CHAIRMAN OF THE JOINT CHIEFS OF STAFF MANUAL

Directive Current as of 28 Feb 2012

J-3 CJCSM 3212.03
DISTRIBUTION: A, B, C and S 15 December 2008

PERFORMING TESTS, TRAINING, AND EXERCISES IMPACTING THE GLOBAL POSITIONING SYSTEM (GPS) IN THE UNITED STATES AND CANADA

References: See Enclosure H

1. Purpose. This manual implements guidance to request and gain approval to conduct electronic attack (EA) affecting GPS in tests, training, and exercises in the United States and Canada.

2. Cancellation. This manual supersedes Annex D of CJCSM 3212.02B, 15 October 2003, which is hereby canceled.

3. Applicability. The restrictions and procedures covered by this manual refer to nondestructive radio frequency (RF) emissions generated during EA that have the potential to interfere with authorized RF spectrum use. Specific requirements addressing space-related EA issues are outlined in Enclosure A of reference a, and must comply with paragraph 4.14 of reference b, and the guidelines in reference c unless otherwise noted. This manual outlines the coordination requirements and operational procedures governing GPS EA/interference tests, training, and exercises conducted by US forces in the United States and Canada. Additional guidance is provided in the classified supplement to this manual, CJCSM 3212.03-1. These manuals apply to:

a. All DOD components in the United States and Canada that are:

(1) Engaged in GPS EA/interference operations for tests, training, and exercises.

Note: DOD components operating GPS re-radiators must follow procedures outlined in reference d (paragraphs 8.3.28 and 8.3.29). This manual does not apply to GPS re-radiators.

(2) Operating electromagnetic radiating or receiving equipment that may be subjected to interference from EA.

b. Civilian contractors performing GPS EA/interference for the Department of Defense. These contractors must meet the following criteria:

(1) The contractor must be performing under a U.S. military contract.

(2) The GPS EA/interference equipment used by the contractor has been contracted for or is owned by the U.S. government.

(3) A resident military representative must be available to assist the contractor in the application of this manual and the GPS EA/interference clearance approval.

(4) The approved GPS EA/interference clearance must be on file with the DOD office administering the contract or their delegated representative.

4. Procedures. See Enclosures A through E.

5. Summary. This manual should be reviewed in its entirety. The guidance and directives herein were revised from Annex D of CJCSM 3212.02B. Procedures, restrictions, responsibilities, and definitions have been added, updated, or clarified. This manual also now has a classified supplement (CJCSM 3212.03-1) published under separate cover addressing special topics. This instruction also formalizes and replaces previous agreements between the Joint Staff Deputy Director for Global Operations (J-39) and the Joint Navigation Warfare Center.

6. Releasability. NOT FOR PUBLIC RELEASE. This directive is approved for limited release. DOD components (to include the combatant commands) and other federal agencies may obtain copies of this manual through controlled internet access from the CJCS Directives Electronic Library at http://www.dtic.mil/cjcs_directives or through the JSS-DSE. Joint Staff activities may also access or obtain copies of this directive from the JS-DSE.

7. Effective Date. This manual is effective upon receipt.

STANLEY A. MCCHRYSTAL
Lieutenant General, USA
Director, Joint Staff

Enclosures:

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LIST OF EFFECTIVE PAGES

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ENCLOSURE A

AUTHORITY TO CONDUCT ELECTRONIC ATTACK

1. The Communications Act of 1934. This Act (reference e) regulates the frequencies for radio stations "belonging to and operated by the United States which are assigned by the President." In the United States, radio spectrum may be allocated to either federal government or nonfederal government use exclusively, or for shared use. Regulatory responsibility for the radio spectrum is divided between the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA). The FCC, an independent regulatory agency, is assigned responsibility for the regulation of non-government interstate and foreign telecommunications. The Presidential authority for federal government RF spectrum use has been delegated to the Administrator, NTIA, an operating unit within the Department of Commerce.

2. NTIA Authority. The Administrator, NTIA, discharges radio communication and frequency management functions for the federal government with the advice of the Interdepartment Radio Advisory Committee (IRAC). The IRAC consists of representatives from key government departments and agencies, including each Military Service. The United States Table of Frequency Allocations, published in the Federal Register, is the source document that lists authorized federal government and nonfederal government RF spectrum allocations for the United States. This table defines frequency allocations as primary and secondary services. Authorized users have the right to operate in their respective services free from interference. EA is not recognized by the NTIA or the FCC as an authorized service; however, EA may be performed under the condition that proper coordination is conducted with appropriate agencies.

3. Canada. Reciprocity agreements between the United States and Canada allow U.S. forces to carry out EA exercises upon Canadian territory. Legislative authority can be found in (Canadian) section 12b of the Radio Communication Regulations made pursuant to section 4(1) of the (Canadian) Radio Communications Act 1989, c.17, s.2. The Canadian Department of Industry (Industry Canada) is the national authority for spectrum management.

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ENCLOSURE B

RESPONSIBILITIES

1. This manual sets forth Service responsibilities regarding RF clearance coordination for the performance of GPS EA/interference in the United States and Canada during tests, training, and exercises.

2. The Services must ensure that forces can operate in an intense electronic warfare (EW) environment; therefore, DOD tests, training, and exercises involving GPS EA/interference are vital to the effective employment of combat forces.

3. Reference e, as amended, is designed to serve national security and defense as well as other national policies and goals involving spectrum-dependent equipment. Additionally, reference f states that "The Secretary of Transportation shall give full consideration to the requirements of national defense." DOD EA/interference operations are a part of national defense and once approved under the auspices of this manual should not be terminated except as specified below. Organizations engaging in GPS EA/interference operations shall comply with Enclosure D for termination of operations when "CEASE BUZZER" procedures are requested. The following are valid reasons for termination:

a. Safety of life.

b. Safety of flight.

c. Harmful interference.

d. Operational Security (OPSEC).

4. The conduct of peacetime GPS EA/interference, in areas defined in this manual as Canada and United States and Possessions (US&P), is governed by this manual under the authority of references e and f. International Civil Aviation Organization (ICAO) and the International Telecommunication Union (ITU) regulations (reference g) provide further considerations for conducting EA within international airspace, but do not govern DOD component EA operations. However, EA may be highly regulated and confined to the vicinity of designated military areas as a means of accommodating ICAO safety-of-life

concerns and ITU frequency regulations.

5. The environmental consequences of EA and its employment must be analyzed in accordance with provisions of reference h and the accompanying Council on Environmental Quality Regulations. Consult Service-specific regulations.

ENCLOSURE C

EA OR INTERFERENCE TESTING OR TRAINING IMPACTING THE GLOBAL POSITIONING SYSTEM – CLEARANCE REQUESTS

1. Purpose. This Enclosure provides the requirements and procedures for submitting and approving requests for conducting EA/interference in tests, training, and exercises impacting GPS radio navigation frequency bands L1 (1575.42 MHz, +/- 12 MHz) and L2 (1227.6 MHz, +/- 12 MHz).

2. Policy. The requirements described in this section have been developed using lessons learned from test, training, and exercise activity in the GPS frequency bands.

a. The approval authority for operations impacting the GPS frequencies described in paragraph 1 is the Joint Staff Deputy Director for Global Operations (J-39). All requests for tests, training, or exercise operations impacting GPS must have Joint Staff approval prior to commencing operations in the United States, its territories, and adjacent FAA-controlled airspace.

b. Requesting units, organizations, and agencies within the CONUS and Canada will submit complete request packages via the appropriate chain of command (Major Command (MAJCOM) frequency coordinators, regional and area frequency coordinators (AFCs), Fleet Area Control and Surveillance Facilities (FACSFACs), etc.) for active RF emission in the GPS radio navigation frequency bands. Complete request packages must be received by the Joint Staff Deputy Director for Global Operations (J-39) no later than 60 days prior to the first planned RF emission date for tests employing standard noise interference. Organizations should plan to submit requests to ensure local and regional level coordination is complete prior to the 60-day national timeline. The contents of the GPS frequency interference clearance request package are outlined in paragraph 6 of this Enclosure. Additional guidance on national-level coordination is provided in references a, b, and c.

c. The Joint Staff will endeavor to provide approval/disapproval notification to the requestor/originator and coordinating community 10 days prior to the requested EA/interference commencement date.

3. GPS EA/Interference Request Responsibilities and Procedures. The responsibilities described in this section detail the GPS EA/interference coordination process as diagramed in Enclosure E.

a. DOD units, organizations, and agencies within the United States. Submit a complete request in the format delineated in paragraph 6 to the appropriate Service or MAJCOM frequency coordinator.

(1) Requesting units will coordinate with the appropriate area or regional frequency coordinator in generating their request. See Enclosure F for a list of area and regional frequency coordinators.

(2) All requests must use the GPS Interference and Navigation Tool–Reliability Prediction Model (GIANT-RPM), the standard interagency modeling tool, to characterize potential GPS interference effects. If needed, the Joint Navigation Warfare Center (JNWC) is available to provide GIANT-RPM technical support to produce an analysis with the software.

(3) The original frequency interference request as well as GIANT-RPM analysis results and data files should be posted on a SIPRNET web site where coordinating offices can access the files. Alternatively, if the required files can be sufficiently compressed – they can be e-mailed via the SIPRNET.

(4) Security Instructions. Classify the request package in accordance with references i, j, and other applicable classification guides. Enter a statement indicating which item entries singularly or collectively (note compilation rule) make the request package, or parts of it, classified. Even if the request itself is unclassified, it shall be submitted via secure means because the association of the request with the modeling and analysis results reveals a vulnerability that could be used for unauthorized GPS jamming.

Note: Requests including the term GPS along with any of the terms “navigation warfare (NAVWAR)”, “EA”, or “jamming” **in conjunction with test dates and schedules** are classified SECRET.

(5) Unit/organization/agency technical points of contact shall be available within 3-5 working days of the Joint Spectrum Center (JSC) receiving the request for the required quality assurance (QA) check. A phone conference will be held to review the request and discuss any assumptions or to clarify technical details. Unavailability of technical points of contact during QA may affect the 60-day approval timeline. See paragraph 3.f. below.

(6) Submit an after action report (AAR) within 30 days of test completion to the appropriate Military Department Frequency Management Office (MILDEP FMO). Details of the required AAR content are included in paragraph 4.

b. Service, Base, or MAJCOM frequency coordinators. Service, Base, or MAJCOM frequency coordinators will ensure a complete request package is submitted. GPS EA/interference request packages are then submitted to the

regional or AFC using SIPRNET e-mail, a SIPRNET official government message (Defense Message System (DMS), Automated Message Handling System (AMHS), or Automated Digital Network (AUTODIN)), or other secure means if SIPRNET is unavailable.

(1) Service, Base, or MAJCOM frequency coordinators shall ensure that all requests have been analyzed using GIANT-RPM to characterize potential GPS interference effects and include the GIANT-RPM files. The JNWC is available to provide software technical support to produce an analysis with GIANT-RPM if needed.

(2) All requests sent via SIPRNET e-mail shall be on DOD letterhead or contain an endorsement on DOD letterhead. Letterhead is not required for officially released government messages.

(3) Organizations planning to conduct multiple EA/interference activities for exercises or over a period of time will submit one plan with desired dates covering the proposed activities.

(4) Exercises that involve joint operations will submit one request covering all operations. The lead service will consolidate the supporting Service's requests into one request that is submitted to the appropriate MILDEP FMO. Copies of the consolidated request will be sent to all supporting Service frequency coordinators and MILDEP FMOs.

c. DOD AFCs and FACSFACs. AFCs and/or FACSFACs have the following responsibilities and authorities:

(1) Ensure that requests being routed for approval are:

(a) Complete and meet the requirements per this manual.

(b) Coordinated with all organizations and agencies operating within their area of responsibility. The operations or schedules shall be de-conflicted prior to the request reaching the MILDEP FMO.

(c) Coordinated with adjacent AFCs and FACSFACs that may be affected. When a test has an area of effects that overlaps the area of effects of other tests (already approved or in process), this coordination shall include an exact schedule of de-conflicted times for all involved organizations. Schedules forwarded to the MILDEP FMO shall be in Zulu time and shall be agreed upon by all involved organizations.

1. A sample de-confliction schedule is included in Appendix A to this Enclosure.

2. If no GPS testing is scheduled to occur at adjacent AFCs and FACSFACS areas of responsibility during the period of the request, add the following statement to the package going forward: "This test request was coordinated on (date) with the following neighboring AFCs and FACSFACS: (list as necessary). No GPS test time and area of effect overlap exists."

Note: additional time de-confliction may be required as determined while in process by coordinating national agencies. If conflicts arise, the Joint Staff J-39 will inform the MILDEP FMO as necessary.

(2) Route requests to the MILDEP FMO matching the Service of the requester (i.e., the AFC or FACSFAC would route a request being performed by or for an Air Force organization to the Air Force MILDEP FMO, after the complete request package has been coordinated at the regional level).

(3) For Joint Staff-approved GPS EA/interference requests, AFCs and FACSFACs are authorized to:

(a) Take local action if GPS EA/interference events are found to violate any portion of an approved clearance. This includes violations discovered after the event.

(b) Suspend authorizations as necessary to prevent future violations.

Note: The appropriate MILDEP FMO and the Joint Staff shall be notified as soon as practical if these authorities are exercised.

d. MILDEP FMO. The MILDEP FMOs have the latest information on spectrum use and ongoing spectrum reallocation actions and will factor this knowledge into the national coordination process. MILDEP FMOs will work with DOD AFCs, FACSFACs, ranges, and other Service points of contact and project managers to ensure that users desiring to conduct EA/interference for test, training, and exercise objectives are able to do so while minimizing the impact to other spectrum users. MILDEP FMOs will verify the originator's request package and assist in resolving conflicts between tests or exercises before forwarding the request package to the Joint Staff for national level coordination.

(1) MILDEP FMOs evaluate each EA/interference request based on the following areas of concern:

(a) All required information, including the GIANT-RPM analysis is included and/or accessible.

(b) All required coordination at the area and regional level is complete with conflicts resolved. In the case of tests that have overlapping effects requesting the same time period, a clear, concise schedule depicting the coordinated times (in Greenwich Mean Time (GMT), otherwise known as Zulu) of all events shall be presented in the package going forward to the Joint Staff.

(c) The request is officially sanctioned by a DOD organization or authorized contractor.

(d) The request is properly classified.

(2) In the absence of a defined DOD, Service, or MAJCOM frequency coordinator, MILDEP FMOs will assume the appropriate responsibilities delineated in this manual.

(3) Forward all complete requests to the Joint Staff Deputy Director for Global Operations (J-39). In the case of untimely requests or tests requiring further coordination at the regional level, MILDEP FMOs have the authority to reject the request until the issues are resolved.

(4) Upon request approval, MILDEP FMOs will make the appropriate agency notifications.

(5) The MILDEP FMO is responsible for forwarding AARs for completed tests to the Joint Staff Deputy Director for Global Operations (J-39) in a timely manner.

e. Joint Staff Deputy Director for Global Operations (J-39). The Joint Staff performs the following tasks:

(1) Reviews the entire package for completeness, accuracy, and proper regional coordination. Requests are also reviewed to ensure they meet the time guidelines required for interagency coordination. Incomplete, inaccurate, untimely, or uncoordinated requests may be rejected back to the MILDEP FMO to resolve the issues.

(2) Forward complete request packages (including the GIANT-RPM impact analysis report) to the JSC, which performs an independent assessment QA check of the originators' GIANT-RPM analysis.

(3) Following JSC QA, release a staff package for coordination with the DOD and interagency stakeholders (stakeholders include, but are not limited to: FAA, on behalf of DOT; USCG; Office of the Secretary of Defense; Air Force Staff (AF/A3); USNORTHCOM; Headquarters (HQ) NORAD; HQ USSTRATCOM; Joint Functional Component Commander for Space (JFCC SPACE)

(subordinate units GPS Operations Center (GPSOC), Joint Space Operations Center (JSpOC), and JNWC); Joint Staff/J-6; and Joint Staff/Legal Counsel).

(a) Problems encountered during national level coordination will be resolved through the MILDEP FMOs.

(b) JNWC -- through JFCC Space, JSC, and appropriate organizations -- will be involved, as required, if changes to the technical analysis are necessary.

(4) Upon completion of coordination, release an approval/disapproval message (classified DMS or AMHS) to the MILDEP FMO and appropriate organizations. The Joint Staff evaluates requests based upon:

(a) Safety. GPS EA/interference must not threaten human life or safety of flight.

(b) Security. GPS EA/interference must not compromise classified capabilities. Security measures to minimize the risk of compromise shall be considered.

(c) Impact on military/civil users.

(5) Post all request packages/AARs and selected additional event information received on the Joint Staff SIPRNET portal.

f. JSC. The JSC shall provide a QA recommendation to the Joint Staff within 10 working days of receiving a complete GPS EA/interference request package.

(1) In conducting QA of the package, JSC will lead a phone conference with the appropriate test unit/organization/agency technical point of contact (and JNWC (for JFCC Space) if involved with producing the analysis) to discuss the analysis submitted. The conference should be held within 3-5 working days of package receipt by the JSC.

(2) If unable to contact the requesting agency point of contact, the JSC shall perform QA on the package as submitted. This may result in stipulations for the test agency based on the analysis provided if technical details are missing from the request. If a package is deemed technically incomplete for QA, the request will be returned to the Joint Staff with a description stating the information required.

g. JNWC. The JNWC is a subordinate unit under CDR JFCC Space and is the DOD center of excellence for NAVWAR. The JNWC shall:

(1) Provide warfighter technical support in producing or modifying a clearance request and analysis (using GIANT-RPM) as required.

(2) Provide the Joint Staff Deputy Director for Global Operations (J-39) a coordination recommendation (concur, concur w/comment, nonconcur) on the request package for USSTRATCOM.

(3) Be available to phone conference with JSC within the timelines delineated in paragraph 3.f.(1) if involved with producing the analysis for the requestor.

(4) Provide technical coordination as required with the FAA and USCG.

4. After Action Reports. In order to maximize use of the national airspace system and protect the Department of Defense's ability to conduct GPS EA/interference for tests, training, and exercises, feedback from GPS EA/interference activities is required for all approved events.

a. The requesting MILDEP FMO for an approved GPS EA/interference request will ensure each requesting unit, organization, or agency conducting a GPS EA/interference activity provides an AAR via appropriate means (SIPRNET preferred) within 30 days of event completion to the Joint Staff Deputy Director for Global Operations (J-39). The following minimum information must be included in the AAR:

(1) Overview.

(2) Effectiveness.

(3) Transmitter location(s).

(4) Specific transmitter type(s) if not specified in the request (i.e., equipment manufacturer and model).

(5) Actual on and off times, using GMT, for specific locations.

(6) Actual antenna data, to include azimuth and elevation pointing angles.

(7) Actual effective isotropic radiated power.

(8) Summary (what went well, problems encountered, CEASE BUZZER calls and details, etc.).

(9) Unit/command/agency point of contact.

(10) Technical point of contact.

b. If any information exceeds the classification allowed by the SIPRNET, state "Information exceeds the classification of the SIPRNET – on file with the requestor" next to the appropriate paragraph. At a minimum, the AAR must contain the actual on and off times for the transmitters.

c. Failure to submit an AAR may result in disapproval of future test requests from the same DOD unit or organization.

d. AARs received by the Joint Staff will be posted on the Joint Staff SIPRNET portal.

5. CEASE BUZZER. All requests will adhere to CEASE BUZZER procedures outlined in Enclosure D.

6. GPS EA/Interference Request Package. A complete EA/interference request package consists of the following: EA/interference request, any assumptions and approximations, GIANT-RPM modeling, and a narrative analysis. NOTE: If the request is a retest of a previously coordinated or approved request, provide a reference to the original request, the JSC analysis number (if known), and use the same GIANT-RPM analysis.

a. GPS EA/Interference Request. The following information must be included in the request package:

(1) Subject. "GPS Interference Clearance Request for Nationally Controlled Frequencies"

(2) Operational and Technical Points of Contact. Enter unit/designator, Service/MILDEP, point of contact, commercial and DSN telephone numbers, pager number, and appropriate e-mail addresses. It is important that the points of contact be able to answer technical and operational questions related to the requested activity.

(3) Clearance Request Control Number. This number will consist of an appropriate controlling agency designation or abbreviation, the calendar year, and a hyphen followed by a consecutively assigned number. If the test is an exact repeat of a previously run test (only dates and times changed), the control number will be followed by a reference to the previously run test.

Example: WSMR 07-XXXX (repeat WSMR 05-ABC) denotes a clearance request from an AFC for CY 07 with the associated sequential suffix (XXXX) that repeats test WSMR 05-ABC previously approved and run.

(4) Period of Request. Specify date(s), time(s), and expected activity duration within the requested windows. Date(s) and times shall reflect GMT (Zulu) start time(s).

(a) Time(s). Provide the daily timeframe in which operations may occur. Express times in GMT (Zulu). State if operating hours are inflexible or limited and why. Identify flexibility in operating times.

Example: 2-9 May: 2300Z–0100Z daily, dates are based on start times. Operations are not continuous, with variations based on exercise events.

(b) Expected Duration per Activity. Provide expected duration, in minutes, of an average event.

Example: A single event lasts no longer than 90 minutes and may start at any time during the operating period.

(5) Operating Areas, Flight Routes, and Altitudes. Define the specific geographic bounds in which operations will occur. Coordinates will be used to indicate location of ground-operated transmission equipment. Airborne, shipboard, and/or mobile ground-based transmitters will be defined as 1) within a polygon using the coordinates of each of the corners, 2) a central point with a radius of operation, or 3) multiple points identified by the geographic coordinates and radius of operations of each. Include the coordinates for the highest point that will be transmitted from within the operating area. The name/nomenclature of known military operating areas, restricted areas and warning areas, flight levels, or a combination of these will be included in proposed test areas. Express geographic coordinates using the World Geodetic System 1984 (WGS84) format (see CJCSI 3900.01 series, "Position (Point and Area) Reference Procedures"). Alternatively, coordinates may be expressed as degrees, minutes, and seconds (i.e., 30 23 57N).

Example: (for polygon) 3023.9500N 08600.0000W, 3023.9500N 08700.2666W, 2958.2333N 08600.0000W, 2958.2333N 08700.2666W. Highest point: 3001.2166N 08621.3666W.

Example: (Center point and radius) Operations occur within a 25-nm radius of 3023.9500N 08700.2666W. Highest point: 3001.2333N 08621.3666W.

Example: (Multiple points and radii) 3023.9500N 08600.0000W, 25 nm; 3023.9500N 08700.2666W, 10 nm; 2958.2333N 08600.0000W, 20 nm; 2958.2333N 08700.2666W, 15 nm. Highest transmit point: 3023.9500N 08600.0000W.

(a) Flight Routes for any Airborne Platform. Provide a complete description of the operational portion of flight routes, including turn points.

Include all interference (or EA) start and stop geographic coordinates in the area. Specify if transmissions will cease at turn points. Specify any flexibility available in flight routes. Provide an appropriate rationale if variations in activities preclude providing specific details. Without this rationale or operational specifics, the resulting clearance may not meet all user requirements.

Example: 25 nm N/S and 25 nm E/W routes from a central point on the Eglin range located at 3023.0000N 08626.0000W. Some test flights extend further south over water into warning areas W155 and W151A. Routine interference (or EA) start and stop points are on routes defined by longitude 08600.0000W to 08700.0000W at a latitude of 3023.0000N and 2958.0000N to 3048.0000N at a longitude of 08626.0000W, with turn points at the extreme of each route. Transmissions will cease 1 nm prior to the turn points and resume 1 nm after the turn. Other flight routes are available, but it is important to maintain certain aircraft/ground simulator relationships to ensure adequate testing.

(b) Altitudes. When transmitting antennas are mounted on an aerial vehicle, specify altitudes above ground level (AGL) or mean sea level (MSL) if over water or over areas where specifying AGL altitude is impractical. Provide the complete range of altitudes that would be acceptable for operations, and specify the most desired altitude within the acceptable range.

Example: 0 – 50,000 ft AGL; for most operations 20,000 ft is the most desired altitude for fuel economy reasons. Lower altitudes can be accepted, but due to reduced flight duration, will degrade the continuity of training. Flying at 10,000 ft will increase the cost of operations by an average of 30 percent for fuel. Flying below 9,000 ft places the aircraft in the visual flight rules traffic corridor near the Florida coastline.

(6) Positive Control. Provide information concerning standard regulations and/or special operating procedures that are followed, notification procedures, crew-monitoring procedures, and range-monitoring procedures. Ensure positive control phone numbers or frequencies are provided.

Example: Positive control is provided for all interference (or EA) activity. Positive control may be executed by calling Anywhere Range Control at (555) 555-1234 or on UHF/VHF guard.

(a) Coordination is accomplished in accordance with this manual and reference k.

(b) Crewmembers must monitor appropriate air traffic control and guard frequencies at all times, and range controllers must monitor communication channels and any transmitters employed for frequency drift.

"CEASE BUZZER" calls require immediate shutdown of EA or interference operations.

(7) Frequency Requirements and Specifications. Provide a listing of required frequencies and specifications of EA jamming or interference equipment to be used. Ensure information provided is properly classified.

(8) Equipment Specifications. Submit nominal worst-case equipment parameters. Equipment nomenclature is not required unless noted below. Provide the following information for each frequency or frequency range of operation:

(a) Type and number of transmitters and if they will be used individually or simultaneously (examples: 2 Olant IIIa transmitters, alternately broadcasting; 4 TAVIA model xxx transmitters simultaneously broadcasting, 1 Aviaconversia Model II transmitter, etc.).

(b) Transmit frequency or frequencies.

(c) Occupied bandwidth for each transmitter.

(d) Signal type.

(e) Signal duty cycle.

(f) Pulse repetition rate.

(g) Pulse duration.

(h) Tone spacing if multiple tones are used.

(i) Cable loss (dB).

(j) Power input(s) (watts, dBW, or dBm) to the antenna(s). Specify the unit of measure used.

(k) Modulation/coding technique/jamming technique.

(l) Antenna type (manufacturer/model: horn, dipole, Yagi).

(m) Antenna polarization.

(n) Mainbeam gain (dBi).

(o) Provide antenna pattern plots (azimuth and elevation). Note: Do not include nulls when modeling an antenna. Use an envelope pattern.

(p) Site elevation - specify feet or meters.

(q) Antenna height(s) AGL or MSL - specify feet or meters.

1. Platform altitude (AGL or MSL) if transmitter is on an airborne platform.

2. When specifying surface platform antenna heights, include the height of any structure (rooftop, mast, etc.) that the antenna is located on.

(r) Pointing azimuth and elevation angle for each antenna (min/max/nominal). If the azimuth and elevation is not given, then it is assumed that the antenna will point at azimuths ranging from 0-360 degrees and elevations from –90 to +90 degrees.

1. Specify antenna pointing error margin.

2. If the antenna pointing angle is unknown, model the antenna pattern as mainbeam gain at all azimuths and elevations.

(s) Coordinates in WGS84 (Latitude: DDMM.mmmmN / Longitude: DDDMM.mmmmW) of each antenna (surface-based transmitters).

1. If multiple locations are used, specify whether there are multiple transmitters to be used simultaneously or individually, or whether a single transmitter is being moved from place to place.

2. If the location is described as an area, e.g. using a polygon or box corners, and the transmitter(s) can be anywhere within, create contours in GIANT-RPM using the extreme endpoints and also at the highest point of elevation within the area from which transmissions will occur.

(t) Ground track pattern (boundaries) for each mobile platform. If the transmitter is on a mobile platform such as a ship or aircraft, specify whether the transmitter will be turned off or left on during course changes.

(9) Remarks Section

(a) Provide a short summary of the proposed purpose/operational concept of the EA/interference event. For example, “The purpose of this test is to measure the effectiveness of JDAM in a GPS-denied environment” or “The purpose of this exercise is to prepare the Carrier Strike Group for operations in a GPS-challenged environment.”

(b) Identify types of EA/interference used (i.e., noise, spot, emerging technology, etc.).

(c) Other pertinent information, such as the exercise supported or additional references to antenna information/data files, test constraints etc.

(d) Optional: Topographical Layout. Identify specific terrain features that mask the effects of the proposed EA/interference and reduce unintended harmful interference. For example: Area of interference (or EA) operations is bordered by 5,000-7,000 ft mountains to the north and west.

b. GIANT-RPM Modeling Output. The required modeling output files are as follows (if classified, provide unclassified composite versions for civil coordination):

(1) GIANT-RPM Output Report (<file>.RPM).

(2) GIANT-RPM Analysis Report showing the standard contours required for all GPS testing (40,000, 25,000, 15,000, 10,000 ft MSL, and 4,000 ft AGL). Include either a or b below.

(a) <file>.htm and associated .png files made into a <file>.doc or <file>.pdf.

(b) <file>.mht made into <file>.pdf.

Note 1: If multiple transmitters are to be used simultaneously or transmissions will be from multiple locations a composite contour plot must be provided. In the case of multiple simultaneous transmitters, a SUM contour plot should be generated. For transmissions from multiple locations with one transmitter a MAX contour plot should be generated.

Note 2: Be sure to document all assumptions used while setting up the model (needed by quality assurance personnel).

Note 3: Transmitter point names shall avoid using “jam” or “EA” in the analysis.

Note 4: Only display DGPS and WAAS stations in the output plots.

c. Narrative Analysis. The narrative analysis is a textual explanation of the modeling results.

7. Incident Reporting. All DOD users of GPS shall notify the GPSOC and the USCG Navigation Center (NAVCEN) in writing of any unintentional interference to the GPS navigation signal using the guidelines provided in reference m.

Contact information is located in Enclosure G of this manual. The GPSOC shall notify the JSpOC immediately and the JSpOC shall notify USNORTHCOM.

a. USCG and GPSOC notification procedures do not replace the CEASE BUZZER procedures in Enclosure D

b. The interference shall also be initially reported to the GPSOC (using the form supplied on the GPSOC web site) and USCG NAVCEN via e-mail or phone.

APPENDIX A TO ENCLOSURE C

SAMPLE TEST TIME DE-CONFLICTION SCHEDULE

		Test Name & #		Test Name & #			Test Name & #
	Date	Zulu time		Zulu time			Zulu time
Sa	1-Jan-05					2000-2359	1630-1930
Sn	2-Jan-05			0000-0100			
M	3-Jan-05						
T	4-Jan-05		2000-2200			2300-2359	
W	5-Jan-05	0800-1200	2000-2200	0000-0430	1530-1800	2300-2359	1230-1500
Th	6-Jan-05	0800-1200	2000-2200	0000-0430		2300-2359	
F	7-Jan-05	0800-1200	2000-2200	0000-0430	1530-1800	2300-2359	1230-1500
Sa	8-Jan-05	0800-1200	2000-2200	0000-0430		2300-2359	
Sn	9-Jan-05	0800-1200		0000-0430			
M	10-Jan-05						
T	11-Jan-05		2000-2200		1400-1800	2300-2359	
W	12-Jan-05	0800-1200	2000-2200	0000-0300	1530-1800	2300-2359	1230-1500
Th	13-Jan-05	0800-1200	2000-2200	0000-0300	1530-1800	2300-2359	1230-1500
F	14-Jan-05	0800-1200	2000-2200	0000-0300	1530-1800	2300-2359	
Sa	15-Jan-05	0800-1200	2000-2200	0000-0300	1530-1800	2300-2359	
Sn	16-Jan-05	0800-1200		0000-0300			

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ENCLOSURE D

CEASE BUZZER PROCEDURES

1. Purpose. To ensure that GPS frequency interference activity can be suspended when needed for safety-of-flight, safety-of-life, cases of harmful interference to authorized users of the RF spectrum, or OPSEC reasons, the procedures in this Enclosure will be used.

2. CEASE BUZZER Procedures

a. Communications Monitoring. For airborne operations, all exercise control personnel and controllers of airborne frequency interference platforms must monitor the emergency guard frequency (either 121.5 or 243.0 MHz) continuously. For surface operations, exercise control personnel and frequency interference platform operators must monitor established communication networks. The exercise control agency must also monitor CEASE BUZZER communication links published in the GPS frequency interference clearance.

b. Safety-of-Flight and Safety–of-Life. The controlling agency shall immediately pass all safety-of-life/-flight CEASE BUZZER calls to the interference signal originator. The interference signal originator shall immediately cease interference signal activity and notify the requestor of termination. Authorized users of the spectrum requesting CEASE BUZZER for safety-of-flight or safety-of-life reasons will broadcast the request (with information in paragraph 2.d.) in any of the following ways:

(1) Directly to the interference signal originator on the published frequency or landline phone number in use for positive control (see the applicable NOTAM or NOTMAR).

(2) On an emergency guard frequency (either 121.5 or 243.0 MHz).

(3) Through the controlling agency (FAA, USCG, AFC) via pre-coordinated and verified communications means.

c. Other than Safety-of-Flight or Safety-of-Life. Authorized users of the spectrum requesting CEASE BUZZER for other than safety-of-flight or safety-of-life reasons will contact the FAA, USCG, AFC, or other controlling agency by appropriate means and provide the information specified in paragraph 2.d. below. The FAA, USCG, AFC, or other controlling agency will determine whether to direct the interference signal originator to cease electronic activity within their area of control based upon the circumstances. Note: All CEASE

BUZZER calls received from the FAA are to be treated as safety-of-flight or safety-of-life. In these cases, procedures in paragraph 2.b. shall be followed.

d. CEASE BUZZER requests. All requests for CEASE BUZZER shall relay the following information:

(1) Requestor identification (i.e., name, unit, unit location).

(2) Reason for CEASE BUZZER (e.g., reason is safety-of-life, safety-of-flight, OPSEC, harmful interference, national mission). Note: not required for urgent matters relayed by FAA controllers over radio.

(3) Telephone contact information. Note: not required for urgent matters relayed by FAA controllers over radio.

(4) Type of receiver platform or facility (e.g. aircraft, ship, handheld, etc.).

(5) RF bands involved.

(6) Duration of suspension.

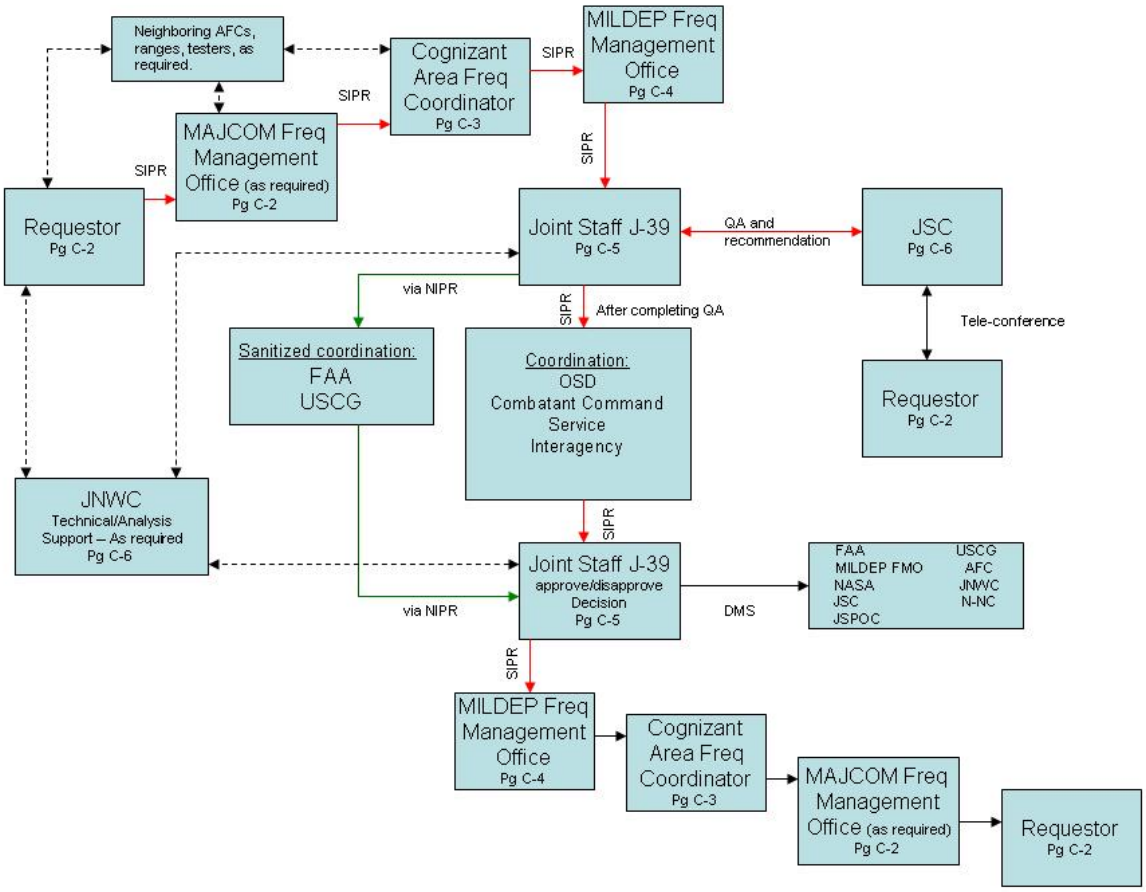
e. Resolution. When a CEASE BUZZER call is received by the interference signal generator, signal transmissions will be terminated and confirmation of termination shall be passed to the CEASE BUZZER requester. Once accomplished, the interference signal generator will coordinate a duration for the CEASE BUZZER activity with the controlling agency. Note: duration coordination will not be performed over emergency guard frequency.

f. Reporting. A CEASE BUZZER incident report must be submitted to the GPSOC and either the USCG NAVCEN for civil surface incidents or FAA National Operations Control Center (NOCC) for civil aviation incidents within 2 hours of the incident. In addition, submit an incident report to the Joint Staff Deputy Director for Global Operations (J-39) and the JSpOC within 24 hours. Use the contact information provided in Enclosure G.

g. Documentation. Interference signal originators and controlling agencies, as appropriate, will log all pertinent information regarding CEASE BUZZER requests and compliance (i.e., time, RF bands, requester, time of reinstatement, and method by which request was received). This information will be included in the AAR submitted to the Joint Staff Deputy Director for Global Operations (J-39). Logs will be retained in accordance with Service directives governing control logs.

ENCLOSURE E

GPS EA/INTERFERENCE CLEARANCE REQUEST FLOWCHART



Note: Each box contains the corresponding page number that lists detailed agency responsibilities.

Figure E-1. GPS EA/interference request approval flowchart

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ENCLOSURE F

GEOGRAPHIC AREA OF COGNIZANCE/AGENCIES, DOD AREA FREQUENCY COORDINATORS

1. General. This enclosure delineates the areas of responsibility and controlling agencies.

2. EA Geographic Area of Cognizance. EW is strictly controlled within geographic areas in accordance with Joint Staff directives governing test and exercise ranges. Clearance to operate in these areas must be granted by the appropriate AFC.

Geographic Area	Controlling Agency
Alaska	Alaska Area Frequency Coordinator Elmendorf AFB, AK
Arizona	Arizona Area Frequency Coordinator Fort Huachuca, AZ
Colorado, west of 108W; New Mexico; Utah, east of 111W; and Texas, west of 104W	Area Frequency Coordinator White Sands Missile Range, NM
Nevada; Utah, west of 111W; and Idaho, south of 44N	DOD Area Frequency Coordinator Nellis AFB, NV
Alabama, south of 33 30N; Florida, west of 83W; Georgia, west of 83W and south of 33 30N; Louisiana, east of 90W and south of 33 30N	Gulf Area Frequency Coordinator Eglin AFB, FL
Florida, east of 83W and north of 24N; Georgia, east of 83W and south of 31 30N; Atlantic Ocean, between 24N and 31 30N, west of 77W	Eastern Area Frequency Coordinator Patrick AFB, FL
California, south of 37 30N, including all off-shore islands	Western Area Frequency Coordinator China Lake, CA

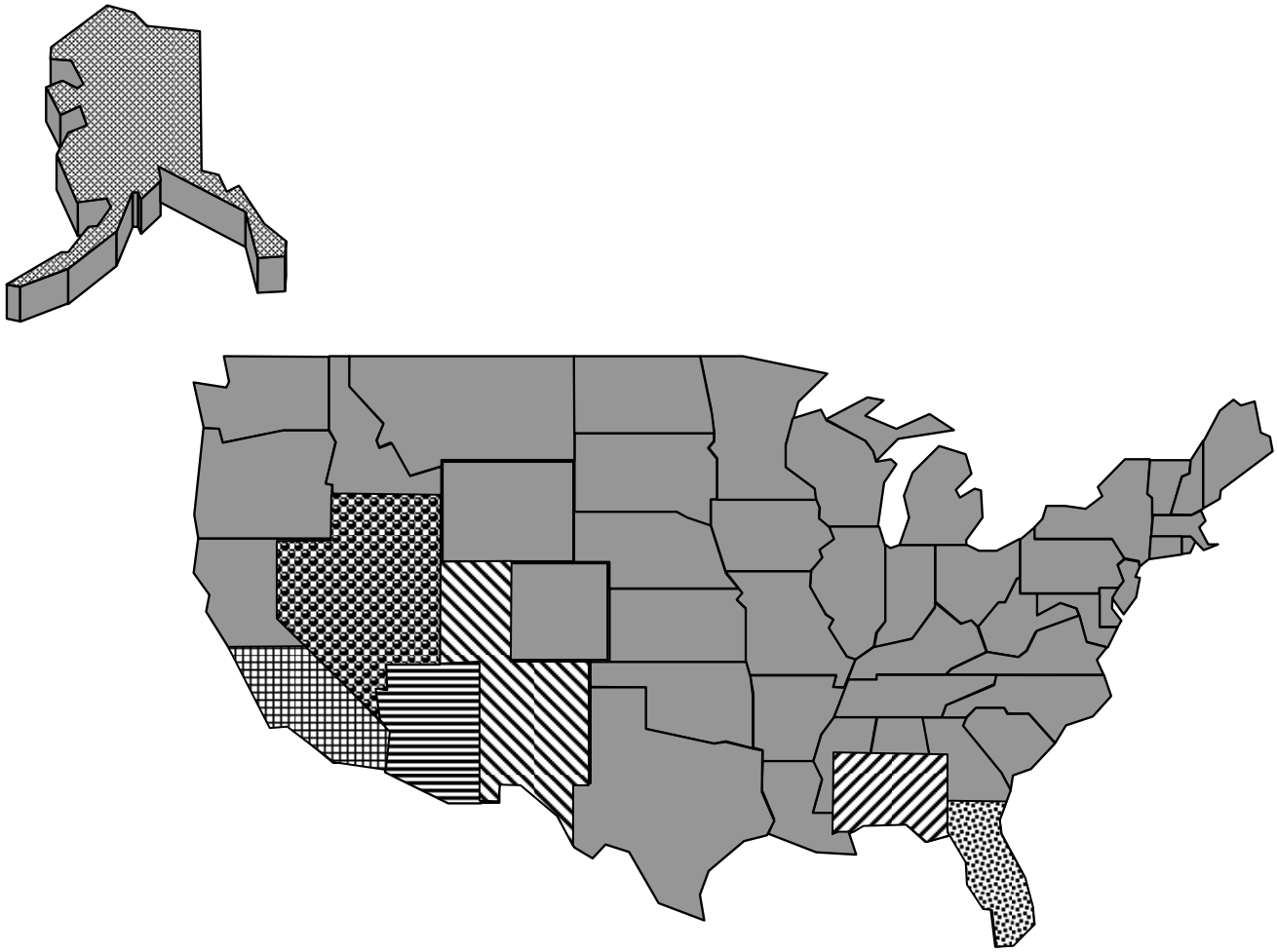

Figure F-1. Map of Geographic Areas

ENCLOSURE G

CLEARANCE REQUEST POINTS OF CONTACT

1. DOD Area Frequency Coordinators (AFCs).

a. Eastern Area Frequency Coordinator:
Eastern Area Frequency Coordinator
1225 Pershing Place
Patrick AFB, FL 32925-6345

Phone: (321) 494-5838/0690 (DSN 854)

DMS MSG ADD: DOD EASTERN AREA FREQUENCY COORDINATOR(SC)

b. Gulf Area Frequency Coordinator:
Gulf Area Frequency Coordinator
201 W Eglin Boulevard, Suite 256
Eglin AFB, FL 32542-6829

Phone: (850) 883-7535 (DSN 875)

DMS MSG ADD: DOD GULF AREA FREQUENCY COORDINATOR(SC)

c. Western Area Frequency Coordinator:
Western Area Frequency Coordinator
Code 523G00D
130 Easy Rd, M/S 3008
China Lake, CA 93555

Phone: (760) 939-6948/6832 (DSN 437)

DMS MSG ADD: WAFC PT MUGU CA(SC)

d. Alaska Area Frequency Coordinator
JFMO AK
9480 Pease Avenue, Suite 310
Elmendorf AFB, AK 99506-2100

Phone: DSN: 317-552-8223/7183

e. Arizona:
Area Frequency Coordinator
ATTN: SFIS-FAC-SH
Fort Huachuca, AZ 85613-5000

Phone: (602) 538-6423 (DSN 879)

f. Nellis AFB, NV:
DOD Area Frequency Coordinator
Nellis AFB, NV 89191

Phone: (702) 652-3417 (DSN 682)

g. White Sands Missile Range, NM:
Area Frequency Coordinator
White Sands Missile Range, NM 88002-5526

Phone: (505) 678-5417 (DSN 258)

DMS MSG ADD: WSMR DOD AREA FREQ COOR(SC)

2. Military Department Frequency Management Offices (MILDEP FMOs). The following are the MILDEP FMOs for the Services:

a. Army:
Army Spectrum Management Office
2461 Eisenhower Ave
Hoffman I Room 1204
Alexandria, VA 22331-1500

Phone: (703) 325-8213/8217 (DSN 221)

DMS MSG ADD: ARMY SPECTRUM MGT(SC)

SIPRNET: ArmySpecMgtOfc@disa.smil.mil

b. Navy and Marine Corps:
Navy Marine Corps Spectrum Center (NMSC)
2461 Eisenhower Ave
Hoffman I Room 1202
Alexandria, VA 22331-1400

Phone: (703) 325-2706/2832 (DSN 221)

DMS MSG ADD: NAVMARSPECCEN WASHINGTON DC(SC)

SIPRNET: navyspectrum@navemscen.navy.smil.mil
NIPRNET: navyspectrum@nmsc.navy.mil

c. Air Force:

Air Force Frequency Management Agency
2461 Eisenhower Ave
Hoffman I Room 1203
Alexandria, VA 22331-1500

Phone: (703) 428-1544 (DSN 328)

SIPRNET: affma.cc@affma.af.smil.mil

3. Joint Navigation Warfare Center (JNWC). – The JNWC is available to provide technical support on GPS interference requests.

Joint Navigation Warfare Center
2050A 2nd Street SE
Kirtland AFB, NM 87117-5669

Phone: (505) 270-2979
DSN 246-6846 duty hours only

SIPRNET website: http://jnwc.kirtland.af.smil.mil/.
SIPRNET: jnwc.gpsea@afmc.af.smil.mil
NIPRNET: jnwc@kirtland.af.mil

SIPRNET DMS MSG ADD: JNWC(sc)
NIPRNET DMS MSG ADD: JNWC(uc)

4. Joint Spectrum Center (JSC). The JSC provides the Joint Staff with QA support on GPS clearance request analyses. DOD units/organizations/ agencies desiring technical support with a test or exercise should direct questions to the JNWC points of contact in paragraph 3.

SIPRNET: JSCJ3IO@JSC.JS.SMIL.MIL
NIPRNET: JSCJ3IO@JSC.MIL

SIPRNET DMS MSG ADD: DISA JSC COMMCTR(SC)
NIPRNET DMS MSG ADD: DISA JSC COMMCTR(UC)

5. Joint Staff Deputy Director for Global Operations (J-39). The Joint Staff retains approval authority for DOD requests to conduct EA or interference on

the Global Positioning System. The Joint Staff has overall responsibility for overseeing and directing the national coordination process involving the Services and Government Interagency (and Canada when necessary).

Joint Staff, J39 Space and Missile Defense Division
3000 Joint Staff Pentagon
Room MA 882
Washington, DC 20318-3000

Joint Staff SIPRNET portal: http://jsportal.js.smil.mil/jnwc/default.aspx
SIPRNET: jsddgo.gps@js.pentagon.smil.mil
SIPRNET DMS MSG ADD: JOINT STAFF J3 DEP-DIR GLOBAL OPS(SC)
NIPRNET DMS MSG ADD: JOINT STAFF J3 DEP-DIR GLOBAL OPS(UC)

6. Federal Aviation Administration (FAA) National Operations Control Center. The FAA is the interface agency for the Department of Transportation in all civil aviation issues and coordinates on all GPS frequency interference requests. CEASE BUZZER incident reports are sent to:

Phone: (703) 326-3873
NIPRNET: 7-awa-asr100-nocc@faa.gov

7. United States Coast Guard (USCG) Navigation Center (NAVCEN). The USCG is the interface agency for the Department of Homeland Security in all civil maritime issues and coordinates on all GPS frequency interference requests. CEASE BUZZER and/or incident reports are sent to:

Phone: (703) 313-5900
NIPRNET website: http://www.navcen.uscg.gov
NIPRNET: TIS-PF-NISWS@uscg.mil
AUTODIN PLA: COGARD NAVCEN ALEXANDRIA VA

8. GPS Operations Center (GPSOC). The GPSOC operates GPS satellites on orbit and provides a NAVWAR support function to the GPS community, including the civil sector. The GPSOC receives information copies of all GPS frequency interference requests. CEASE BUZZER and/or incident reports are sent to:

GPS Operations Center
2 SOPS/DOKX
300 O'Malley Ave Suite 41
Schriever AFB, CO 80912

Phone: (719) 567-2541 or 5081 (DSN 560)
GPSOC SIPRNET website: www.schriever.af.smil.mil/gps_support_center
GPSOC NIPRNET website: http://gps.afspc.af.mil/gpsoc/

SIPRNET: gpsv3@afspc.schriever.af.smil.mil
NIPRNET: gps_support@schriever.af.mil

9. NORAD-NORTHCOM. NORAD-NORTHCOM spectrum office (JFMO NORTH) coordinates on all DOD requests sent from the Joint Staff. The JFMO NORTH Staff has the responsibility for coordinating within NORTHCOM and NORAD for situational awareness and scheduling conflicts to Operation Noble Eagle missions. All coordination with this office is executed by the Joint Staff.

SIPRNET: nc.sjs.omb@northcom.smil.mil
SIPRNET: nc.jfmonorth.omb@northcom.smil.mil

10. Joint Space Operations Center (JSpOC). The JSpOC located at Vandenberg AFB, CA, provides space situational awareness and command and control for delivering global and theater space effects. The JSpOC plays a role in tracking GPS frequency interference incidents.

Joint Space Operations Center
1521 Utah Street
Vandenberg AFB, CA 93437

Phone: (805) 605-3522 or 3514 (DSN 275)

SIPRNET website: http://jfccspace.afspc.af.smil.mil/

NIPRNET: JSpOCCombatOps@vandenberg.af.mil
SIPRNET: JSpOCCombatOps@afspc.af.smil.mil

SIPRNET DMS MSG ADD: JSPOC OPS(SC)
NIPRNET DMS MSG ADD: JSPOC OPS(UC)

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ENCLOSURE H

REFERENCES

a. CJCSI 3210.03 series, “Joint EW Policy”

b. DOD Instruction S-3100.15, 19 January 2001, “Space Control”

c. CJCSM 3212.02 series, “Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises”

d. US Department of Commerce, National Telecommunications and Information Administration; January 2008 Edition; “Manual of Regulations and Procedures for Federal Radio Frequency Management”

e. Communications Act of 1934

f. Federal Aviation Act of 1958

g. International Telecommunication Union Radio Regulations

h. National Environmental Policy Act of 1969

i. DODD 5200.1R, January 1997, “Information Security Program”, Certified current as of 24 November 2003

j. Global Positioning System (GPS) Security Classification Guide, 24 July 2006

k. Federal Aviation Administration Order JO 7610.4M, and Navy Range Regulation MSD 55-3

l. CJCSI 3213.01 series, “Joint Operations Security”

m. CJCSM 3320.02 series, “Joint Spectrum Interference Resolution (JSIR) Procedures”

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GLOSSARY

AAR – After Action Report

ADIZ – Air Defense Identification Zone

AF/A3 – Department of the Air Force Operations Directorate

AFC – Area Frequency Coordinator

AGL – above ground level

AMHS – Automated Message Handling System

AUTODIN – Automatic Digital Network

Canada - For purposes of this regulation, Canada includes the 10 Provinces; the Yukon; the Northwest and Nunavut; the Arctic Islands and surrounding waters; the area extending to the outer boundaries of the Atlantic and Pacific Canadian Air Defense Identification Zone (ADIZ); and the Northern Domestic Airspace; or a perimeter 200 nm seaward from the coastal provinces and territories, whichever is further out, except where this infringes on territorial limits of other nations or states.

CEASE BUZZER – Codeword to request a cessation of electronic attack or interference activity in a certain area. The FAA may also use the similar phrase STOP BUZZER that has the same meaning. The controlling agency that directed suspension of electronic attack or interference activity will authorize resumption of the activity at the earliest possible time.

DMS – Defense Message System

DOT – Department of Transportation

EA – electronic attack

EW – electronic warfare

FAA – Federal Aviation Administration

FCC – Federal Communications Commission

FACSFAC – Fleet Area Control and Surveillance Facility

GIANT-RPM- Global Positioning System Interference and Navigation Tool - Reliability Prediction Model

GPS – Global Positioning System

GPSOC – Global Positioning System Operations Center

Harmful Interference - Interference that endangers the functioning of a radio navigation service or other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radio communication service. (NTIA Manual of Regulations and Procedures for Federal RF Management.)

ICAO – International Civil Aviation Organization

IRAC – Interdepartment Radio Advisory Committee

ITU – International Telecommunication Union

JCS/J6 – Joint Chiefs of Staff/J6

JFCC SPACE – Joint Functional Component Command for Space

JNWC – Joint Navigation Warfare Center

JSC – Joint Spectrum Center

JSpOC – Joint Space Operations Center

MAJCOM – Major Command

MILDEP FMO – Military Department Frequency Management Office

MSL – mean sea level

NAVCEN – USCG Navigation Center, Alexandria VA

NAVWAR – Navigation Warfare

NIPRNET – Non-Secure Internet Protocol Router Network

NOCC – National Operations Control Center

NORAD – North American Aerospace Defense Command

NTIA – National Telecommunications and Information Administration

OPSEC – operations security. See reference l in Enclosure H for further details. A process of identifying critical information and, subsequently, analyzing friendly actions attendant to military operations and other activities to:

- Identify those actions that can be observed by adversary intelligence systems.
- Determine indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries.
- Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation.

QA – quality assurance

RF – radio frequency

SIPRNET – SECRET Internet Protocol Router Network

USCG – United States Coast Guard

USNORTHCOM – United States Northern Command

USSTRATCOM – United States Strategic Command

United States and Possessions (US&P) - Includes CONUS area, Alaskan area, Hawaiian area, Territory of Guam area, and Puerto Rican operating area as explained below.

- Alaska area. The landmass of Alaska, including the Aleutian Chain, plus the area extending to the outer boundaries of the Alaskan Coastal ADIZ.
- CONUS area. The 48 states and the District of Columbia, plus the area extending to the outer boundaries of the coastal ADIZ or a perimeter 200 nm seaward from the coastal states, whichever is further out, except where this infringes on territorial limits of other nations.
- Guam area. The area within a 200 nm radius of 13°33'54"N, 144°53'45"E (Andersen AFB, Guam).
- Hawaii area. The area within a 200 nm radius of the center of each island.

  Hawaii – 19°40'03"N, 155°30'14"W

  Kauai – 22°02'28"N, 159°29'03"W

  Maui – 20°42'59"N, 156°15'43"W

  Oahu – 21°27'34"N, 157°59'54"W
- Kwajalein Atoll area. The area within a 200 nm radius of 08°43'07"N, 167°43'52"E (Reagan Test Site (RTS)). Includes Wake Island, located 1,100 kilometers north of the Kwajalein Atoll, as a functional adjunct to the RTS, providing a launch site for intermediate range National Missile Defense and Theater Missile Defense target missiles. Program requirements, mission planning and implementation, and logistics support are coordinated through the RTS.
- Puerto Rican operating area. The area within a 200 nm radius of 18°15'N, 65°38'W (Atlantic Fleet Weapons Training Facility, Roosevelt Roads, Puerto Rico). For naval operations: Commander Naval Forces Caribbean Instruction 3430.1 applies for EA operations in the Caribbean.

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