to reduce EMI.
5. Provide for federal, military, and civil, spectrum requirements determined by competent authority.
6. Assuring use of the EMS conforms to established national priorities.

7. Minimize disruption to other authorized services, EMS resources as necessary to support federal emergency response.
8. Adjust the EMS usage when emergency situations dictate.

F. Emergency Use of Non-Federal Frequencies. Chapter 12 Section 12.8 of Reference (a), in emergency situations, CG units may utilize any FCC Part 90 frequency authorized to a non-government radio station, under the FCC rules and regulations, when such use is necessary for communications with non-government stations and is directly related to the emergency at hand. Such use is subject to the following conditions:

1. The non-federal licensee has given verbal or written concurrence.
2. Operations are conducted per FCC rules and regulations.
3. Use is restricted to the service area and station authorization of the licensee.
4. All operations are under the direct control of the licensee and shall be immediately terminated when directed by the licensee.
5. Operations do not exceed 60 days.
6. The federal agency shall provide, through the agency's FAS representative (see Paragraph B.4.a. of this Chapter) to the FCC as soon as practicable, a written report of each such use.

G. Routine Communications. The use of the EMS for routine communications requires frequency authorizations as follows:

1. Fixed sites are defined as land stations transmitting with a fixed antenna. Fixed sites require frequency authorization for each individual frequency used.
2. Mobile stations are defined as ships, aircraft, vehicles, or handheld/portable radios. Mobile stations typically derive their frequency authorization from the fixed site to which they are communicating. Mobile-to-mobile communications networks operating without a fixed site require a separate frequency authorization.
3. Frequencies authorized by the FCC for use by ship stations may be used by government maritime mobile stations to communicate with non-government stations in the maritime mobile service. Except in cases of immediate search and rescue response and boat launch/recovery, vehicles are not authorized to communicate in the maritime mobile service. CG fixed and mobile communications with non-government mobile stations on non-federal maritime mobile channels require a frequency assignment.
4. CG operating on a non-CG allocated frequency authorization shall, consult with C5ISC-ESD-ASB-SM and/or DSM for guidance and verification of authorized use.

H. Interoperability. Interoperability is the ability of CG assets to effectively exchange voice/data communications with other federal agencies, DOD, public safety providers, law

enforcement, firefighters, and other emergency management response teams. It is most commonly used to describe the process on how radio communications should operate between the agencies to effectively allow all parties to coordinate the passing of critical information without delay.

1. Interoperability between federal and non-federal agencies presents many challenges. Public safety radio systems are often incompatible with federal systems because of differing regulatory requirements, and they typically operate in different frequency bands. Many public safety radio systems use digital trunked systems, while the CG uses conventional systems. Non-federal public safety agencies covering multiple jurisdictions utilize different trunked systems and different frequencies, which prevents them from communicating with one another. These interoperability problems can cause major delays and may be ineffective when responding to critical incident response situations when multiple agencies are dispatched.

    a. Trunked system is programmed for multiple channels or frequencies, and allows those channels / frequencies to be shared by a large number of authorized users in multiple communications groups without their communications interfering with other authorized users (e.g., supports a large contingent of agencies with different parent communications systems and provides coordinated interoperability for a specific mission or operation).

    b. Conventional radio system uses a dedicated channel or frequency for each individual group or users.

        (1) CG units should seek to develop interagency relationships and agreements to facilitate interoperability for mission requirements and contingency communications. Interoperability agreements shall be incorporated into the unit's frequency and contingency plans. CG units are encouraged to participate in multi-agency training exercises to practice the established agreements. The DSM are available to assist as necessary and should be included in the planning process at the early stages.

CHAPTER 3 SPECTRUM CERTIFICATION AND FREQUENCY PROCESSES

A. Purpose. Spectrum certification for S-D systems/equipment and frequency assignments is the operational process that grants CG units the authority to radiate certified S-D systems/equipment in an approved frequency band which complies with national and international tables of spectrum allocations to include regulatory policies and laws. This authorization grants CG units to execute maneuvering through the EMS without causing EMI to other authorize users of the EMS. (see Reference (g)

B. Spectrum Equipment Certification. To accurately document system characteristics, technical data, and administrative information in order to properly, effectively, and safely integrate S-D systems/equipment into the EME. Before any government funds can be obligated or procurement of any S-D system(s)/equipment, program offices and project managers at early development shall notify the Commandant (CG-672) MC4EB ESG representative to assess adequate spectrum availability. (see Reference (g))

1. This process requires the appropriate stage completion of an Equipment Location-Certification Information Database (EL-CID) file supporting the acquisition, research, development, production, procurement, leasing, and modification/improving of S-D weapon systems, information management systems, or electronic warfare (EW) systems.

   a. The application Equipment Frequency Allocation (DD Form 1494), which will be the source used to prepare the EL-CID file, shall be approved through the Joint Frequency Assignment-to-Equipment Process commonly referred to as the J/F-12 process. The EL-CID is a spectrum requirement to determine, if a system or equipment can operate in the table of spectrum allocations.

   b. An approved EL-CID / J/F-12 file by itself does not constitute approval or authorization to radiate. A frequency request shall be required for submission to NTIA to authorize the frequency assignment in order to radiate.

   c. CG PMO shall install the current EL-CID version software on individual users' workstation computers in order to generate the EL-CID file associated with the S-D systems/equipment requiring spectrum certification. Before downloading the EL-CID software on CG standard workstations, users will submit a request via StoreFront.

   d. For Government-owned standalone computers, users can go to the EL-CID Support Center website at https://www.ntia.doc.gov/el-cid-support-center to download the EL-CID Version 6.2 executable desktop software and view installation instructions.

   e. NTIA has transitioned from the desktop EL-CID Version 6.2 to EL-CID Online (EL-CIDO), which is available to users. Users are able to access EL-CIDO, as well

receive training and installation videos on the current EL-CID Version 6.2 by going to https://www.ntia.doc.gov/spectrumtraining/el-cid-spectrum-certification-today.

2. The EL-CID file is processed in stages that parallel the four stages of CG acquisition milestones: Stage 1 – Planning or Conceptual; Stage 2 – Experimental; Stage 3 – Developmental; and Stage 4 – Operational. PMO and project managers are responsible for the submission of the EL-CID and NTH updates to the appropriate Stage as the S-D systems/equipment matures into an Operational status.

   a. All CG requests for spectrum certification shall be submitted in EL-CID format to the Commandant (CG-672) MC4EB ESG representative.

   b. Identification Friend or Foe (IFF) systems shall require a DOD AIMS box level platform level certification for Stage 3 and Stage 4.

3. Commandant (CG-672) MC4EB ESG representative is directly responsible for processing and coordinating all CG EL-CID applications with the MC4EB ESG PWG (see Figure 3-1) and/or NTIA IRAC SPS (see Figure 3-2). Commandant (CG-672) MC4EB ESG representative will officially notify Program Office / Program Manager of an approved J/F-12 or request for additional technical characteristics by the MC4EB ESG PWG and/or NTIA IRAC SPS.

DoD Spectrum Certification Process

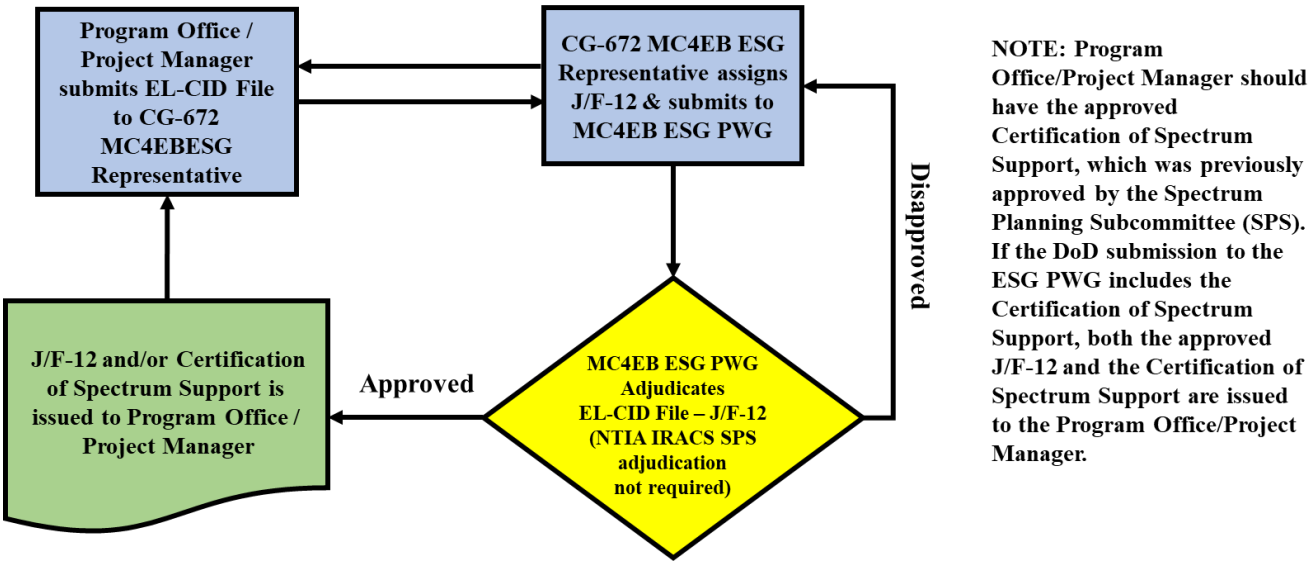

Figure 3-1 DOD Spectrum Certification Process

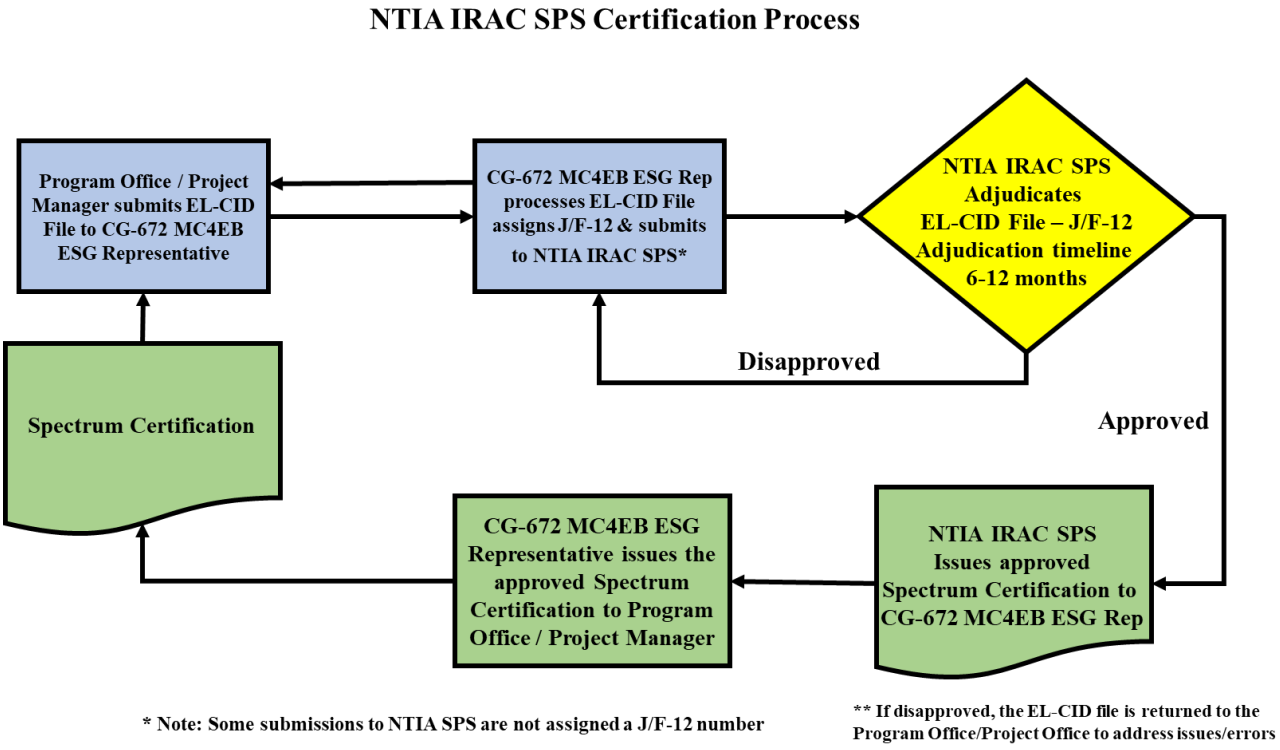

Figure 3-2 NTIA SPS Certification Process

C. Frequency Requirements and Requests. NTIA is the authority to grant the use of RF for CG to test, train, operate, or exercise within the United States and its Possessions (US&P). Per Paragraph B of this Chapter, before an approved S-D systems/equipment can operational radiate in the EMS, a frequency request shall be required. The RF process (see Figure 3.3) shall be accomplished at the initial submission of the Frequency Authorization Request Form CG-6086 (see Appendix A). This will enable CG units to execute maneuvering in the EMS on an authorized frequency assignment by the NTIA. The Electronic Form CG-6086 is available at: https://cg.portal.uscg.mil/library/forms/SitePages/Home.aspx.

1. Types of authorized frequency assignments:

   a. Permanent assignment is a frequency assignment that is valid for an unspecified period of time for a minimum of 5 years.

   b. Special Temporary Authorization (STA) is a short-term temporary authorization for Federal users within US&P. STA are used to support short duration exercises, events, or equipment tests and evaluations.

   c. Temporary assignment is a frequency assignment that is valid for not more than 5 years and possesses an expiration date.

2. A CG command which has identified an RF requirement(s) shall complete in detail the Form CG-6086 for each frequency band that is required to operate the S-D systems/equipment. The Operational Commander shall endorse Form CG-6086 as a valid RF requirement(s) supporting CG operational mission.

   a. Lead times are required to provide the essential time to coordinate and process the frequency request. DSM required lead time is 30 – 45 days.

   b. The endorsed unclassified Form CG-6086 shall be uploaded to CGFIXIT for further coordination by the geographical DSM area of responsibility.

   c. Classified Satellite Access Request (SAR) and classified Form CG-6086, requires review of the approved certification of spectrum support (EL-CID) to verify the frequency / frequency bands level of classification. DSM shall support CG units that do not have access to the EL-CID database. After the verification, the endorsed classified SAR and Form CG-6086 shall be submitted via Secure Internet Protocol Router Network (SIPRnet) for further processing by the DSM.

   d. The following are examples justifying a required frequency request:

      (1) An authorized new S-D systems/equipment or changes to the EL-CID technical characteristics (see Paragraph B of this Chapter)

      (2) Mission essential requirements

      (3) Changes to an authorized frequency assignment such as transmitter location or technical characteristics a new Form CG-6086 frequency request shall be required.

      (4) Deleting an authorize frequency assignment.

3. Geographical DSM is primarily responsible for processing the endorsed Form CG-6086. The DSM shall obtain Form CG-6086 from CGFIXIT, validate the frequency request based on mission requirements and type of frequency assignment. Any discrepancies identified, the DSM shall notify the command point of contact for clarification and provide recommended guidance.

   a. The DSM shall transfer the Form CG-6086 frequency request into a Standard Frequency Action Format (SFAF). The SFAF will be processed into Spectrum XXI (SXXI) to ensure the frequency assignment is registered in the Frequency Resource Record System (FRRS).

      (1) SXXI is the mandated frequency request spectrum software tool used by CG and DOD Spectrum Management Offices. SXXI is used to initiate, submit, process, and coordinate frequency requests and assignments to NTIA.

b. DSM shall transfer the SFAF via SXXI to the CG NTIA IRAC FAS representative for further review and processing to NTIA.

c. NTIA processes all federal agencies frequency requests for the daily FAS agenda. NTIA IRAC FAS representatives shall conduct a 9-day voting process for each agency frequency request.

d. Using SXXI, the CG NTIA IRAC FAS representative and DSM shall monitor the FAS voting process. During the voting process, and for any actions from another NTIA IRAC FAS representative concerning a CG frequency request(s), the CG NTIA IRAC FAS representative shall take appropriate action in order to complete the voting process. Frequency requests that do not complete the voting process will either be returned to the appropriate federal agency or be added to the next FAS agenda.

e. After the 9-day voting process, the CG frequency request(s) will be either approved or disapproved. Approved frequency assignments will be processed into the GMF. Table frequency assignments will state justification, CG NTIA IRAC FAS representative shall negotiate with the other NTIA IRAC FAS representatives to develop course of action that will support CG command frequency requirements.

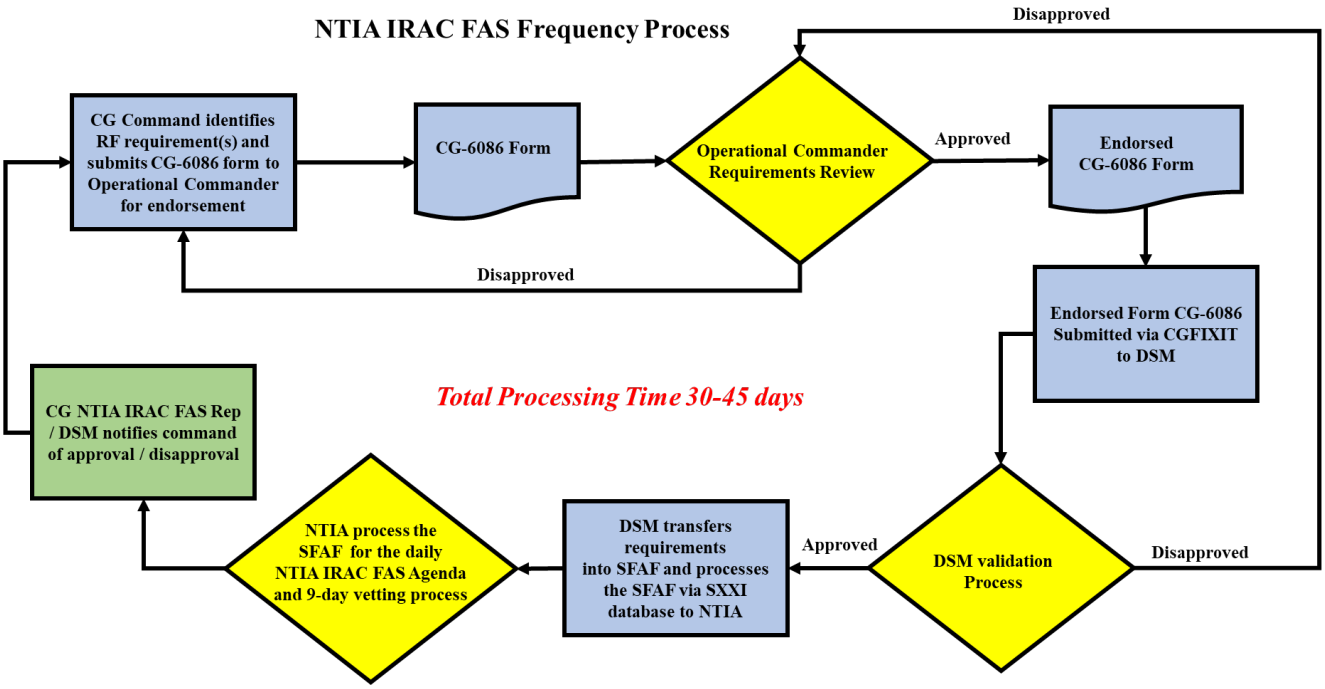

Figure 3-3 NTIA IRAC FAS Frequency Process

D. Classification Handling of Frequency Assignments. Unclassified and classified CG frequency assignments shall ensure the appropriate levels of protection and physically

safeguarding per the Physical Security and Force Protection Program, COMDTINST M5530.1 (series).

1. Frequency assignments used for navigation, public safety, and CG Auxiliary are generally unclassified with no special handling caveats. All other unclassified frequency assignments are marked and protected as "For Official use Only" (FOUO) per Safeguarding Sensitive but Unclassified FOUO, DHS Management Directive 11042.1.
2. During joint operations, CG units operating on classified DOD frequency assignments shall ensure the appropriate level of protection per Classified Information Management Program, COMDTINST M5510.23 (series).

E. Federal and Non-Federal Agencies Interoperability within the US&P. Whether, federal or non-federal, CG supports numerous ashore and afloat contingency operations that require EMS maneuvering for CG units. CG shall adhere to Reference (a), and comply with Appendix A and Memorandum of Understanding/Agreement, COMDTINST 5216.18 (series).

1. CG units conducting interoperability with a non-federal agency (e.g., state / local law enforcement) require an official signed agreement authorizing CG units to radiate on a non-federal agency authorized FCC license and frequency/frequencies. The official agreement can be a memorandum of agreement (MOA) or memorandum of understanding (MOU).
    a. MOA is used to document agreements and execute or deliver support with or without reimbursement between any two or more parties. When a support agreement involves reimbursement, an MOA can be used to further detail terms and conditions.
    b. MOU is used to document a mutual understanding between any two or more parties that does not contain an expectation of payment, and under which the parties do not rely on each other to execute or deliver on any responsibilities.
    c. The signed alliance between CG District Commander/authorized representative and the non-federal agency shall validate CG mission requirements to access the non-federal EMS. The agreement shall outline in detail CG valid frequency authorization, communications between CG unit(s), and the non-federal agency with the non-federal agency's FCC license stating it shall not cause EMI to another authorized non-federal license, and any other relevant information.
    d. The original signed agreement shall be retained on file by the District Telecommunications Branch for the effective duration. A copy of the signed agreement shall be forwarded to Spectrum Management and Telecommunications Policy Division, Commandant (CG-672) and the C5ISC SMD Email: HQS-SMB-CG-672@uscg.mil

2. Non-federal agency conducting interoperability with CG units (e.g., state / local law enforcement) shall require an official signed agreement authorizing the non-federal agency to radiate in the federal EMS. The official agreement can be an MOA or MOU.

   a. The signed alliance between CG District Commander/authorized representative and the non-federal agency shall validate mission requirements to access the federal EMS. The agreement shall outline in detail non-federal valid frequency authorization, communications is only for CG unit(s) and the non-federal agency, the non-federal agency is responsible for obtaining their own required FCC license, and the license shall not cause EMI to CG communications, and any other relevant information.

   b. The official agreement shall only be in effect for five years, after which it will be renewed (as required) for continued non-federal mission support. The original signed agreement shall be retained on file by the District Telecommunications Branch for the effective duration. A copy of the signed agreement shall be forwarded to Spectrum Management and Telecommunications Policy Division (CG-672) Email: HQS-SMB-CG-672@uscg.mil

   c. For interoperability sharing of frequencies between another federal government agency / agencies, the CG does not require an official agreement unless the federal agency requests such agreement. For day-to-day permanent assignments CG unit(s) and DSM shall comply with Paragraphs B and C of this Chapter.

F. International EMS Requirements. CG unit(s) deploying outside the United States and its possessions (OUS&P) shall adhere to Reference (b) and foreign host nation (HN) spectrum regulations.

1. At a minimum of six months or sooner, CG unit(s) preparing to deploy OUS&P shall identify the required S-D systems/equipment and RF requirements that will be operating OUS&P to include foreign host nation coordination (HNC) spectrum supportability requirements.

2. The deploying unit shall complete the Form CG-6086 and submit to unit's chain of command for operational commander's endorsement to the DSM, who will validate the endorsed Form CG-6086.

3. S-D systems/equipment shall be validated by the DSM using the DOD Host Nation Spectrum Worldwide Database Online (HNSWD-O). DOD GCC – JFMO conduct HNC on behalf of the MC4EB FP. The HN promulgates to the GCC JFMO the spectrum supportability response on how a U.S. S-D systems/equipment will operate in that HN. The GCC JFMO transfers the spectrum supportability response into HNSWD-O, the response will state S-D systems/equipment as: authorized, has restrictions, or is not authorized.

   a. Authorized S-D systems/equipment, submit frequency request for that HN.

b. Restrictions for S-D systems/equipment, a frequency request is attainable by the HN provided the CG unit complies with HN restrictions.

4. S-D systems/equipment not listed in HNSWD-O, C5ISC-ESD-ASB-SM shall request CG-672 MC4EB ESG representative to assist on the foreign disclosure release and EL-CID file with the appropriate Program Office and/or DOD MILDEP.

G. Canada and Mexico RF Sharing Agreements. NTIA is the lead to Canada and Mexico treaties and agreements on the RF coordination and use; Reference (a), contains Canada and Mexico RF guidance. Commandant (CG-672) is the direct representative to NTIA Ad hoc 170 U.S. – Canada and NTIA Ad hoc 181 U.S. – Mexico WG. CG unit(s) are not authorized to enter into any binding Canada or Mexico RF agreement without consulting Commandant (CG-672). If there are any modifications to the existing agreements, Commandant (CG-672) shall submit recommendations through the respective NTIA Ad hoc WG.

H. CG Auxiliary. Auxiliary radio stations operating under CG authority have the same authority, responsibility, and protection as any other Federal Government station. Frequency requests in support of CG operations shall be submitted per Paragraph C.2 of this Chapter.

I. DOD Joint Operations. CG unit(s) can be assigned to a Carrier Strike Group (CSG), Joint Task Force (JTF), or DOD led exercise. CG unit(s) shall comply with Paragraphs B and C of this Chapter; CG Communications Instruction, COMDTINST M2000.3 (Series); U.S. Navy EMS Guide, NTP-6 (Series); applicable Annex Kilos; and JTF policies and guidance (when promulgated by the JTF Commander).

1. The Navy uses the Real-Time Spectrum Operations (RTSO) software tool to create and manage the Operational Tasking Communications (OPTASK COMMS) and Radar Planning for afloat commands.

2. When a JTF is activated, the Joint Automated Communication-Electronics Operating Instructions System (JACS) is the communications engineering software tool used to create and manage the Joint Communications-Electronics Operating Instruction (JCEOI). See JCEOI, CJCSI 3320.03 and EMS Use in Joint Military Operations, CJCSI 3320.01 to process and develop EMS requirements.

3. CG unit(s) operating in a CSG, JTF, or DOD exercise, shall identify a list of Taboo, Protected, and Guarded functions, nets, and frequencies to be promulgated into the Joint Restricted Frequency List (JRFL). A JRFL is limited to a minimum number of frequencies necessary for friendly forces to accomplish the mission.

4. CG unit(s) or personnel assigned to a Combatant Commander (CCDR) JTF or exercise, the CCDR Joint Electromagnetic Spectrum Operations Cell (JEMSOC) comprising of J2, J3, and J6 personnel shall plan, manage, execute, and assess electromagnetic spectrum operations (EMSO) to ensure the electromagnetic operational environment

(EMOE) is prioritized. The J6 will promulgated EMS guidance and development for the OPTASK COMMS, JCEOI, and JRFL. See JEMSO in the EMOE, CJCSM 3320.01 (Series) and JEMSO, JP 3-85.

J. Overseas Authorizations. CG unit(s) conducting independent steaming outside the continental United States (OCONUS) requiring HN in port frequency assignment(s) shall comply with Paragraph B and C of this Chapter and submit the requirements in the unit's Logistics or Diplomat Request.

1. C5ISC-ESD-ASB-SM shall obtain assistance from the GCC JFMO to validate CG frequency requirements and for the JFMO to conduct HNC on behalf of the CG. C5ISC-ESD-ASB-SM shall notify unit of completed HNC and HN guidance.
2. CG unit(s) conducting a HN port visit in a U.S. Navy Fleet Commander's Area of Responsibility shall adhere to that Fleet Commander's policy on frequency guard requirements, radar systems, and HN restrictions.

K. NTIA Five-Year Review Program. NTIA requires that each federal government agency maintain a program of continuing review, deletion, and modifications of frequency assignments. The objective of the NTIA review program is to ensure that the frequency assignments are in current use and correctly reflected in the GMF. This review program ensures that frequency assignments are available for continued operations for the purpose stated in their justification, and to ensure that frequency assignments are still qualified for authorization under the provisions of NTIA regulations. Chapter 8 and Annex F of Reference (a), provides additional details regarding the NTIA Five-Year Review Program.

1. The CG NTIA IRAC FAS representative conducts an SXXI database query of CG frequency assignment(s) scheduled to expire. CG lead time for a five-year review is one-year before a frequency assignment(s) is to expire.
2. The CG NTIA IRAC FAS representative maintains oversight and disseminates the frequency assignments to the appropriate DSM.
3. The DSM shall provide guidance to the CG unit to review each frequency assignment for deletion or modification as stated in Annex F.
    a. Deletion. Frequency assignment that does not qualify for retention.
    b. Modification. Frequency assignments qualified for retention, that are not up to date, shall be updated as modification or serial replacement. Frequency assignments qualified for retention, and are completely up to date, shall be certified and submitted as a modification.
4. DSM shall report on the five-year status to C5ISC-ESD-ASB-SM and CG NTIA IRAC FAS representative.

CHAPTER 4 ELECTROMAGNETIC INTERFERENCE REPORTING PROCEDURES

A. Purpose. To provide policy, reporting procedures, identify the roles and responsibilities of CG commands effected by electromagnetic interference (EMI), and how to properly resolve EMI. (see Reference (h) through (j), and Communications Instruction, COMDTINST M2000.3 (series).

B. Electromagnetic Interference (EMI). An electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics or electrical equipment.

1. EMI can be induced intentionally, as in some forms of EW, or unintentionally, as a result of spurious emissions and responses, and intermodulation. EMI impedes operations and hinders mission accomplishment by degrading essential systems that utilize the EMS. EMI can be caused by enemy, neutral, friendly, or natural sources, and shall be resolved on a case-by-case basis.

2. Timely and accurate identification, reporting, and resolution of EMI are key functions within SM. Decisive resolution of EMI plays a crucial role in assuring vital information is exchanged quickly and accurately. Therefore, EMI resolution is an important foundation of information operations and an essential factor in obtaining and maintaining information superiority during military operations in war, operations other than war, and peacetime.

C. Joint Spectrum Interference Resolution (JSIR) Program. Per References (h) through (j), the JSIR program was established to address persistent and recurring EMI incidents in joint operations, exercises, or training to include civil and S-D systems/equipment.

1. The JSIR program is accessible via the JSIR Online (JSIR-O) SIPRnet collaboration portal: http://intelshare.intelink.sgov/sites/jsir/default.aspx.

2. JSIR-O is a web-based application containing data and correspondence for reported EMI, intrusion, and jamming incidents. It serves as a repository for the results of analysis, collected data, and supporting documentation for EMI resolution to support both trend and future analysis.

3. The objective of the JSIR program is to detect, report, track, archive, analysis, and resolve EMI incidents at the lowest level possible within a command's operational chain of command. The resolution process for EMI includes:

   a. Utilizing the SXXI database to validate the frequency assignment.

   b. Detection, verification, characterization, and reporting.

   c. Geo-location, analysis, and identification.

d. Resolution includes development and implementation of corrective courses of action to regain use of the affected spectrum.

e. Tracking the incident to closure, providing status updates, and archiving the incident for future reference.

4. Per References (h) through (j), the JSC serves as the center for EMI reporting, analysis, and tracking from initial report through resolution. The JSC is tasked to manage the JSIR program and provide interference resolution support to the warfighter.

D. JSIR Resolution Procedures. Ashore, Afloat, or Aircraft CG units experiencing EMI which is causing operational impacts to CG assigned frequencies, satellite communications (SATCOM), Global Positioning System (GPS), or S-D systems/equipment shall utilize References (g) through (j) and Figures 4-1 through 4-3 for EMI resolution and reporting actions:

1. The affected command shall utilize Reference (j) and Appendix B - EMI Characterization and Resolution at the Local Level Checklist.

   a. Affected command shall submit unclassified EMI report to DSM via CGFIXIT.

   b. C5ISC-ESD-ASB-SM or DSM is responsible for assisting and supporting affected CG units on the coordination of EMI resolution, submission of JSIR-O and updates.

2. SATCOM EMI, DOD Regional Satellite Support Center (RSSC) promulgates a unit's Satellite Access Assignment (SAA) mission number via Joint Integrated SATCOM Tool (JIST). A CG unit experiencing EMI shall be required to submit a JSIR-O identifying the EMI. When a JSIR-O is submitted, RSSC will respond by issuing a new or modified SAA. For units not submitting a JSIR-O, RSSC will not take action or issue a new SAA.

3. Obtain the identification of the unit causing EMI. Maximum effort should be made to identify the interfering unit by all available resources.

4. Assistance should be obtained from DSM to include other CG District Offices, command, and units to identify, locate, and obtain frequency characteristics of the interfering unit.

5. If it is determined that the EMI is caused by a command, unit, or station in the same vicinity as the affected CG station, endeavor to eliminate the EMI by local arrangements.

6. If the source of EMI is determined to be an impact to public safety, a FCC Public Safety Interference complaint shall be submitted. (see Paragraph F of this Chapter).

7. All EMI reports shall be retained for three years.

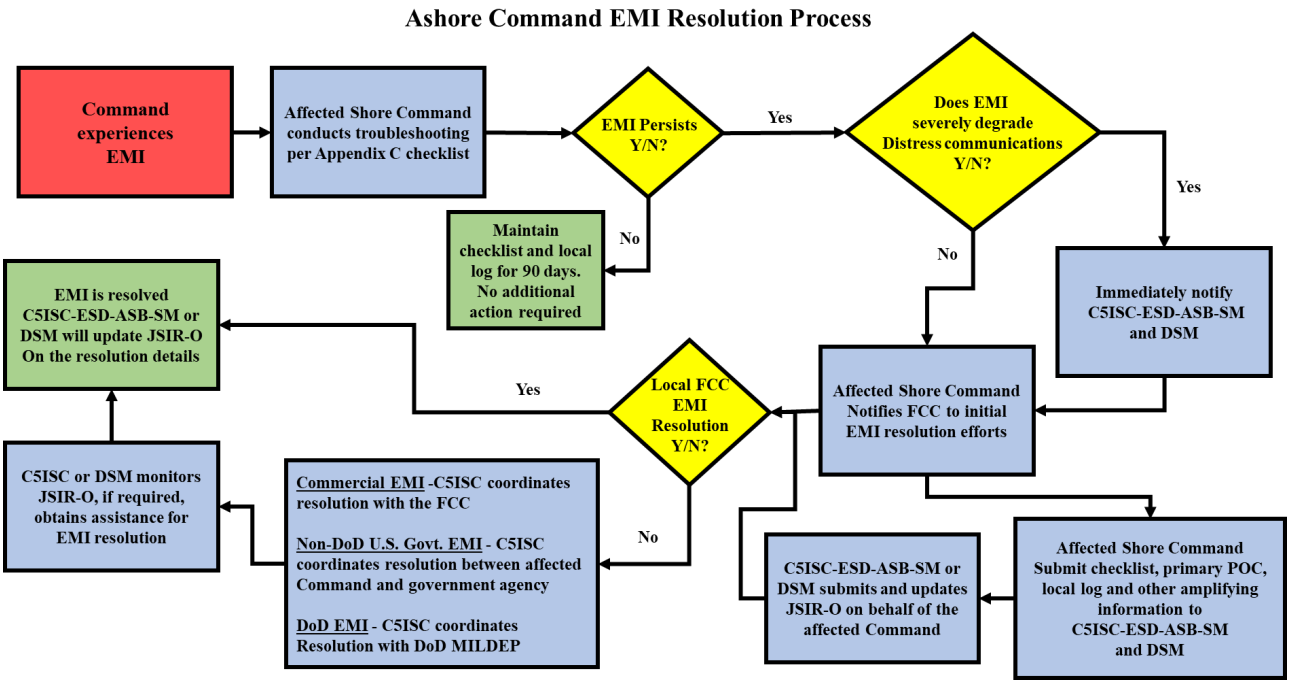

Figure 4-1 Ashore Command EMI Resolution Process

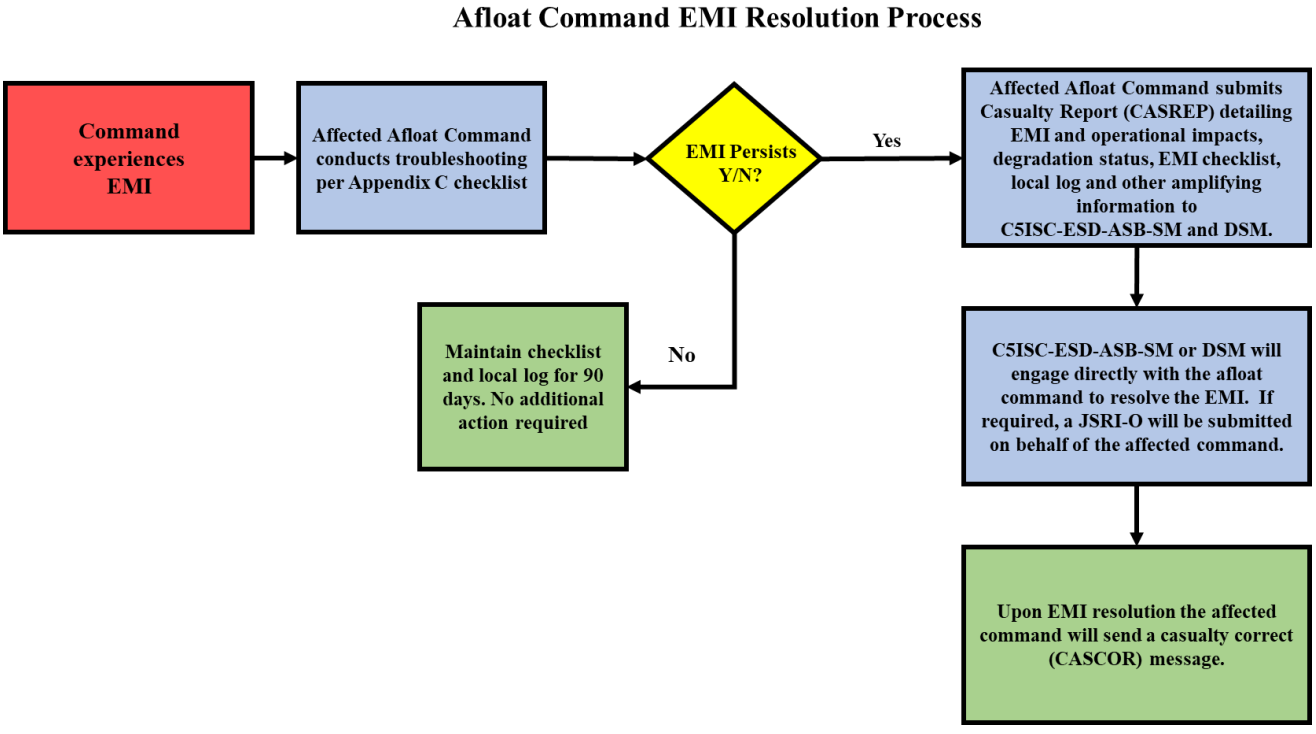

Figure 4-2 Afloat Command EMI Resolution Process

Aviation Command EMI Resolution Process

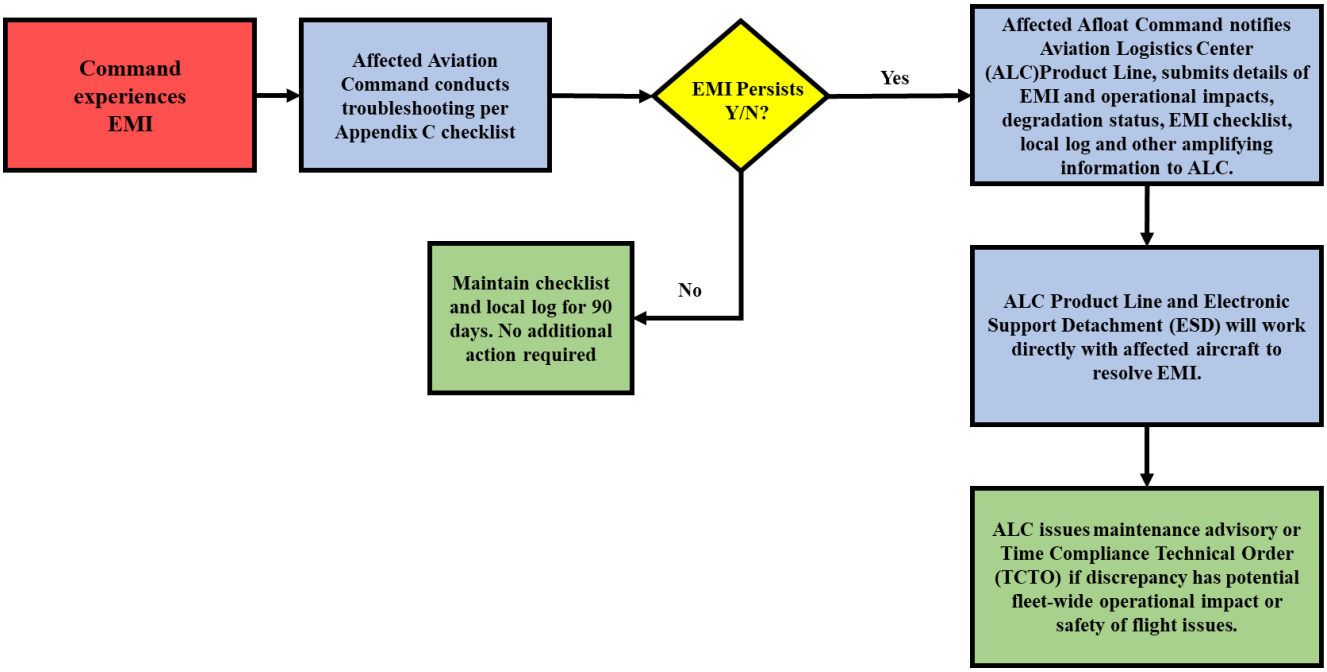

Figure 4-3 Aviation Command EMI Resolution Process

E. Effects of EMI by Coast Guard. Upon official notification from a federal or non-federal agency of reported EMI caused by CG unit the DSM shall implement the following corrective actions to resolve the EMI:

1. Provide all requested information necessary to identify the source of the interference. Assist in defining the nature of the interference.
2. Initiate immediate corrective action if the interference is being caused by CG equipment malfunctioning, emitting spurious emissions, off-frequency operation, etc.
3. Cooperatively assist in conducting reasonable tests necessary to determine the specific source and nature of the interference. Log or otherwise document significant details, including transmitter and system configuration (mode, frequency, antenna, etc.) used.
4. Shutdown the transmitter involved at the earliest operational opportunity, on a temporary basis only, to correct a deficiency or for further investigation. Notify the operational commander promptly of a shutdown. Reactivate as operationally required, provided pre-use check confirms proper operation.
5. Demonstrate a cooperative, courteous attitude at all times. If you are maintaining an on-going dialog with the complainant, advise your findings or planned actions as a courtesy. In the case of commonly shared channels, minimize use to the extent prudent and as mission operations permit. You may agree to limit transmissions or share use to a degree consistent with operational requirements, but only on an informal basis. Sign no

agreements or discuss frequency assignment rights, dates of first use, or nature of communications handled.

6. Report questionable or continuing problems to C5ISC-ESD-ASB-SM via chain of command for further guidance.

F. FCC Public Safety Interference (PSIX) Complaint and Maritime Radio Interference Reporting and Responsibilities. CG commands shall submit online a FCC PSIX Complaint or Maritime Radio Interference Report, on behalf of a public safety entity, first responder, police, fire, law enforcement, or a federal agency for radio interference to an authorized commercial telecommunications service used by public safety entities, first responders, police, fire, law enforcement or a federal agency.

1. FCC guidance, CG commands shall submit a PSIX Complaint online to the FCC Radio Frequency Service Interference Complaint Portal: https://fccprod.servicenowservices.com/psix-esix; to initiate this process click on "Public Safety."

   a. FCC Public Safety and Homeland Security Bureau FCC 24/7 Operations Center (FCCOPS@fcc.gov) shall only accept CG PSIX or Maritime Radio Interference voice reports by telephone when the FCC PSIX port is not operational. .

   b. FCC 24/7 Operations Center will acknowledge the command's PSIX Complaint and will generate an official email to FCC PSIX guidance to the CG.

2. CG commands shall review and comply with Appendix C on FCC Maritime Radio Interference guidance and procedures. The FCC memorandum delineates the responsibilities of each agency to resolve Maritime Radio Interference to include FCC procedures and the admonition statement.

3. CG commands shall immediately notify C5ISC-ESD-ASB-SM and DSM on reported FCC PSIX Complaints and Maritime Radio Interference reports.

4. All FCC PSIX Complaints and Maritime Radio Interference reports shall be retained for three years.

G. False Alert Violation Reporting Procedures. Suspected false distress alerts shall be immediately reported to the CG Investigative Service to determine potential violation of Title 14, U.S.C. § 521, which is a federal felony, punishable by significant imprisonment and/or a monetary fine for anyone to knowingly and willfully communicates a false distress message to the CG or prevents the CG from saving lives and property. All false alert violations shall be reported and submitted using the Report of Violation of Radio Regulations Form CG-2861A (see Appendix D). Electronic Form CG-2861A is available at https://cg.portal.uscg.mil/library/forms/SitePages/Home.aspx and shall be submitted for any violations to the United States Search and Rescue to include:

1. Deliberate transmission of false alerts

2. Inadvertent transmission of a false distress alert without proper cancellation

3. Failure to respond to a distress alert due to misuse or negligence
4. Repeated transmission of false alerts (e.g. false Mayday)
5. Transmission of a distress alert using false identity (e.g. Emergency Position Indication Radio (EPRIB) or Digital Selective Calling (DSC)).

H. Violations committed by CG units. Submit Form CG-2861A, to the violating unit; submit a copy to the violating unit's chain of command; submit a copy to the reporting unit's operational commander; and retain a copy on file for a period of three years from the date of the incident.

I. Violations committed by foreign ships, other military services, or Federal Government agencies. Submit Form CG-2861A to C5ISC-ESD-ASB-SM and DSM, a copy to the reporting unit's operational commander, and retain a copy on file for a period of three years from the date of the incident.

J. Violations committed by U.S. Non-Federal Government stations. In compliance with Paragraph F of this Chapter, radio violation reports involving non-federal government stations shall be referred to Commandant (CG-672) for further action to the FCC Operations Center. Violation reports shall be retained for a period of three years from the date of the incident.

CHAPTER 5 CONDUCTING ELECTRONIC ATTACK TEST, TRAINING, AND EXERCISES

A. Purpose. To support References (a) and (k), and Counter-Unmanned Aerial System (C-UAS) Tactics, Techniques, and Procedures, CGTTP 3-95.19 (series), these guidances are for the proper coordination for all CG electronic attack (EA) test, training, and exercises requirements that will garner national federal EA authorizations from the FAA and FCC.

B. Responsibility. CG commands are ultimately responsible for the submission of each command EA request in official signed command memorandum to DSM and C5ISC-ESD-ASB-SM. Before submitting a command EA request, the originator of the EA memorandum shall identify in detail the testing unit's EA requirements as stated in Reference (k). The FAA is responsible for the safety of the national air space and FCC responsible for non-interruption of commercial telecommunications services. Because of FAA and FCC responsibilities, a detailed EA memorandum shall ensure a successful completed coordination with the FAA and FCC.

C. EA Memorandum Request. CG command submitting an EA memorandum request shall comply with References (a) and (k), and supporting guidance in this Chapter. This will ensure FAA and FCC will issue the approved EA concurrences authorizing CG to execute EA event.

1. Classification markings shall be inserted in the header, footer, and Paragraphs of all CG EA memorandums. The CG EA memorandum shall be transferred via SIPRnet to the appropriate geographical DSM for further processing to FAA and FCC.

2. Identify the frequency or range of frequencies, and the description of the type of EA systems that will be determined for the test, training, or exercise. The EA memorandum needs to be explicit on the EA systems- ground, airborne, or shipborne based (e.g., is EA on the ground, on a tower (how high on the tower), airborne (flight level), C-UAS test and training, etc…)

3. The EA memorandum should state what type of EA event shall occur, it can be ground based, airborne, shipborne, or a combination thereof, a submitted EA memorandum shall be clearly stated whether the EA being conducted is a ground based, airborne, shipborne, or combination.

    a. Do not include Global Positioning System (GPS) into an EA memorandum. GPS and GPS EA have distinctive and separate requirements from Reference (k).

    b. Per Reference (l), Commander, United States Strategic Command (USSTRATCOM) is the authority to execute the GPS program and promulgates the USSTRATCOM GPS approvals/disapprovals.

    c. CG commands considering executing a GPS or GPS EA event shall adhere to Reference (l), submit via SIPRnet the required GPS official signed memorandum and analyses to DSM for coordination with C5ISC-ESD-ASB-SM and USSTRATCOM.

4. The EA memorandum needs to define the geographic area in which the EA test, training, or exercise shall occur. The EA request needs to be clear on what the CG command is attempting to achieve in the EA event an unclear or vague EA request can impact the EA process. Details are the key to the EA request and essential for FAA and FCC to issue concurrences.
5. The EA memorandum needs to determine if flight operations will be executed during the EA event. If flight operations are executed, provide specify details and above ground level (AGL) or mean sea level (MSL) in the EA request.
6. All EA requests shall identify the positive control for all EA activity is essential. FAA requires two valid Stop Buzzer/Cease Buzzer command telephone numbers; valid primary and secondary telephones numbers shall be identified in the EA request.
7. CG lead time for EA memorandum submission is 60 days. Short notice EA events are those that emerge with less than 30 calendar days lead time for FAA to process the EA memorandum request.
8. FAA and FCC will acknowledge submitted CG EA memorandums by issuing each of its own EA concurrences to include delineating guidance; CG commands shall adhere and comply with the issued concurrences.

APPENDIX A - FREQUENCY AUTHORIZATION REQUEST FORM CG-6086

DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD

FREQUENCY AUTHORIZATION REQUEST FORM

UNIT NAME:	POC:	PHONE NO.:

(a) NECESSARY DATES:

_____ _____ _____ _____

(b) TRANSMITTER LOCATION:	OPFAC NO.:

(c) TRANSMITTER COORDINATES: (transmitter coordinates of locations where frequency required [Latitude and longitude –in Degrees/Minutes/Seconds – Example 42-22'-05" N / 071-03'-11" W])

(d) CALL SIGN: (if assigned)	(e) FREQUENCY:

(f) EMISSION: (if unknown, please explain what you are attempting to do using the COMMENTS section below)	(g) POWER: (maximum power for emission)

(h) OPERATION: (hours of operation)	(i) TYPE: (point-to-point, ship/shore, air ground, etc.)

(j) ANTENNA DATA:	(5) Antenna height above terrain:
(1) Antenna name:	_____ Feet
(2) Orientation:	(6) Antenna Polarization: (for fixed [point to point] assignments, receiver location, coordinates and antenna data for receiving site is also required.)
(3) Gain: (nominal)	
(4) Site: (terrain) elevation above mean sea level _____ Feet	

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(k) Equipment nomenclature:

(1) If government equipment, list the government nomenclature for transmitter and receiver.

(2) If commercial equipment, list name of manufacturer and model number of transmitter and receiver, and FCC License number.

(l) Mileage Radius and Number of Mobiles: Mileage radius and number of mobiles: List the area of operation as a mileage radius and the number of mobiles extending from a given location, normally a base security or intelligence type of operation. Given location would be as indicated in (b) and (c) above

COMMENTS:

DATE:	COMMANDING OFFICER:	COMMANDING OFFICERS' SIGNATURE:

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APPENDIX B – EMI CHARACTERIZATION AND RESOLUTION AT THE LOCAL LEVEL CHECKLIST

STEP	ACTION	COMPLETE Y/N
001	Start a log and collect as much information as possible.	
001-01	Determine if EMI poses a safety hazard. If determined, immediately contact command safety department representatives.	
002	Record what interference sounds like. If appropriate measurement equipment is available, an attempt should be made to quantify the characteristics of the interference signal. These characteristics include the interfering source's center frequency, bandwidth, relative amplitude, modulation, direction of interference, time of occurrence, and any other characteristics that can be obtained.	
003	Geographical Information	
003- 01	Check with other units in the geographical area to determine the area affected.	
003- 02	Verify exact location of receiver using GPS, if available.	
004	Determine interference start and stop times.	
005	Ensure affected system is operating correctly.	
005- 01	Ensure all connectors are tight.	
005- 02	Ensure antenna cables are in good condition.	
005- 03	Have maintenance personnel ensure equipment is operating in accordance with technical manual specifications and frequency assignment parameters.	
006	Verify antenna is on the correct azimuth and elevation.	
007	Environmental Information	
007- 01	Contact all nearby units to determine if there is any recently installed equipment.	
007- 02	Contact organizational Electromagnetic Warfare Officer (EWO) to determine if new equipment has been installed or operating characteristics have changed. If air or ground EA assets are suspect, validate with spectrum analyzer and have EWO validate. Develop electromagnetic protection plan for your emitter(s) to mitigate EA effects.	
007- 03	Check with equipment maintenance personnel to determine if the interference is the result of maintenance actions or an equipment malfunction. This should include non RF equipment that can cause spark-type interference used to support the operation of RF equipment (e.g., thermostat-controlled devices, electric motors, welders, etc.)	

STEP	ACTION	COMPLETE Y/N
007- 04	If possible, conduct a site survey looking for other users and environmental considerations that may impact affected emitter, e.g., power lines, UAS launch platform in line of site of combat convoy marshaling area.	
007-05	Check to see if construction is being conducted in the immediate area.	
007-06	Determine whether the natural environment is the cause of the problem	
008	Frequency Assignment Information	
008- 01	Verify through command Spectrum Manager or DSM that a valid frequency assignment and/or satellite authorization exists.	
008- 02	If no assignment exists, cease transmission and request new frequency.	
008- 03	If valid assignment exists, change to alternate frequency and determine if interference is present. If interference is to a satellite communications system, skip to step 9.	
008- 04	If a valid assignment exists and the interference goes away after changing to an alternate frequency, submit an interference report through next higher headquarters and info JSC.	
008- 05	Where co-channel or adjacent channel interference is suspected (i.e., the interfering signal overlaps the operating bandwidth of the victim receiver), check with local and area frequency management personnel to determine if other locally operated equipment has been recently assigned a co-channel or adjacent frequency.	
009	Satellite Communications Interference for SATCOM	
009- 01	For SATCOM EMI events follow the CSpOC Local EMI Checklist Section located at SIPRnet: http://portal.eis.afspc.af.smil.mil/unit/jtf_gno/emi/REFERENCES/Forms/AllItems.aspx • UHF checklist can be found in Section 1.1.1 on table 1.1 • Commercial checklist can be found in Section 1.1.2 on table 1.2 • SHF/WIDEBAND SATCOM EMI checklist can be found in Section 1.1.3 on table 1.3 • EHF checklist can be found in Section 1.1.4 on table 1.4	
009- 02	If the problem is not resolved locally, the user/operator continues with the EMI resolution procedures as per USSPACECOM Instruction (SPI) 3250.01A located at SIPRnet: http://portal.eis.afspc.af.smil.mil/unit/jtf_gno/References/Forms/AllItems.aspx • Paragraph 3.5. - UHF SATCOM EMI Resolution Procedures • Paragraph 4.4. - Commercial SATCOM EMI Resolution Procedures • Paragraph 5.4. - Wideband SATCOM EMI Resolution Procedures. • Paragraph 6.4. - EHF SATCOM EMI Resolution Procedures.	

STEP	ACTION	COMPLETE Y/N
010	Intentional or Unintentional: For detailed checklists regarding whether or not the interference is intentional, please follow the JSIR links kept by the JSC at the J-32 Space and Intel pages at http://jsc.disa.smil.mil for both SIPRnet and JWICS.	
011	General Characterization	
011- 01	Determine if the following are true to help characterize the Interference: • The interfering signal is encrypted. • The interfering signal is understandable, e.g., voice. • Note all settings (demods, bandwidths, gains, etc.) of your receiver equipment that enabled you to hear intelligible information on the interfering signal. • The interfering signal appears to be one illegally passing traffic over a known channel, e.g., channel pirating. The interference is due to a steady receive key indicating equipment failures, glitches, or lapses in operational discipline.	
012	GPS Interference	
012-01	GPS interference will be routed directly to the GPS Support Center with your DSM support channel courtesy copied, and call COD Space immediately (see Reference (j)). After notifying COD Space of the problem, submit a JSIR.	
012-02	Check with area DSM to ensure there are no frequency assignments (or necessary bandwidth overlap) between 1563.42- 1587.42 MHz (for L1) and 1215.60-1239.60 MHz (for L2). High-Capacity LOS AN/GRC-245, Digital Wideband Transmission System, AN/MRC-142, is capable of tuning in these frequency ranges and are likely sources of GPS interference. NOTE: Command policy should prohibit the use of frequencies between 1563.42-1587.42 MHz (for L1) and 1215.60-1239.60 MHz (for L2).	
012-03	Ensure GPS is utilizing current Crypto Variable Monthly (CVM) key. Civilian GPS receivers and un-keyed military receivers are highly susceptible to interference and jamming. Commercial-Off-the-Shelf GPS receivers are not authorized for critical military applications.	
012-04	Utilize a spectrum analyzer to determine if interfering signal is on or near L1 (1575.42 MHz) or L2 (1227.6 MHz). Try to locate source by directly finding.	
012-05	Troubleshooting actions to determine if EMI is affecting L1 or L2: • Operate GPS with crypto not loaded. If EMI is experienced, then the L1 frequency is being affected. • Operate GPS with current CVM key loaded. If EMI is experienced, then L1 and/or L2 is affected.	

APPENDIX C – PROCEDURE FOR FCC RESPONSE TO USCG REPORT OF MARITIME RADIO INTERFERENCE

FEDERAL COMMUNICATIONS COMMISSION
ENFORCEMENT BUREAU

Memorandum

DATE: October 1, 2021

TO: Federal Communications Commission Field Agents
CC: U.S. Coast Guard (USCG)

FROM: Axel Rodriguez, Field Director

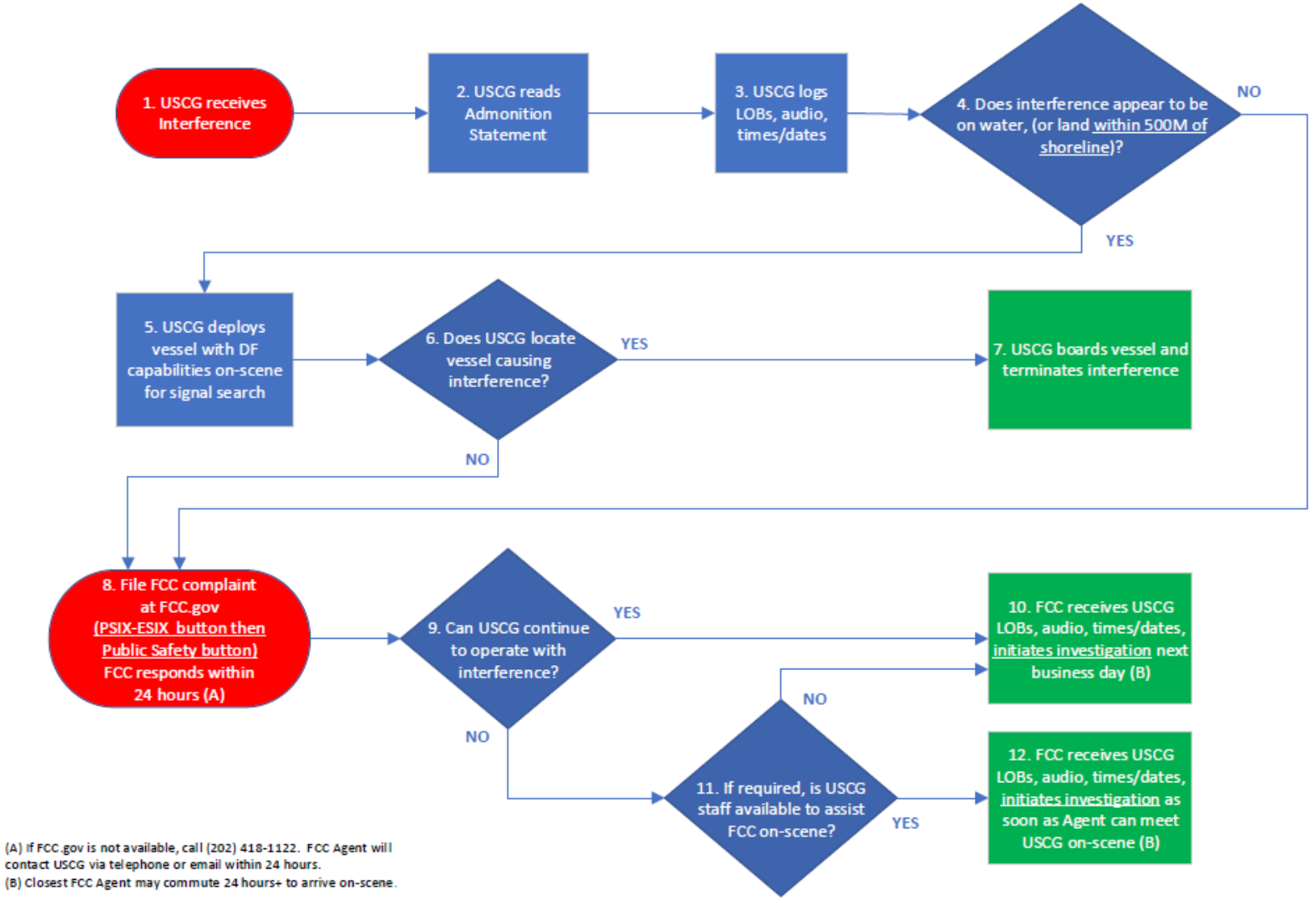
SUBJECT: Guidance for FCC Response to U.S.C.G. Reports of Maritime Radio Interference, updated with FCC Internet Complaint Portal information.

The attached document provides guidance for FCC Field Agent response to interference complaints from the USCG. The purpose of this guidance is to delineate the responsibilities of each agency to resolve the interference and identify available resources.

On August 27, 2015 the FCC, in support of its Field Modernization, released Public Notice "Enforcement Bureau Enhances Procedures for Public Safety and Industry Interference Complaints" which addresses our response timeline to public safety interference complaints, such as from the USCG. Considering that the nearest available FCC Field Agent may be more than 1,000 miles away from the interference complaint location, we have documented the information and resources needed to complete the mission. This guidance is based on our experience of responding to USCG interference complaints over the past few years with our post-modernization capabilities.

This document has been coordinated with the USCG and may be shared with the reporting USCG sector when an interference complaint is submitted.

Procedure for FCC response to USCG report of maritime radio interference



(A) If FCC.gov is not available, call (202) 418-1122. FCC Agent will contact USCG via telephone or email within 24 hours.
(B) Closest FCC Agent may commute 24 hours+ to arrive on-scene.

FCC Enforcement Bureau
Lark Hadley 9/27/21
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Procedure for FCC response to USCG report of maritime radio interference

1. USCG receives interference. This may be from various sources including VHF Marine Ch-16, DSC Ch-70, stuck microphone, hoax transmission, EPIRB warning, other.

2. For interference involving voice transmissions, USCG reads Admonishment Statement provided by the FCC.

3. USCG staff creates a written log of LOBs (Lines of Bearing), audio recordings/transcriptions, times/dates of interference, and any other information that might assist the investigation. USCG informs all following watches to carefully monitor interference and append these written logs to be provided to the FCC.

4. Do the USCG LOBs indicate the interference is originating on water, on land near water - within 500M of shoreline (to allow for LOB accuracy variance)?
    a. If yes, proceed to step #5
    b. If no, proceed to step #8

5. If step #4 indicates the interference originates from a location on the water (including marina), the USCG will deploy a boat to locate the source of interference.

6. Did the USCG find the source of interference?
    a. If yes, proceed to step #7
    b. If no, proceed to step #8

7. USCG has the authority to board a vessel on the water and will terminate the interference.

8. If step #4 indicates
    a. the interference originates from land,
    b. or if step #6 confirms the source of interference from an unknown vessel in a marina,

    The USCG may then file a complaint at FCC.gov via the PSIX-ESIX Interference Complaints portal and completing a Public Safey Interference Complaint Form (or if website not available call 202 418- 1122). The FCC will respond with a phone call or email within 24 hours of notification of interference.
    Direct Link to PSIX-ESIX portal: https://fccprod.servicenowservices.com/psix-esix

10/1/21 FCC Enforcement Bureau, Lark Hadley - For Official Use Only -

9. Can the USCG continue to operate with the interference present?
    a. If yes, proceed to step #10
    b. If no, proceed to step #11

10. FCC Initiates Investigation no later than the next business day, utilizing USCG provided logs of LOBs, audio recordings, times/dates.

11. If required, can USCG provide staff to assist FCC Agent on-scene? This is typically due to personal safety concerns related to isolated late-night conditions around a marina, or access to controlled areas with a port, or other exigent circumstances determined by FCC Agent.
    a. If Yes, proceed to step #12
    b. If No, proceed to step #10

12. FCC will review the USCG provided LOBs, audio, times/dates – and will meet USCG personnel on-scene to initiate the investigation as soon as possible.

Notes:

A. FCC Agent will contact USCG via telephone within 24 hours of receiving interference complaint.
B. Closest FCC Agent may commute 24 hours+ to arrive on-scene.
    a. Due to FCC staffing issues, the closest available Agent may be 1000+ miles away and will require time to prepare and travel to the interference location.
    b. If USCG on-scene assistance is required (see #11 above), it is important that the availability of USCG on-scene assistance is confirmed before the remote FCC Agent starts travel.

FCC ADMONITION STATEMENT

USCG Version

Attention: This is a formal warning to those persons operating on this frequency and causing interference to radio communications in apparent non-compliance with U.S. radio laws. This radio channel is used by officials of the United States Coast Guard for communications related to safety of life and property. Unauthorized radio transmissions may severely reduce the ability of these officials to perform their assigned duties, and may cause loss of life or property. Your radio transmissions are in direct violation of Title 47, Code of Federal Regulation and Title 47, U.S. Code. Please be advised that all communications on this channel are being recorded, and violations noted are being sent to the Federal Communications Commission for referral to the Department of Justice for possible criminal prosecution before the U.S. Courts. Your immediate cessation of unauthorized radio traffic is urgently requested.

APPENDIX D – REPORT OF VIOLATION OF RADIO REGULATIONS FORM CG-2861A

DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD

REPORT OF VIOLATION OF RADIO REGULATIONS OR COMMUNICATIONS INSTRUCTIONS

See Telecommunications, Techniques, and procedures (TTP), CGTTP 6-01.2

Privacy Act Statement

Authority:
Purpose:
Routine Uses:
Retention and Distribution:

Reports Control Number: RCN-2000-2

Reporting Station	Violating Station	
1. Name:	5. Name:	
2. Address:	6. Address:	
3. Call Sign:	7. Call Sign:	8. Nationality:
4. Approximate Position:	9. Frequency:	10. Type of Emmission:

PARTICULARS CONCERNING THE VIOLATING STATION

Station in Communication With Violating Station

11. Name:	12. Call Sign:	13. Date & Time (UTC) of Violation:

14. Nature of the Irregularity:

15. Excerpts From Radio Log &/or Documents or References Supporting Report:

Signature of Commanding Officer:	Date:

CG-2861A (09/21) PREVIOUS EDITIONS ARE OBSOLETE Reset Form

APPENDIX E – GLOSSARY

PART I - ACRONYMS

ACRONYM	WORDS SPELLED OUT
AAG	Aeronautical Advisory Group
ACP	Allied Communication Publication
AGL	Above Ground Level
APM	Allotment Plan Management
ASB	Architecture and Standards Branch
ATO	Authorization to Operate
C4IT	Command, Control, Communications, Computers, and Information
C5ISC	Command, Control, Communications, Computers, Cyber, and Intelligence Systems
CCDR	Combatant Commander
CCEB	Combined Communications Electronics Board
CFR	Code of Federal Regulations
CG	United States Coast Guard
CSG	Carrier Strike Group
C-UAS	Counter Unmanned Aerial Vehicle
DD Form 1494	Equipment Frequency Allocation
DF	Direction Finding
DOD	Department of Defense
DOE	Department of Commerce
DSA	Dynamic Spectrum Access
DSM	District Spectrum Manager
EA	Electronic Attack
EL-CID	Equipment Location-Certification Information Database
EL-CIDO	Equipment Location-Certification Information Database Online
EMC	Electromagnetic Compatibility
EME	Electromagnetic Environment
EMI	Electromagnetic Interference
EMOE	Electromagnetic Operational Environment
EMS	Electromagnetic Spectrum
EMSEA	Electromagnetic Spectrum Enterprise Architecture
EMSO	Electromagnetic Spectrum Operations
EPS	Emergency Planning Subcommittee
ESG PWG	Equipment Spectrum Guidance Permanent Working Group
ESD	Engineering Services Division
EWO	Electromagnetic Warfare Officer
EW	Electronic Warfare
FAA	Federal Aviation Administration

ACRONYM	WORDS SPELLED OUT
FAS	Frequency Assignment Subcommittee
FCC	Federal Communications Commission
Form CG-6086	Frequency Authorization Request
FOUO	For Official use Only
FP	Frequency Panel
FRRS	Frequency Resource Record System
GCC	Geographical Combatant Command
GPS	Global Positioning System
GMF	Government Master File
HN	Host Nation
HNC	Host Nation Coordination
HNCR	Host Nation Coordination Request
HNSWD-O	Host Nation Spectrum Worldwide Database Online
I PWG	International Permanent Working Group
ICT	Information and Communications Technologies
IRAC	Interdepartmental Radio Advisory Committee
ITU	International Telecommunications Union
JACS	Joint Automated Communication-Electronics Operating Instructions System
JCEOI	Joint Communications Electronics Operations Instruction
J/F-12	Joint Frequency Assignment-to-Equipment Process
JEMSOC	Joint Electromagnetic Spectrum Operations Cell
JFMO	Joint Frequency Management Office
JIST	Joint Integrated SATCOM Tool
JRFL	Joint Restricted Frequency List
JS	Joint Staff
JSC	Joint Spectrum Center
JSIR	Joint Spectrum Interference Resolution
JSIR-O	Joint Spectrum Interference Resolution Online
JTF	Joint Task Force
MAG	Military Advisory Group
MC4EB	Military Command, Control, Communications, and Computers Executive Board
MILDEP	Military Department
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NARA	National Archives and Records Administration
NATO	North Atlantic Treaty Organization

ACRONYM	WORDS SPELLED OUT
NEPA	National Environmental Policy Act
NTH	Note-to-Holder
NTIA	National Telecommunications and Information Administration
OCONUS	Outside the Continental United States
OPTASK COMMS	Operational Tasking Communications
OUS&P	Outside the United States and its Possessions
PMO	Program Management Office
PSIX	Public Safety Interference Complaint
PWG	Permanent Working Group
RCS	Radio Conference Subcommittee
RF	Radio Frequency
RSSC	Regional Satellite Support Center
RTSO	Real-Time Spectrum Operations
SAA	Satellite Access Assignment
SAR	Satellite Access Request
S-D	Spectrum Dependent systems/equipment
SFAF	Standard Frequency Action Format
SIPRnet	Secure Internet Protocol Router Network
SM	Spectrum Management
SO PWG	Spectrum Operations Permanent Working Group
SPS	Spectrum Planning Subcommittee
SS PWG	Space System Permanent Working Group
SSS	Space Systems Subcommittee
STA	Special Temporary Authorization
SXXI	Spectrum XXI
TSC	Technical Subcommittee
US&P	United States and its Possessions
WG	Working Group
WRC	World Radiocommunication Conference

PART II – DEFINITIONS

Electromagnetic Attack (EA) – Division of electromagnetic warfare involving the use of electromagnetic energy, directed energy, or anti-radiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability and is considered a form of fires.

Electromagnetic Compatibility (EMC) – The ability of systems, equipment, and devices that use the electromagnetic spectrum to operate in their intended environments without causing or suffering unacceptable or unintentional degradation because of electromagnetic radiation or response

Electromagnetic Environment (EME) – The resulting product of the power and time distribution, in various frequency ranges, of the radiated or conducted electromagnetic emission levels encountered by a military force, system, or platform when performing its assigned mission in its intended operational environment.

Electromagnetic Environmental Effects (E3) – The impact of the electromagnetic environment (EME) upon the operational capability of military forces, equipment, systems, and platforms.

Electromagnetic Interference (EMI) - Any electromagnetic disturbance, induced intentionally or unintentionally, that interrupts, obstructs, or otherwise degrades or limits the effective performance of electromagnetic spectrum-dependent systems and electrical equipment.

Electromagnetic Spectrum (EMS) – Is a maneuver space essential for facilitating control within the operational environment (OE) and impacts all portions of the OE and military operations. Military operations and training are executed in an environment complicated by increasingly challenging demands and constraints on the EMS.

Electromagnetic Spectrum Operations (EMSO) – Coordinated military actions to exploit, attack, protect, and manage the electromagnetic environment.

Electromagnetic Warfare (EW) – Military action involving the use of the electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy.

Electronic Jamming – The deliberate radiation, reradiation, or reflection of electromagnetic energy for the purpose of preventing or reducing an enemy's effective use of the electromagnetic spectrum, with the intent of degrading or neutralizing the enemy's combat capability.

Frequency Allocation – A frequency band established by national or international rules and regulations for specific categories of radio services, such as radiolocation, radio navigation, mobile or fixed communications, space telemetry, etc…

Frequency Assignment – The discrete frequency or frequencies on which S-D equipment or a system is authorized to operate within its allocated frequenc band at the location(s) designated and within the constraints of the authorizing assignment.

Spectrum Dependent (S-D) Systems/Equipment – 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 acquired or procured.

Spectrum Management (SM) – The planning, coordinating, and managing the use of the electromagnetic spectrum through operational, engineering, and administrative procedures with the objective of enabling electronic systems their functions in the intended electromagnetic operational environment without causing or suffering unacceptable electromagnetic interference.