

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

AIR FORCE INSTRUCTION 33-118

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Communications and Information

**RADIO FREQUENCY SPECTRUM
MANAGEMENT**

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This instruction implements Department of Defense (DoD) Directive 4650.1, *Management and Use of the Radio Frequency Spectrum*, June 24, 1987; Department of Commerce (DoC), National Telecommunications and Information Administration (NTIA) *Manual of Regulations and Procedures for Federal Radio Frequency Management* (NTIA Manual); Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems*; Air Force Manual (AFMAN) 33-120, *Radio Frequency (RF) Spectrum Management*; and the procedures established by the United States Military Communications-Electronics Board (USMCEB). It identifies responsibilities for Air Force management of the radio frequency (RF) spectrum and provides procedures for implementing its use.

Refer technical questions on the content of this instruction to the Air Force Frequency Management Agency (AFFMA/SCX), 4040 N. Fairfax Drive, Suite 204, Arlington VA 22203-1613. Refer recommended changes and conflicts between this and other publications on an AF Form 847, **Recommendation for Change of Publication**, through channels, to Headquarters Air Force Communications Agency (HQ AFCA/XPPD), 203 W. Losey Street., Room 1065, Scott AFB IL 62225-5224. See Attachment 1 for a listing of references, abbreviations, acronyms, and terms.

SUMMARY OF REVISIONS

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Section A—Managing the Radio Frequency Spectrum

1. Managing Frequencies. The International Telecommunications Union (ITU) radio regulations govern international management and use of the RF spectrum, including specific uses by individual countries.

2. Managing United States Frequencies. *The Communications Act of 1934* established separate control of federal and non-federal (civilian) use of the RF spectrum. Under this act, the only government agencies that assign and control the use of frequencies in the United States are:

2.1. The NTIA for all federal use.

2.2. The Federal Communications Commission (FCC) for all non-federal use.

3. Managing Federal Frequencies. The *NTIA Manual* governs all federal (including military) use of the RF spectrum within the United States and its Possessions (US&P).

4. Managing Department of Defense Frequencies. The Under Secretary of Defense (Acquisition)(USD[A]) sets policy for getting systems that use the RF spectrum and ensures compliance with RF spectrum support procedures. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C3I]) develops overall DoD policy for managing and using the RF spectrum. The primary DoD activities involved in frequency management (Figure 1) are:

4.1. USMCEB:

4.1.1. Develops joint policy.

4.1.2. Gives direction in military communications-electronics matters, including RF spectrum management.

4.2. Frequency Panel (FP). Makes frequency assignments for United States military operations in foreign countries and supports certain NTIA-approved joint operations in the US&P.

4.3. Joint Spectrum Center (JSC). Serves as the DoD focal point for electromagnetic compatibility (EMC) analysis matters in support of the unified commands and DoD agencies.

4.4. DoD Area Frequency Coordinator (AFC). Promotes frequency coordination within, and near, a selected geographical area of responsibility (AOR). Activities must coordinate military frequency use within a DoD AFC AOR with the DoD AFC before start of operations. AFMAN 33-120 provides DoD AFC addresses and phone numbers.

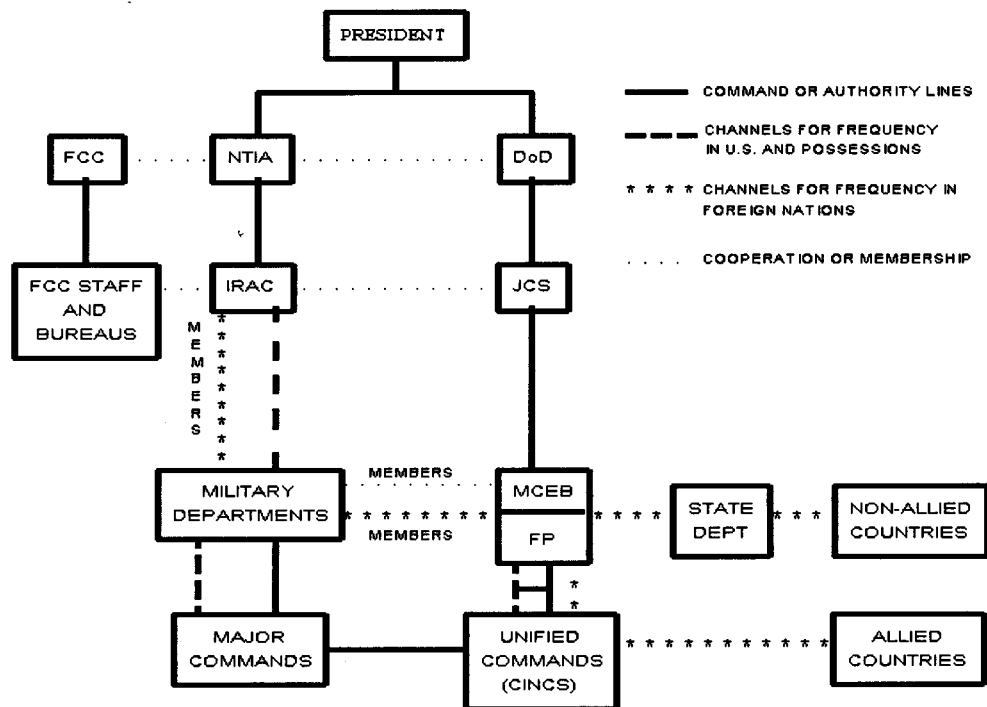
4.5. Defense Information Systems Agency. Maintains frequency records, analyzes frequency use, and requests frequency assignments for the Defense Communications System.

4.6. Headquarters United States Air Force, Director, Communications and Information (HQ USAF/SC). The Air Force senior officer responsible for RF spectrum management and who sets policy for managing RF spectrum use to support the Air Force mission.

4.6.1. The HQ USAF/SC exercises control over the frequency management process through HQ Air Force Communications Information Center (AFCIC), a DRU, and its FOA (HQ AFFMA).

4.7. AFFMA. Carries out Air Force policies and develops procedures to efficiently satisfy the RF spectrum needs of the Air Force mission.

Figure 1. DoD Frequency Management Channels.



Section B—Air Force Radio Frequency Spectrum Management

5. Managing Air Force Radio Frequency Spectrum. Commanders and organizations that use, plan to use, or plan to get equipment that uses the RF spectrum must:

- 5.1. Have a valid, correct frequency authorization (to include location, time, type of service, and operating parameters) before using equipment that intentionally radiates in the RF spectrum.
- 5.2. Have RF spectrum support assured before obligating funds to acquire, develop, modify, or install equipment that uses the RF spectrum.
- 5.3. Consider impact of RF emitters (intentional or unintentional) on other authorized uses of the RF spectrum, including passive receivers.
- 5.4. Request only the minimum number of frequencies necessary to complete the mission.
- 5.5. Meet authorized limitations and tolerances for using equipment that radiates RF energy.
- 5.6. Minimize the impact of equipment that radiates RF energy on other users of the RF spectrum.
- 5.7. Review frequency assignments, at least once every 5 years, for accuracy and validity.

6. Responsibilities:

6.1. Major Commands (MAJCOM):

- 6.1.1. Carry out Air Force policy, practices, and procedures for managing use of the RF spectrum.

- 6.1.2. Make sure the spectrum manager is an active member of the communications and information planning staff who will coordinate and obtain frequency assignments to support the MAJCOM war-time mission.
- 6.1.3. Make sure wartime and contingency spectrum management procedures are incorporated into the appropriate operation plan (OPLAN)/concept plan appendices.
- 6.1.4. Have valid, correct frequency assignments before letting activities use RF-radiating equipment.
- 6.1.5. Make efficient RF spectrum use an ongoing concern of the MAJCOM acquisition, logistics, intelligence, operations, and communications planning staffs.
- 6.1.6. Manage RF spectrum use in the concept, planning, deployment, operation, and evaluation phases of MAJCOM-supported exercises and operations.
- 6.1.7. Refrain from degrading friendly systems or operations during command, control, and communications countermeasures training activities.
- 6.1.8. Process and obtain frequency assignments for spectrum-dependent systems in support of operational requirements.
- 6.1.9. Get guidance on using the RF spectrum from the USMCEB, through AFFMA, early in the concept, exploration, demonstration, and validation phases of the acquisition process.
- 6.1.10. Get USMCEB guidance through AFFMA before assuming contractual obligations for the full-scale development, production, or procurement of these systems.
- 6.1.11. Follow the requirements of Office of Management and Budget (OMB) Circular A-11, *Preparation and Submission of Budget Estimates*, paragraph 12.4 (e): "Estimates for the development or procurement of major communications-electronics systems (including all systems employing space satellite techniques) will be submitted only after certification by the DoC NTIA, that the RF required for such systems is available."
- 6.1.12. Get host-nation coordination from the USMCEB, through AFFMA, before contracting for full-scale development, production, or procurement of systems for use in another nation.
- 6.1.13. Plan for present and future RF spectrum needs.
- 6.1.14. Consider RF spectrum EMC and interoperability aspects of new or modified equipment in its intended RF environment, including nondevelopmental items (NDI) purchased according to Office of the Deputy Under Secretary of Defense (Industrial Affairs & Installations) (ODUSD[IA&I]) Publication, *Buying NDI (Nondevelopmental Items)*.
- 6.1.15. Review all new or changed USMCEB J-12 working group (J/F-12) frequency allocations (see **Section C** for impact on RF spectrum use by the MAJCOM and provide comments to AFFMA when appropriate.
- 6.1.16. Review the MAJCOM and subordinate unit RF spectrum management programs and do staff assistance visits as required.

6.2. AFFMA:

- 6.2.1. Carries out Air Force RF spectrum management policy.
- 6.2.2. Evaluates Air Force plans for needed RF spectrum support.

6.2.3. Represents and defends Air Force RF spectrum technical interests in committees, groups, and organizations that address RF spectrum management matters.

6.2.4. Negotiates at the departmental, national, and international levels to get frequency allocations and assignments to satisfy Air Force and MAJCOM exercise, crisis, contingency, wartime, and day-to-day RF requirements for use of the RF spectrum.

6.2.5. Gives functional guidance to Air Force-sponsored DoD AFCs.

6.2.6. Resolves interference problems with Air Force-assigned frequencies.

6.2.7. Gives help to MAJCOMs in carrying out their RF spectrum management programs.

6.2.8. Gives guidance on using the RF spectrum to developers of Air Force communications and information (C-I); electronic warfare; intelligence; weapons; and air traffic control systems that rely on the RF spectrum.

6.2.9. Determines impact of development of non-Air Force RF spectrum-dependent systems on Air Force's current or planned operational use of the RF spectrum.

6.2.10. Provides assistance to Air Force activities requiring JSC services.

6.2.11. Helps Air Force activities get frequency engineering and high frequency propagation services.

6.2.12. Provides curriculum input and support to the Interservice Radio Frequency Management School under the Air Education and Training Command.

6.3. HQ AFCA. Confirms the frequency needs of the Global Command and Control System, the Military Affiliate Radio System, and other HQ AFCA-controlled systems (see Air Force Instruction [AFI] 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones, and the Military Affiliate Radio System*).

6.4. Installation Commander. Responsible for all electromagnetic radiation emanating from the installation and from those outlying activities hosted by the installation. The installation C-I systems officer appoints a primary and an alternate installation spectrum manager for the installation commander.

6.5. Installation Spectrum Manager:

6.5.1. Makes sure using activities understand the parameters of their assigned frequencies.

6.5.2. Keeps the current radio frequency authorization (RFA).

6.5.3. Sets up a frequency management education program.

6.5.4. Processes frequency action proposals and makes sure they are submitted through the appropriate command channels.

6.5.5. Gives frequency management help and guidance to host installation and tenant activities.

6.5.6. Reviews installation OPLANs and C-I requirements documents, and obtains frequency support through command channels.

6.5.7. Makes sure contractor activities using Air Force frequencies to support Air Force requirements follow Air Force policies for RF spectrum use.

6.6. Using Activity. Each organization that operates an Air Force transmitter or receiver will:

- 6.6.1. Get a frequency assignment before using devices that intentionally emit RF energy or require protection of receive-only frequencies from interference.
- 6.6.2. Coordinate frequency actions, in advance, with the installation spectrum manager.
- 6.6.3. Request the minimum number of frequencies necessary to accomplish the mission.
- 6.6.4. Request minimum transmitter power and antenna gain or height necessary to ensure adequate coverage.
- 6.6.5. Maintain a frequency authorization document for each frequency used.
- 6.6.6. Make sure electromagnetic radiating equipment operations comply with authorized parameters.
- 6.6.7. Make sure current Air Force RF spectrum management instructions are available and followed.
- 6.6.8. Act promptly to resolve and report incidents of interference in accordance with AFI 10-707, *Spectrum Interference Resolution Program*.
- 6.6.9. Use radiation-suppression devices (dummy loads) as much as possible when tuning, testing, or experimenting.
- 6.6.10. Make sure proper radio procedures are used when transmitting.
- 6.6.11. Make sure transmissions on all RF emitters are for official government business.
- 6.6.12. Provide, in writing to the installation spectrum manager, the name and phone number of a point of contact for frequency matters.
- 6.6.13. Advise the installation spectrum manager immediately when frequencies are no longer required.

7. Air Force-Sponsored Department of Defense Area Frequency Coordinator:

7.1. Command and control of range frequency resources are the range or area commander's responsibility. Air Force-sponsored DoD AFCs manage, coordinate, and schedule the use of frequencies for the range commanders according to Allied Communications Publication (ACP) 190, U.S. Supplement (USSUP) 1, *Guide to Frequency Planning*. They also:

- 7.1.1. Promote the DoD EMC program.
- 7.1.2. Make temporary frequency assignments supporting range operations within the scope of national regulations.
- 7.1.3. Review new or changed J/F-12 frequency allocations for impact on range RF spectrum use and provide comments to the AFFMA, when appropriate.
- 7.1.4. Advise the range or area commander, and all other participating organizations, of RF interference that may result from scheduled operations and tests, and recommend solutions. Commanders concerned will resolve conflicts.
- 7.1.5. Evaluate frequency requests on future operations for expected compatibility. Recommend parameters change to allow for the proposed operation.

7.1.6. Refer unresolved problems on RF spectrum management practices, technical comments, or recommended operating conditions through Air Force command channels to AFFMA for resolution.

7.2. The Air Force, through the responsible MAJCOMs, will provide DoD AFC services at the following locations:

7.2.1. Air Force Materiel Command (AFMC). DoD Gulf AFC, located at Eglin AFB FL, in the area bounded by 27 degrees North latitude, 33 degrees 30 minutes North latitude, 83 degrees West longitude, and 90 degrees West longitude.

7.2.2. Air Force Space Command. DoD Eastern AFC, located at Patrick AFB FL, in the area bounded by 24 degrees North latitude, 31 degrees 30 minutes North latitude, 77 degrees West longitude, and 83 degrees West longitude.

7.2.3. Air Combat Command. DoD Nellis AFC, located at Nellis AFB NV, for all of Nevada, all of Utah west of longitude 111 degrees West, and all of Idaho south of latitude 44 degrees North.

Section C—Radio Frequency Spectrum Support for Equipment

8. United States Military Communications-Electronics Board Frequency Guidance. USMCEB procedures ensure:

8.1. Radio frequencies are available to support radiating devices in their intended environment without causing harmful interference to existing frequency uses.

8.2. New, modified, or additional equipment meets applicable national and international frequency regulations.

9. Frequency Allocation:

9.1. International Frequency Allocation. The *ITU Allocation Table* gives ITU allocations for frequency bands on specific radio services (functions). In this table, the ITU divides the world into three geographic regions and lists frequency allocations by region for specific services. Types of services may remain the same in each region (such as certain broadcast bands) or they may vary between regions through international agreement.

9.2. United States National Frequency Allocation. Frequency bands selected for United States Government, civil, and shared use make up the *National Table of Frequency Allocations*. It is a planning guide, not an authority to operate on any frequency.

10. Electromagnetic Compatibility Standards and Frequency Criteria. Air Force agencies developing, procuring, or modifying equipment using the RF spectrum must meet applicable military, government, national, host-nation, and international EMC standards and frequency criteria as outlined below:

10.1. EMC Standards:

10.1.1. Define and control the parameters of emissions and set standards for receivers.

10.1.2. Enable planning for efficient use of the RF spectrum by identifying considerations such as power, bandwidth, types of modulation, types of emission, stability, and levels of spurious and harmonic emission.

10.1.3. Classify emissions according to the type of modulation of the main carrier, nature of signals modulating the main carrier, and type of information transmitted. (AFMAN 33-120 explains emission designators.)

10.1.4. Define allowable frequency stability, bandwidth, and levels of spurious emission depending on the type of service and the part of the spectrum used.

10.2. Frequency Criteria. Include channeling plans, maximum bandwidths, maximum power levels, maximum spacecraft power flux density levels, and tunability requirements.

10.3. Government and National EMC Standards and Frequency Criteria. The *NTIA Manual* lists the United States Government and national EMC standards and frequency criteria applicable to Government agencies, including DoD. Request waivers through Air Force RF spectrum management channels for submission to the NTIA.

10.4. Host-Nation EMC Standards and Frequency Criteria. Systems or equipment used overseas must meet applicable host-nation EMC standards and frequency criteria according to commander in chief (CINC) policies and agreements with the host nations.

10.5. International EMC Standards. International EMC standards are in the ITU radio regulations.

10.6. International Frequency Criteria. International frequency criteria are in international documents such as the ITU radio regulations, the *International Civil Aviation Organization (ICAO) Handbook*, and the *Allied Radio Frequency Agency (ARFA) Handbook*.

10.7. Military EMC Standards. Include military EMC standards in equipment design specifications according to Chapter 7 of DoD Manual (DoDM) 4120.3, *Defense Standardization Program (DSP) Policies and Procedures*, July 1993. Request waivers to EMC standards through program management channels according to DoD Directive (DoDD) 3222.3, *Department of Defense Electromagnetic Compatibility Program (EMCP)*, August 20, 1990.

10.7.1. USMCEB provides the policy for 25 kilohertz (kHz) channel spacing in the 225-400 megahertz (MHz) band. Details are in the Air Force implementation plan.

10.7.1.1. New equipment introduced into the DoD inventory, both from research and development and off-the-shelf sources, must tune in 25 kHz tunable increments with appropriate frequency stability and receiver selectivity.

10.7.1.2. Equipment under development or procured with a 25 kHz channeling capability may allow wider receiver bandwidth acceptance when needed by the operator.

10.7.1.3. The 25 kHz spacing policy applies only to single-channel radio sets operating in the 225-400 MHz band and does not include multichannel radio relay equipment.

10.7.1.4. Single-channel equipment with bandwidths wider than 25 kHz must tune in 25 kHz increments with the bandwidth centered on a 25 kHz channel.

Emissions must not extend outside the assigned emission bandwidth.

10.7.2. Spacecraft and balloon systems developed or operated by the Air Force must be capable of on and off control of emissions by telecommand.

10.7.3. Installation commanders set local coordination procedures for installation and tenant activities that develop, design, or use electronic fuses. The activities must:

10.7.3.1. Research, determine, and evaluate existing frequency assignments for compatibility with the intended electromagnetic environment.

10.7.3.2. Contact the applicable spectrum managers (MAJCOM or DoD AFC) to select fuse fre-

quencies.

10.7.3.3. Limit fuse-triggering transmitter emissions to the narrowest bandwidth possible.

10.7.3.4. Reduce the level of unnecessary emissions.

10.7.3.5. Use equipment tunable to more than one frequency.

10.7.3.6. Provide protection from accidental triggering by other RF emissions through coding, improving receiver selectivity, shielding components, or other techniques.

11. Getting Equipment Frequency Allocation Guidance (Approval). The supporting spectrum manager and AFFMA give USMCEB guidance on RF spectrum use (frequency allocation guidance) throughout the life cycle of the equipment, including upgrade and modification.

11.1. Allocation Stages:

11.1.1. Stage 1. Planning or Conceptual:

11.1.1.1. Advises on feasibility of getting spectrum support.

11.1.1.2. Recommends any modifications or changes in frequency bands needed to get spectrum support.

11.1.2. Stage 2. Experimental:

11.1.2.1. Gives guidance for assuring spectrum support in later stages, and is needed before getting frequency assignments for testing.

11.1.3. Stage 3. Developmental:

11.1.3.1. Gives guidelines for assuring operational spectrum support that is needed before getting frequency assignments for equipment testing.

11.1.4. Stage 4. Operational:

11.1.4.1. Certifies availability of spectrum support needed before making operational frequency assignments.

11.2. Get allocation guidance before obligating Air Force funds to design, develop, test, modify, or procure equipment that uses the RF spectrum.

11.3. Use DD Form 1494, **Application for Equipment Frequency Allocation**, for all equipment that uses the RF spectrum.

11.3.1. Complete DD Form 1494 according to the instructions on the back of the form and in AFMAN 33-120. MAJCOMs assign command application numbers to each application for control purposes using an organizational abbreviation, a sequence number, and the last two digits of the calendar year (for example, "AFMC 5-93").

11.3.2. The spectrum management office of the requiring activity sends the DD Form 1494 through command channels to AFFMA to get initial frequency allocation guidance or to change equipment status.

11.4. Foreign Disclosure. You need approval to release technical information (DD Form 1494) to foreign governments to coordinate host-nation frequency support for Air Force systems designed or planned to operate outside the US&P. Get this approval from the field-level foreign disclosure office

(FDO), the MAJCOM FDO, or Secretary of the Air Force (International Affairs)(SAF/IA) disclosure office, according to AFPD 16-2, *Disclosure of Military Information to Foreign Governments and International Organizations*, before releasing technical information to host nations. In addition, confirm all applicable scientific and technical information (STINFO) and industrial security requirements have been met according to AFPD 61-2, *Management of Scientific and Technical Information*, and AFPD 31-6, *Industrial Security*.

11.4.1. The program manager makes sure the developing or acquiring MAJCOM gets the foreign disclosure authority, including the field-level FDO case number, and provides it with the DD Form 1494. If field-level disclosure authority is not received due to lack of delegated disclosure authority at the field level, notify the MAJCOM spectrum management office in order that the MAJCOM FDO can become involved. Specific situations:

11.4.1.1. For equipment planned for test or operation in the 225-400 MHz band or operation in North Atlantic Treaty Organization nations, the MAJCOM requests SAF approval for foreign disclosure to the ARFA and relevant ARFA member nations. These include the United States, Belgium, France, the Netherlands, Luxembourg, United Kingdom, Italy, Greece, Turkey, Canada, Denmark, Germany, Norway, Spain, and Portugal.

11.4.1.2. For equipment planned for test or operation in multiple nations of the Combined Communications-Electronics Board (CCEB) (United States, United Kingdom, Canada, New Zealand, Australia), the MAJCOM requests SAF approval for foreign disclosure to the CCEB and appropriate member nations.

11.4.1.3. For equipment planned for test or operation in one or more nations other than those specified, the MAJCOM requests SAF approval for foreign disclosure for the nations affected.

11.4.1.4. The using MAJCOM requests SAF approval for foreign disclosure for each country in which equipment must operate but not included in the original program and authorization.

11.4.2. To ensure timely program implementation and support, request early for foreign disclosure authority.

11.4.3. Give one of the following to AFFMA before, or concurrently with, all Stage 3 and Stage 4 DD Form 1494 submissions for equipment planned for use outside the US&P:

11.4.3.1. Releasable DD Form 1494 (J/F-12) data with a field-level FDO number, MAJCOM FDO, or SAF/IA case number along with confirmation that STINFO and industrial security directives have been complied with.

11.4.3.2. Date when foreign disclosure action began, status, and expected completion date.

11.4.3.3. Justification for not providing releasable J/F-12 data.

11.5. Processing Applications:

11.5.1. AFFMA:

11.5.1.1. Reviews DD Form 1494 for completeness, accuracy, and availability of spectrum support.

11.5.1.2. Assigns unique USMCEB J-12 working group (J/F-12) numbers and sends them to the USMCEB Secretariat for distribution to all J/F-12 holders.

11.5.1.3. Asks interested HQ USAF directorates and other designated activities to coordinate on

applications as appropriate.

11.5.1.4. Coordinates any response received on the memorandum with the appropriate HQ USAF office.

11.5.1.5. Drafts the memorandum to the J-12 working group, combining appropriate comments from J/F-12 holders, CINCs, host nations, JSC, NTIA, and the Interdepartment Radio Advisory Committee (IRAC) Spectrum Planning Subcommittee (SPS).

11.5.2. The J-12 Working Group:

11.5.2.1. Reviews the application to decide if the equipment or system can receive needed frequency support in the geographical area as outlined.

11.5.2.2. Reviews the memorandum prepared by AFFMA to make sure it gives appropriate guidance.

11.5.3. The USMCEB:

11.5.3.1. Coordinates the allocation applications with the United Kingdom, Australia, New Zealand, and Canada, when appropriate. In these cases, the J/F-12-series papers also become CCEB C/F-299-series papers.

11.5.3.2. Issues a memorandum with an adjusted J/F-12 number, updated DD Form 1494, and JSC EMC comments to all holders of J/F-12-series papers.

11.5.4. MAJCOMs:

11.5.4.1. Ensure adherence to the guidance, provisions, and restrictions in the J/F-12 memoranda.

11.5.4.2. Explain problems to AFFMA within 60 days of receiving the memoranda.

11.5.5. Field Organizations. Direct inquiries about J/F-12-series memoranda to AFFMA through command channels.

11.6. The J/F-12 Approval Process. Normally takes 4-8 months, depending on equipment affected and its operational environment. It may take one year or more to coordinate with other nations for spectrum support. Do not process frequency assignments without appropriate Air Force or USMCEB frequency guidance. Therefore, submit a DD Form 1494 on each stage of development with the following lead times:

11.6.1. Stage 1. Planning or Conceptual:

11.6.1.1. Space Systems. Not less than two years before satellite launch.

11.6.1.2. All Other Systems. Not less than one year before the planned date of initial operation.

11.6.2. Stage 2. Experimental:

11.6.2.1. Not less than one year before procuring equipment.

11.6.3. Stage 3. Developmental:

11.6.3.1. Space Systems. Not less than one year before award of a development contract.

11.6.3.2. All Other Systems. Not less than one year before award of a development contract.

11.6.4. Stage 4. Operational:

11.6.4.1. At least one year before acquisition actions for equipment using satellites or spacecraft, or having significant impact on the electromagnetic spectrum.

11.6.4.2. At least six months for all other equipment.

11.7. Note-to-Holders. Send a request for a Note-to-Holder through normal frequency management channels to change existing approved J/F-12 papers. Changes to use or location may require a new DD Form 1494 or additional coordination. Allowable changes include:

11.7.1. Adding equipment that has essentially the same technical and operating characteristics as those of previously approved equipment by the USMCEB.

11.7.2. Cancellations and reinstatements.

11.7.3. Host nation and NTIA comments.

11.7.4. Minor changes to spectrum impact.

11.7.5. Nomenclature changes.

11.7.6. Technical parameters.

11.7.7. Security classification.

11.7.8. Operational parameters.

12. Guidance on Specific Categories of Equipment. Some equipment listed may not need USMCEB allocation approval. However, the equipment must be compatible with the intended operational RF environment. Users submit a DD Form 1494 to update the spectrum data base and to determine possible interference to and from the equipment, unless otherwise exempted.

12.1. Federal and FCC Nonlicensed Devices. Air Force-owned, purchased, leased, designed, or operated equipment that meets the requirements of Sections 7.8 and 7.9 of the *NTIA Manual* (or Title 47 of the Code of Federal Regulations, Part 15) does not need USMCEB allocation coordination if the device will not be used outside the US&P. A frequency assignment is still required. These devices include:

12.1.1. Wireless local area network.

12.1.2. Wireless headsets and microphones.

12.1.3. Radio-controlled devices.

12.2. Submit a DD Form 1494 through the supporting spectrum manager for equipment that intentionally radiates and that will be deployed outside the US&P.

12.2.1. Theater commanders and host nations decide if frequency support is available and the requirements for frequency assignments.

12.3. Air Force activities have no vested right to continue use of nonlicensed equipment in any part of the radio spectrum.

12.3.1. This equipment must accept interference from any federal, non-federal, or civilian electronic system; nonlicensed device; or industrial, scientific, and medical (ISM) application.

12.3.2. Air Force activities operating nonlicensed equipment in the US&P that causes interference must take steps to eliminate the interference.

12.3.2.1. The operator stops all radiation of the equipment, when told by cognizant authority that

the equipment is causing interference, until elimination of the interference.

12.4. Air Force activities will not use nonlicensed equipment for critical tactical or strategic command and control applications essential for mission success, protection of human life, or protection of high-value assets.

12.5. Electronic fuses that activate detonation devices do not require a DD Form 1494 (see paragraph 10.7.3 for EMC considerations).

12.6. Bench-test or antenna-testing equipment does not require a DD Form 1494; however, get a frequency assignment before operating such equipment.

12.7. Laser equipment does not require a DD Form 1494.

12.8. All nontactical radios and land mobile radios (LMR) require a DD Form 1494.

12.8.1. Using activities must make sure frequency assignments are available before making contract commitments.

12.8.2. Trunking systems also need USMCEB frequency allocation approval.

12.9. Requiring activities must submit a DD Form 1494 for all receive-only systems before MAJCOM procurement or development. Although USMCEB allocation is not normally required for these systems, the information is used to:

12.9.1. Provide interference protection, update the spectrum use data base, and conduct EMC studies.

12.9.2. Process coordination contours for the *NTIA Manual* for operational (Stage 4) receive-only satellite communications terminals.

12.10. Requiring activities must submit a DD Form 1494 for electronic countermeasures (ECM) radiating or receiving equipment operated within the US&P.

12.10.1. The DD Form 1494 updates EMC data bases used for frequency assignment and deconfliction.

12.10.2. ECM equipment must use the minimum power and emission bandwidth needed to finish the mission. Requiring activities will:

12.10.2.1. List all emissions outside the -60 decibel emission bandwidth on the DD Form 1494.

12.10.2.2. Reduce emissions outside the needed emission bandwidth to the lowest possible levels.

12.10.2.3. Get frequency assignments or ECM clearances for any emissions outside the needed emission bandwidth that cannot be reduced, either for budgetary or engineering reasons, to acceptable levels.

12.11. Submit a DD Form 1494 for ECM equipment operated outside the US&P.

12.11.1. Coordinate DD Form 1494 information through the appropriate theater commander and host nations.

12.12. Submit a DD Form 1494 for all threat simulators before procurement or development, regardless of where used.

12.13. Do not use DD Form 1494 for radiating built-in test equipment operated in the US&P if radiation does not exceed the limits for low-power devices specified in Section 7.9 of the *NTIA Manual*.

12.13.1. Submit a DD Form 1494 for radiating built-in test equipment that exceeds the limits or will operate outside the US&P.

13. Special Electromagnetic Compatibility and Frequency Availability Review.

13.1. The IRAC SPS reviews certain new government telecommunications systems before contractual obligation and frequency assignment. They are in addition to normal USMCEB J/F-12 procedures and apply to:

13.1.1. New systems or subsystems and major modifications to existing systems involving use of satellites or spacecraft.

13.1.2. All new systems or subsystems and major modifications to existing systems if there is a significant impact on the RF spectrum when considering geographical location and frequency availability.

13.1.3. New major digitized voice systems, including modifications to existing systems or subsystems, involving the 30-50, 162-174, or 406-420 MHz bands.

13.1.4. Systems in the 14.3-15.35 gigahertz (GHz) band.

13.1.5. LMR trunked systems.

13.1.6. Systems or facilities that the NTIA, IRAC, or other government agencies refer to the SPS. Such referral may result from system cost or importance, or from estimates of unusual potential impact on other spectrum uses.

13.2. AFFMA will:

13.2.1. Determine which new systems need special SPS review and coordinate with the Air Staff office of primary responsibility and program element monitor on such systems.

13.2.2. Provide information needed for the SPS system review from allocation applications (DD Form 1494).

13.2.3. Consider SPS review recommendations in the submission and modification of system proposals to improve EMC characteristics and allow frequency support of the system.

13.3. The IRAC SPS will:

13.3.1. Consider system compliance with current policies, allocations, regulations, and technical standards (government, national, and international), and the predicted EMC of the proposed system in the electromagnetic environment.

13.3.2. Use existing EMC analysis capabilities of the NTIA, DoD, National Aeronautics and Space Administration, and other government agencies, if needed.

13.3.3. Promote the cooperative exchange of views and information among agencies providing EMC analysis support to IRAC subcommittees, arranging such support through the NTIA.

13.3.4. Make recommendations, with supporting documentation, to the NTIA on spectrum supportability of proposed systems.

13.4. The space systems group of the SPS will:

13.4.1. Assist in the international coordination and notification of United States Government space systems under the provisions of the ITU radio regulations.

13.4.2. Review proposed space telecommunications systems of other countries and estimate the impact of these systems on existing and planned United States Government space and terrestrial radio communications.

13.4.3. Respond to the data furnished by other administrations and the International Frequency Registration Board (IFRB).

Section D—Frequency Actions

14. General. Only equipment with an approved, accurate J/F-12 allocation paper, or an exemption to it (see Section C), may receive frequency assignments. Required operating parameters of frequency assignments must match the technical characteristics of the equipment in the approved J/F-12 allocation paper.

15. Frequency Assignment Actions. Requiring activities send frequency assignment actions through command channels according to paragraph 18 in standard frequency action format (SFAF). You must use this DoD standard format for all DoD frequency actions and records. Send an information copy to any agency that coordinated according to paragraph 19. AFMAN 33-120 shows how to complete the SFAF. Types of frequency assignment actions are:

15.1. New. Proposal must contain enough information to provide a clear and accurate description of the operational need for the frequency.

15.2. Deletion:

15.2.1. When a frequency is no longer needed, send a frequency deletion at that time.

15.2.2. Do not send deletions if the need for the frequency ends within 120 days of the assignment expiration date.

15.3. Modification:

15.3.1. Send a frequency modification when you add, change, or delete (except serial number, frequency, and state) an item in an existing assignment. Review and modify all SFAF items as needed.

15.3.2. Use a modification when updating an existing assignment as part of the 5-year review.

15.3.3. Send a new frequency proposal and delete the existing assignment when changing the serial number, frequency, or state.

15.4. Administrative Modification. Send an administrative modification to correct typographical errors and make changes to SFAF 200-series items or to Item 502.

15.5. Renewal:

15.5.1. Send a frequency renewal to continue an assignment that contains an expiration date.

15.5.2. Send a new frequency proposal, if you cannot meet the lead-time in paragraph 16.

15.6. Temporary. Send a frequency proposal for temporary needs (90 days or less) in abbreviated SFAF.

15.7. Notification. AFFMA sends a frequency action to notify the IRAC frequency assignment subcommittee on activation of a frequency for stations under the authority of a group assignment (US&P only).

16. Lead Times. If frequency actions do not have the lead-times shown, state the mission impact if the action is not satisfied by the date requested.

16.1. In the US&P:

16.1.1. Requesters must give AFFMA at least 45-calendar days lead-time to process frequency proposals, modifications, and renewals through the NTIA.

16.1.1.1. Additional lead-time is required for actions coordinated with a theater commander, the FCC, or the Federal Aviation Administration.

16.1.2. Requesters must give AFFMA at least 60 calendar-days lead-time for temporary frequency proposals.

16.1.2.1. Allow additional lead-time for temporary frequency proposals supporting large-scale exercises or other major requirements.

16.2. Outside the US&P. Unified commands set lead-times for frequency actions based on agreements with host governments (refer to theater policy and procedures for specific lead-times).

17. Frequencies Not Requiring Specific Assignment. International distress and emergency frequencies do not need specific assignments for use. AFMAN 33-120 lists these and other frequencies not needing assignment for use in the US&P. Outside the US&P, theater commanders and host nations determine frequencies that do not need specific assignment.

18. Frequency Request and Approval Channels:

18.1. US&P MAJCOMs. Follow the procedures in AFMAN 33-120.

18.2. Overseas MAJCOMs:

18.2.1. Act on frequency actions according to policy set by the CINC of each unified command. Additionally:

18.2.1.1. Host nations approve requests to use frequencies within their respective country.

18.2.2. Get host government approval according to established USMCEB or unified command procedures, by Status of Forces Agreement, or through the United States embassy.

18.2.2.1. Requests for operating rights should explain the need to operate the equipment and the requirement for frequency support.

18.2.2.2. Convert frequency actions in SFAF to any unique format needed to process the actions with host nations.

18.2.3. Either the United States or the host government may register frequencies used by United States military services on foreign soil with the IFRB, according to ACP 190 USSUP2.

18.2.3.1. If the host government chooses to register frequencies used by United States military forces in its territory, the agreement will provide, as a minimum, that:

18.2.3.1.1. The registration will not affect existing United States registrations.

18.2.3.1.2. The host government will cancel any registrations made to cover United States operations on request by United States authorities.

18.2.3.2. Send Air Force frequency assignment registrations in foreign countries through RF

spectrum management channels to the FP. AFFMA does the necessary coordination and registration actions for the FP.

18.2.3.3. Arrangements made with foreign countries for international registration of frequencies are of joint interest to the military services. (Each service coordinates with the joint FP before ending any arrangements.)

18.3. Air Force Contracts. The Air Force contract representative requests frequency actions in direct support of Air Force contracts through the MAJCOM that administers the contract.

18.3.1. The executive service for a multiservice contract requests frequencies to support that contract.

18.3.2. Contractors must get other frequencies from the FCC.

18.4. Joint-Use Facilities. Send frequency actions for joint-use facilities through the RF spectrum management channels of the agency that maintains the equipment.

19. Frequency Coordination. Coordinate frequency actions as outlined below. Include a statement of completed coordination and comments with the frequency action.

19.1. Installation. Coordinate frequency actions with the installation spectrum manager where the frequency will be used.

19.2. US&P. Coordinate frequency actions according to AFMAN 33-120.

19.3. Outside US&P. Coordinate frequency actions according to theater policies and procedures.

20. Security Classification. Classify frequency actions and the information in them according to DoDR 5200.1, *Information Security Program Regulation*, June 1986, with Changes 1 and 2; AFI 31-401, *Managing the Information Security Program*; and Attachment 2. Mark individual data items for the SFAF according to the instructions in AFMAN 33-120. The original classification authority, or higher authority, resolves challenges to the classification of the frequency action or of individual data items according to DoDR 5200.1 and AFI 31-401.

21. Major Command Processing of Frequency Actions. MAJCOMs will:

21.1. Make every effort to satisfy short-term (less than 90 days) frequency requirements using MAJCOM frequency assets.

21.2. Give a command application number for each frequency action.

21.3. Assign an Air Force serial number for permanent assignment actions.

21.4. Nominate frequencies to satisfy MAJCOM frequency actions when possible.

22. Frequency Assignment Notification. This notification is authority to operate on the assigned frequency until the assignment is published in the Air Force RFA list or it appears in the Frequency Resource Records System (FRRS) data base. This notification is the only authority for a temporary assignment. An assignment notification is valid for only one year. The requesting MAJCOM, installation, and using activity spectrum managers receive a frequency assignment notification when a frequency action is completed (except deletions).

Specific types of notification are:

22.1. US&P:

22.1.1. AFFMA notifies the continental United States MAJCOMs of completed frequency assignment actions and, if applicable, sends a copy to the DoD AFC for the geographical area in which the frequency will be used. Notification is by:

22.1.1.1. A FRRS message.

22.1.1.2. An AFFMA temporary frequency assignment message or memorandum.

22.2. Outside US&P. Determined by theater policies and procedures.

22.3. FP:

22.3.1. The FP tells the CINC of the unified or specified command of completed FP frequency assignment actions.

22.3.2. These actions are subject to approval by the CINC of the unified or specified command before entry into the FRRS.

22.4. MAJCOM:

22.4.1. Use an Automatic Digital Network or e-mail message or memorandum to notify requesters of assignments made under their own assignment authority.

22.4.2. Send a copy to the using activity, the host MAJCOM (if appropriate), the installation spectrum manager, and to the applicable DoD AFC.

23. Five-Year Review and Renewal of Frequency Assignments. Review Air Force frequency assignments at least once every five years to make sure the need for the frequency and all supporting data is accurate. This process does not relieve the using activity from updating its frequency assignments when making changes to its use or operating parameters.

23.1. US&P and FP Assignments. According to IRAC policy, using activities must review each assignment at least one month before the fifth anniversary of the original assignment date or the date of the latest modification, whichever is later.

23.2. Assignments Outside the US&P. Follow theater policy, however, review Air Force assignments at least once every 5 years, regardless of the assignment authority.

23.3. Air Force 5-Year Review Program:

23.3.1. The review notice is sent to the MAJCOM, installation spectrum manager, and using activity (as applicable). It contains all SFAF items, results of computer checks of data items, any other problems, and brief instructions on how to review the assignment.

23.3.2. The installation spectrum manager, together with the using activity, reviews the records; verifies and updates the need for the assignment and all SFAF items, including those identified by the computer checks; and sends an assignment renewal, deletion, or modification.

24. Major Command Processing of Electronic Countermeasures Training Frequency Clearance Requests.

24.1. In the US&P and Canada, process ECM training frequency clearance requests according to AFMAN 33-120 and this AFI.

24.2. Refer to theater policies and procedures for ECM training frequency clearances outside the US&P and Canada.

24.3. MAJCOMs make sure the requested ECM is compatible with the existing RF environment and will not cause harmful interference to authorized frequency users not participating in the ECM training.

25. Air Force Radio Frequency Authorization List. The RFA list is part of the DoD FRRS and contains all assigned Air Force frequencies. It provides the authority for Air Force units to use frequencies within the US&P. Theater directives rule frequency assignment authority outside the US&P; the RFA is for reference only. Each issue of the RFA list or extract of the FRRS data base supersedes the previous one.

25.1. RFA Data. The RFA lists in SFAF all data pertinent to each frequency assignment.

25.2. RFA Products. AFFMA distributes the following RFA products to Air Force users as needed. (Request other RFA products or special prints through command channels.)

25.2.1. The Air Force operating frequency list contains a list of all frequencies assigned to all Air Force agencies.

25.2.2. The MAJCOM operating frequency list contains a list of frequencies assigned to a specific MAJCOM.

25.2.3. The subcommand operating frequency list contains a list of frequencies assigned to a specific subcommand.

25.2.4. The base operating frequency list contains a list of frequencies assigned to a specific installation.

25.2.5. The operating unit frequency list contains a list of frequencies assigned to a specific operating agency.

25.2.6. The temporary file listing contains the status of permanent frequency actions pending at JSC.

25.3. RFA security classification guidance is in Attachment 2.

26. Form Prescribed. This instruction prescribes DD Form 1494, **Application for Equipment Frequency Allocation** (see AFMAN 33-120).

WILLIAM J. DONAHUE, Lt General, USAF
DCS/Communications and Information

Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

References

DoC NTIA, *Manual of Regulations and Procedures for Federal Radio Frequency Management ("NTIA Manual")*

DoDD 3222.3, *Department of Defense Electromagnetic Compatibility Program (EMCP)*, August 20, 1990

DoDM 4120.3, *Defense Standardization Program (DSP) Policies and Procedures*, July 1993

DoDD 4650.1, *Management and Use of the Radio Frequency Spectrum*, June 24, 1987

DoDR 5200.1, *Information Security Program Regulation*, June 1986, with Changes 1 and 2

AFPD 16-2, *Disclosure of Military Information to Foreign Governments and International Organizations*

AFPD 31-6, *Industrial Security*

AFPD 33-1, *Command, Control, Communications, and Computer (C4) Systems*

AFPD 61-2, *Management of Scientific and Technical Information*

AFI 10-707, *Spectrum Interference Resolution Program*

AFI 31-401, *Managing the Information Security Program*

AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones, and the Military Affiliate Radio System*

AFMAN 33-120, *Radio Frequency (RF) Spectrum Management*

ACP 190, *Guide to Frequency Planning*

ACP 190USSUP1, *Guide to Frequency Planning*

ACP 190USSUP2, (C) *Coordination and Registration of frequencies Used by Military Forces on Foreign Soil (U)*

Allied Radio Frequency Agency (ARFA) Handbook

The Communications Act of 1934

International Civil Aviation Organization (ICAO) Handbook

ODUSD (IA&I) Publication, *Buying NDI (Nondevelopmental Items)*

OMB Circular A-11, *Preparation and Submission of Budget Estimates*

Abbreviations and Acronyms

ACP—Allied Communications Publication

AFC—Area Frequency Coordinator

AFCA—Air Force Communications Agency

AFCIC—Air Force Communications and Information Center
AFFMA—Air Force Frequency Management Agency
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFMC—Air Force Materiel Command
AFPD—Air Force Policy Directive
AOR—Area of Responsibility
ARFA—Allied Radio Frequency Agency
C4—Command, Control, Communications, and Computers
CCEB—Combined Communications-Electronics Board
C-I—Communications-Information
CINC—Commander in Chief
CSO—Communications-Information Systems Officer
DoC—Department of Commerce
DoD—Department of Defense
DoDD—Department of Defense Directive
DODM—Department of Defense Manual
ECM—Electronic Countermeasures
EMC—Electromagnetic Compatibility
EMI—Electromagnetic Interference
E3—Electromagnetic Environmental Effects
FCC—Federal Communications Commission
FDO—Field Disclosure Office
FP—Frequency Panel
FRRS—Frequency Resource Records System
GHz—Gigahertz
HQ USAF—Headquarters United States Air Force
IFRB—International Frequency Registration Board
IRAC—Interdepartment Radio Advisory Committee
ISM—Industrial, Scientific, and Medical
ITU—International Telecommunications Union
J/F-12—USMCEB J-12 Working Group

JSC—Joint Spectrum Center
kHz—Kilohertz
LMR—Land Mobile Radio
MAJCOM—Major Command
MHz—Megahertz
NDI—Nondevelopmental Item
NTIA—National Telecommunications and Information Administration
OMB—Office of Management and Budget
OPLAN—Operation Plan
RF—Radio Frequency
RFA—Radio Frequency Authorization
RR—ITU Radio Regulations
SAF—Secretary of the Air Force
SFAF—Standard Frequency Action Format
SPS—Spectrum Planning Subcommittee
STINFO—Scientific and Technical Information
USD(A)—Under Secretary of Defense (Acquisition)
US&P—United States and its Possessions
USMCEB—United States Military Communications-Electronics Board

Terms

NOTE:

The following definitions of frequency management terms were extracted from international, national, and DoD regulations and directives. Where appropriate, the source is given in parentheses following each definition: **(RR)**--*International Telecommunications Union Radio Regulations*, **(NTIA)**--*National Telecommunications and Information Administration Manual of Regulations and Procedures for Federal Radio Frequency Management*.

Allocation— (of a frequency band) Entry in the *Table of Frequency Allocations* of a given frequency band for its use by one or more (terrestrial or space) radio communication services or the radio astronomy service under specified conditions. This term also applies to the frequency band concerned. **(RR)**

Assignment— (of a radio frequency or radio frequency channel) Authorization given by an administration for a radio station to use a RF or RF channel under specified conditions. **(RR)**

Channeling Plan— The plan by which the frequencies within a frequency band are to be assigned.

Electromagnetic Compatibility (EMC)— The condition that prevails when telecommunications equipment is performing its individually designed function in a common electromagnetic environment

without causing or suffering unacceptable degradation due to unintentional electromagnetic interference (EMI) to or from other equipment in the same environment. (NTIA)

Electromagnetic Interference (EMI)— 1. DoD: The ability of systems, equipment, and devices that utilize the electromagnetic spectrum to operate in their intended operational environments without suffering unacceptable degradation or causing unintentional degradation because of electromagnetic radiation or response. It involves the application of sound electromagnetic spectrum management; system, equipment, and device design configuration that ensures interference-free operation; and clear concepts and doctrines that maximize operational effectiveness. Also called "**Electromagnetic Compatibility**". See also electromagnetic spectrum,; electronic warfare; spectrum management. (JP 1-02) 2. Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics or electrical equipment. It can be induced intentionally, as in some forms of electronic warfare, or unintentionally, as a result of spurious emissions and responses, intermodulation products, and the like.

Frequency Assignment —See **Assignment** (of a radio frequency or radio frequency channel).

Frequency Assignment, Group —Frequencies assigned to a MAJCOM to satisfy short-term requirements throughout the US&P. Group assignments are not assigned exclusively to a single MAJCOM.

Frequency Assignment, Temporary— An assignment effective for 90 days or less.

Harmful Interference —Interference that endangers the functioning of a radio navigation service or other safety services, or that seriously degrades, obstructs, or repeatedly interrupts a radio communication service operating in accordance with the radio regulations. (RR)

Industrial, Scientific, and Medical (ISM) Applications— (of radio frequency energy) Operation of equipment or appliances designed to generate and use local radio-frequency energy for industrial, scientific, medical, domestic, or similar purposes, excluding applications in the field of telecommunications. (RR)

Interference— The effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception in a radio communication system, manifested by any performance degradation, misinterpretation, or loss of information that could be extracted in the absence of such unwanted energy. (RR)

Low-Power Communication Device— A restricted radiation device, exclusive of those employing conducted or guided RF techniques, used for the transmission of signs, signals (including control signals), writing, images and sounds or intelligence of any nature by radiation of electromagnetic energy. Examples: Wireless microphone, phonograph oscillator, radio-controlled garage door opener, and radio-controlled models. (NTIA)

NTIA Manual— DoC NTIA manual of regulations and procedures for federal RF management.

Radio Frequency Spectrum— The RF spectrum includes the frequencies from 3.0 kHz to 400 GHz. The presently allocated spectrum is from 9 kHz to 381 GHz.

Radio Location— Radio determination used for purposes other than those of radio navigation. (RR)

Range Commander— In this publication, the commander of an Air Force test or tactical range.

Restricted Radiation Device— A device in which the generation of RF energy is intentionally

incorporated into the design, and in which the RF energy is conducted along wires or is radiated, exclusive of transmitters for which provisions are made under those parts of Chapter 7 of the *NTIA Manual* other than Part 7.9, and exclusive of ISM equipment. **(NTIA)**

Spurious Emission— Emission on a frequency or frequencies that are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions. **(RR)**

Telecommunication— Any transmission, emission, or reception of signs, signals, writings, images, and sounds or information of any nature by wire, radio, visual or other electromagnetic systems. **(RR)**

Attachment 2

FREQUENCY ASSIGNMENT CLASSIFICATION GUIDE

A2.1. Security Classification. Determine security classification of DoD and Federal Government frequency assignments and the information in them primarily by the association with the function they support. Mark classification of individual data items according to DoDR 5200.1 and AFI 31-401.

A2.2. Individual Air Force Frequency Assignments.

A2.2.1. The following frequency assignment information, standing alone or in combination with other assignment information, is unclassified:

A2.2.1.1. Overall classification of the frequency assignment (SFAF Item 005).

A2.2.1.2. Security classification modification (SFAF Item 006).

A2.2.1.3. Type of action (SFAF Item 010).

A2.2.1.4. Agency serial number (SFAF Item 102).

A2.2.1.5. IRAC docket number (SFAF Item 103).

A2.2.1.6. Assignment authority (SFAF Item 104).

A2.2.1.7. List serial number (SFAF Item 105).

A2.2.1.8. Serial replaced, delete date (SFAF Item 106).

A2.2.1.9. Docket numbers of older authorizations (SFAF Item 108).

A2.2.1.10. Operating frequency or frequency band and excluded frequency or frequency band (SFAF Items 110 and 111).

A2.2.1.11. Agency (SFAF Item 200).

A2.2.1.12. Command (SFAF Item 204).

A2.2.1.13. IRAC notes (SFAF Item 500).

A2.2.1.14. Frequency action officer (SFAF Item 701).

A2.2.1.15. Control/request number (SFAF Item 702).

A2.2.2. Other assignment information, standing alone or in combination with other information (including that in A2.2.1), is classified according to DoDR 5200.1 and AFI 31-401 by the appropriate classification authority. Include the appropriate classification marking with the corresponding SFAF item.

A2.3. Lists of Air Force Frequency Assignments.

A2.3.1. Although most individual frequency assignment records in the Air Force RFA list are individually unclassified, the entire RFA list is classified according to the highest level of classification of the assignments it contains. Lists (two or more frequencies) of unclassified frequency assignment records in a given range of frequencies, or in a given geographic area, may need to be classified, because they may provide information leading to the disclosure of military- or national security-related operations, and scientific and technological matters relating to national security. These lists can indicate the overall strategic telecommunications capabilities of the United States, and their disclosure could cause dam-

age to national security. The continued protection of this information is essential to national security because it pertains to communications security and reveals vulnerabilities and capabilities. Unauthorized disclosure can result in nullifying the effectiveness of telecommunications networks and capability of the United States.

A2.3.2. The *USMCEB Security Classification Guide for Frequency Assignment Records* gives guidance on classifying compilations of frequency assignment records. Based on this guidance:

A2.3.2.1. Classify a RFA list at the highest level of frequency assignment it contains.

A2.3.2.2. When a RFA list contains only unclassified DoD frequency assignments, it is unclassified. This type of listing contains only assignments of one agency (DoD) and was requested by DoD, meeting the criteria of both paragraphs 4.2 and 7.1.2 of the USMCEB security classification guide.

A2.3.2.3. When a RFA list contains DoD unclassified frequency assignments and unclassified assignments of one or more federal (non-DoD) agencies, classify the list CONFIDENTIAL according to paragraph 4.2 of the *USMCEB Security Classification Guide*, unless it meets the criteria of any one of the exemptions of the *USMCEB Security Classification Guide*. Mark RFA lists classified under this guidance according to DoDR 5200.1 and AFI 31-401: **Classified by: USMCEB Security Classification Guide for Frequency Assignment Records, dated 15 Mar 83. Declassified: OADR.**

A2.3.2.4. An appropriate MAJCOM classification authority can classify an RFA list containing compilations of its own unclassified assignments at a higher level. In such cases, the MAJCOM must notify JSC of the appropriate classifications of such RFA lists. Mark the RFA list according to DoDR 5200.1, AFI 31-401, and MAJCOM instructions.