

APPENDIX C

WIRELESS COMMUNICATIONS

1 PURPOSE

This appendix establishes policies and assigns responsibility for the management and use of the radio frequency spectrum and wireless communications.

2 BACKGROUND

The radio frequency spectrum is a very limited natural resource. Frequency Spectrum management within USDA is delegated to the Forest Service. OCIO maintains oversight of the program through the Associate Chief Information Officer for Policy. Additionally, Forest Service represents USDA on the Interdepartment Radio Advisory Committee (IRAC), the Frequency Assignment Subcommittee (FAS), Technical Subcommittee (TSC) and the Spectrum Planning Subcommittee (SPS) of the National Telecommunications Information Administration (NTIA).

3 REFERENCES

<u>Source</u>	<u>Publication</u>	<u>Title/Subject</u>
Congress	5 U.S.C. 552	Freedom of Information Act (FOIA)
FCC	Part 95, Subpart D	Citizens Band (CB) Radio Services
NTIA	Manual	Regulations and Procedures for
Federal Radio	Frequency Management	
USDA	7 CFR, Sub Title A,	Delegation of Authority Part 2, Sub Part D

4 ABBREVIATIONS

CB	-	Citizens Band
FAS	-	Frequency Assignment Subcommittee
FCC	-	Federal Communications Commission
FM LMR	-	Frequency Modulated Land Mobile Radio
FOIA	-	Freedom of Information Act
FWTS	-	Federal Wireless Telecommunications Service
IRAC	-	Interdepartment Radio Advisory Committee
JSMS	-	Joint Spectrum Management System for Windows
LAN	-	Local Area Network
MOU	-	Memorandum of Understanding
NTIA	-	National Telecommunications and Information
Administration		
PBX	-	Private Branch Exchange
PCS	-	Personal Communications Services
RFA	-	Radio Frequency Assignment

SPS - Spectrum Planning Subcommittee
 TSC - Technical Subcommittee

5 POLICY

Agencies requiring spectrum management support and frequencies for radio equipment shall work through the Information Resources Management Staff of the Forest Service.

- a Wireless Spectrum Management. USDA wireless systems shall be designed to utilize current technology, be spectrum efficient, and provide for sharing resources between agencies whenever cost-effective and savings can be achieved.
- b Regulations and Procedures. USDA agencies and staff offices shall adhere to Federal regulations and procedures for spectrum management when establishing and operating wireless communications systems and services.
- c Strategic Plans. USDA agencies whose land mobile radio program plays a significant part in the agency mission, shall submit and maintain a strategic plan each year covering Frequency Modulated Land Mobile Radio (FM LMR) use. The plan shall be submitted to OCIO annually by the agency unless notified otherwise in writing by OCIO.
- d Delegation of Wireless Spectrum Management Representation. OCIO has delegated to the USDA Forest Service, working through the OCIO, the authority to represent USDA to the NTIA Office of Spectrum Management, on the IRAC, and to other agencies internal and external to the USDA on issues concerning wireless spectrum management.
- e Radio Frequency Assignment (RFA) Requirement. Any device which radiates electromagnetic energy through free space must be authorized prior to procurement or use by USDA agencies or staff offices. Operations on an assigned frequency must be within the parameters of the frequency assignment. Frequency authorization must be obtained before funds can be obligated for the procurement of communications equipment requiring radio frequency authorization for use. Cellular telephones and other leased Personal Communications Services (PCS) are exempt from this requirement. They are licensed through the FCC to the service provider.
- f Frequency Assignment Process. Applications or modifications for frequency assignment shall be submitted to the USDA FAS representative. NTIA is implementing the Joint Spectrum Management System for Windows (JSMSW) as its preferred optional format for use in requesting frequency assignments. Agencies should contact the USDA FAS representative for information concerning implementation of this system. The method of submission shall be

electronic format if the submitting agency has the supporting computer hardware. Contact the USDA FAS representative for training and software requirements. Non-electronic submittals may be in letter format.

(1) Requests for Radio Frequency Assignments.

(a) Frequency requirements for new systems, or major system upgrades, must be planned in advance. Requests for these frequency assignments should be forwarded to the USDA FAS Representative at least one year prior to the planned procurement.

(b) A separate formal frequency assignment request shall be submitted for each frequency to be installed in a base station, repeater, group of mobile radios, or group of portable radios in a system.

(c) Requests shall provide the information in accordance with the instructions in Figure C-1, Titled: Information Required For Requesting a Radio Frequency Assignment.

(d) Sharing of USDA systems among agencies shall be considered prior to developing a new system or expanding an existing system. Such sharing may be required when spectrum availability is limited, unavailable, or the traffic does not justify a separate system. NTIA mandates that agencies consider the use of commercial services in any system planning.

(e) Requests for radio frequency assignments that are identified as Freedom of Information Act (FOIA)-exempt shall be accompanied by a justification letter stating the specific exemption(s) under the FOIA.

(2) Five Year Review. All radio frequency assignments must reflect the actual installed configuration. NTIA requires that all radio frequency assignments be reviewed regularly and updated within 5 years of the revision date on the assignment. The results of this review shall be forwarded to the USDA FAS Representative.

(3) Cooperative Communications. All wireless operations require Radio Frequency Authorizations from NTIA. Prior arrangements for sharing USDA wireless systems with other non-USDA entities must be coordinated with the USDA FAS Representative. Arrangements permitting cooperative communications of mutual benefit, between agencies on each other's authorized radio frequencies, may be made by a MOU (between Federal units) or a Cooperative Agreement (between Federal and non-Federal units) signed by the responsible official having

jurisdiction. Copies of the agency MOU must be on file with the agency or staff office and the USDA FAS Representative. A formal MOU between units within USDA agencies or staff offices is not required. Arrangements between agencies or staff offices within USDA, or with external agencies (Federal or non-Federal), must be forwarded to the USDA FAS Representative when authorizations or licenses are required.

(4) Citizens Band Radio Use. USDA agencies may use frequencies allocated to the CB Radio Service under Part 95, Subpart D, of the FCC Regulations only when a need to intercommunicate between Federal government and non-Federal government stations is justified. CB communications between Federal Government entities are prohibited.

(5) Programming and Frequency Changes in USDA Radios. The Agency Spectrum Management Liaison Officers may delegate the authority to program or change frequencies for which they are responsible and for which they have copies of RFA's, MOU's or Cooperative Agreements. Individuals delegated the authority to reprogram or change frequencies in transmitters must have:

(a) A formal delegation that includes the SPECIFIC FREQUENCIES they are authorized to program or change; and

(b) Knowledge of the terms and limitations of the RFA or license for EACH SPECIFIC FREQUENCY being changed or programmed. (This normally means they have a copy of the RFA or license.) Equipment shall not be programmed to operate outside the constraints of the RFA, license, or arrangement.

(6) Interference. Interference to frequencies authorized for use by USDA wireless systems shall be reported to the USDA FAS Representative for resolution.

(7) FOIA Exemptions. The NTIA will release information concerning frequency assignments unless the frequency is previously designated as FOIA exempt. Most USDA frequency assignments do not qualify to be exempt under the FOIA.

g Shared Wireless Systems. The sharing of Government-owned wireless resources with other Federal agencies is required where cost-effective and savings can be achieved. USDA agencies or staff offices shall consider carrying traffic generated by other agencies. USDA agencies, staff offices or other Federal agencies may be required to share systems with other USDA agencies or staff offices in areas where frequencies are not available, or the traffic does not justify separate systems. USDA agencies shall not provide wireless communications services to non-Federal entities or to the private sector, except as provided in specific laws and regulations. Such use shall be reviewed by the USDA IRAC

Representative prior to providing such services. USDA agency requirements for use of non-Federal wireless systems, such as microwave (other than common carrier), shall be coordinated with the USDA IRAC Representative (trading services does not constitute an exemption).

h Technical Assistance. Technical assistance and/or advice pertaining to system design, equipment selection, sources of supply, and technical specifications may be obtained through the USDA TSC Representative.

i Procurement of Wireless Equipment and Services. All radio equipment shall meet NTIA standards or a waiver shall be obtained from the USDA IRAC Representative. USDA agencies and staff offices can participate in the USDA Forest Service consolidated radio procurement program. Estimated quantities of radios required by an agency should be submitted to the USDA Forest Service, by January of each year that a solicitation is issued for inclusion in the consolidated contract. The exact due date in January and the method of submitting requirements will be established by letter from the Forest Service to each agency. The Federal Wireless Telecommunications Services (FWTS) Contract is available to all Federal Agencies through GSA. FWTS provides commercially available wireless telecommunications equipment and services. Agency Telecommunications Mission Area Control Officers (TMACOs) can place orders directly with the wireless vendor.

j Disposition of Wireless Equipment. Agencies planning to surplus radio transmitting equipment shall take action prior to release of the equipment to assure it can no longer transmit on the frequencies originally assigned. This may be accomplished by removing the frequency determining device (i.e., crystal) or erasing the program.

6 RESPONSIBILITIES

a The Office of Chief Information Officer will:

- (1) Provide leadership and direction for Department-wide wireless communications initiatives; and
- (2) Provide advice and assistance to agencies and staff offices regarding wireless telecommunications services and facilities.

b Agencies and Staff Offices will:

- (1) Designate a Spectrum Management Liaison Officer to represent the agency in all matters pertaining to wireless communications and frequency management (if the agency uses transmitting devices requiring frequency assignments);

- (2) Notify the IRAC Representative when there is a change of appointment; and
 - (3) Include the radio program in OMB Circular A-11, Exhibit 300B, budget planning process and prepare and maintain a Strategic Plan addressing the program when the radio program within an agency expands and becomes a significant capital asset (significant procurement, operating, or maintenance cost). This plan shall be provided to the USDA IRAC Representative upon origination and at each update.
- c The USDA IRAC Representative will:
- (1) Serve as the primary point of contact for interaction between USDA agencies and the NTIA and shall be responsible for the proper execution of USDA representation to the IRAC, its subcommittees, working groups and ad hoc groups; and
 - (2) Identify and plan for spectrum use to serve future requirements.
- d The USDA FAS Representative will:
- (1) Be responsible for frequency assignment actions, support, and interference resolution for all devices requiring assigned frequencies in order to operate;
 - (2) Process requests and obtain radio frequency assignments for all USDA agencies and staff offices; and
 - (3) Establish procedures to protect against harmful interference that could result in loss of life or property and coordinate any required resolution.
- e The USDA TSC Representative will:
- (1) Be responsible for providing technical advice on electromagnetic compatibility of new systems government wide and on proposals for USDA positions on international spectrum management and provide technical assistance and training to USDA agency and staff offices.
- f The USDA SPS Representative will:
- (1) Be responsible for assisting in the development of recommendations regarding spectrum support for new systems submitted by Federal agencies.
- g Agency and Staff Office Spectrum Management Liaison Officers will:

- (1) Serve as principal point of contact for all matters relating to wireless communications and frequency management;
- (2) Maintain a current copy of the NTIA manual and be familiar with NTIA policies;
- (3) Manage all radio frequencies used by the agency; and
 - (a) Maintain a file of all current RFAs for the agency;
 - (b) Submit agency requests for RFAs;
 - (c) Disseminate RFAs to the agency;
 - (d) Report and/or resolve radio interference or noncompliance with regulations;
 - (e) Coordinate radio planning efforts with the agency or staff office responsible for preparation of the Agency IRM Plan; and
 - (f) Prepare and maintain a strategic plan covering Frequency Modulated Land Mobile Radio (FM LMR) use within the agency. This plan is required by Office of Management and Budget (OMB) and is due each year.
- (4) Maintain an inventory of radio transmitters or equipment within the agency/staff office including the total investment of the radio and other wireless communications system(s). This inventory shall be by radio type (repeater, base station, mobile, portable) and a copy shall be sent to the USDA IRAC Representative, no later than January 31, each year. Although radio transmitting/receiving equipment may not always be considered an inventory control item because of GSA established procurement cost ceilings, such equipment is considered Information Technology telecommunications equipment and services. It, therefore, is required to be maintained in a USDA database approved for that purpose.

7 FORMS/REPORTS

Requests for a radio frequency assignment must be made by providing the information identified in Figure C-1, Titled: Information Required for Requesting a Radio Frequency Assignment. Electronic format is preferred. Requests will be sent to the Information Resources Management Staff of the Forest Service.

8 DEFINITIONS

- a Interdepartment Radio Advisory Committee (IRAC). A formal committee, chartered by Executive Order 12046 and comprised of representatives from major Federal agency spectrum users. IRAC serves in an advisory capacity to the Administrator of NTIA (with reference to Federal radio stations) in assigning frequencies, developing and executing policies, programs, procedures, and technical criteria pertaining to the allocation, management, and use of the spectrum.
- b Frequency Assignment Subcommittee (FAS). An IRAC subcommittee comprised of representatives from Federal agencies that use the spectrum. It assists NTIA, on the behalf of IRAC, in assigning and coordinating frequencies for use by Federal radio stations. The FAS also develops procedures for the processing of requests for frequency assignments.
- c Technical Subcommittee (TSC). An IRAC subcommittee comprised of representatives from Federal agencies that use the spectrum. It assists NTIA, on the behalf of IRAC, in developing policies, programs, procedures, and technical criteria regarding the allocation, management, and use of the spectrum.
- d Spectrum Planning Subcommittee (SPS). An IRAC subcommittee comprised of representatives from Federal agencies that use the spectrum. It develops both recommendations and plans for spectrum use for submittal to NTIA, on the behalf of IRAC, regarding agency requests for spectrum support for new systems.
- e Federal Communications Commission (FCC). The regulatory organization that is responsible for managing all non-federal wireless spectrum use in the U.S.
- f National Telecommunication and Information Administration (NTIA). The Federal Government wireless spectrum manager and the principal Executive Branch advisor on telecommunications policy.
- g Spectrum Management. Spectrum management is the planning and implementation of programs to promote effective, efficient, and prudent use of the radio spectrum in the best interests of the Nation, taking care to conserve it for uses where other means of communication are not available or feasible. This includes, but is not limited to, planning for where in the spectrum specific uses can be placed most effectively, planning for incorporation of new technology, planning for sharing of common facilities and uses, and the development of regulations to assure efficient, effective, and interference-free communications.
- h Wireless. Wireless communication is anything that supports communications between mobile, portable, or fixed facilities through the use of the electromagnetic spectrum. Examples are: AM and FM broadcasting, UHF and VHF television, satellite, microwave, land mobile radio (used for public safety, commercial, and private use), citizen's band, trunked radio, paging, cellular

telephone, wireless LANs, wireless telephone PBXs, and Personal Communications Services (PCS).

9 CONTACTS

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FIGURE C-1

INFORMATION REQUIRED FOR REQUESTING A RADIO FREQUENCY ASSIGNMENT

The information in 4 through 9 is required for each frequency used by a station in a system. (Antenna information or specific station location information is not required for mobile stations; however, the area of operation of the mobiles is required.)

- 1 Agency, contact person, address and phone number;
- 2 Brief description of operation and requirement for radio communications;
- 3 Name of the system: (An office, the area of operation, name of project, or any other appropriate name may be used to identify the system.);
- 4 Transmitting Station:
 - a Name of location: (e.g. Columbus, Georgia)
 - b Coordinates of location: (latitude and longitude)

- c Elevation of location above mean sea level
 - d Type of antenna: (e.g. collinear, coaxial, yagi, etc.)
 - e Gain of the antenna
 - f Height of the antenna above ground level
 - g Orientation of the antenna in degrees from True North: (ND for nondirectional);
- 5 Transmitter location and antenna:
- a Name of location: (e.g. Columbus, Georgia)
 - b Coordinates of location: (latitude and longitude)
 - c Elevation of location above mean sea level
 - d Type of antenna: (e.g. collinear, coaxial, yagi, etc.)
 - e Gain of the antenna
 - f Height of the antenna above ground level
 - g Orientation of the antenna in degrees from True North: (ND for nondirectional);
- 6 Receiver location and antenna:
- a If the receiving station(s) is at a fixed location for point-to-point communication or is a repeater in a land-mobile system, provide the information listed under paragraph 5 above for the receiver location and antenna.
 - b If the receiving stations are mobile, identify the area of operation (e.g. 50 mile radius of the transmitter station, throughout the state of Georgia, etc.);
- 7 Total number of stations in the system: (Indicate one of the following ranges: 1-10, 11-30, 31-100, 101-300, or 301-1000);
- 8 System drawing. The system should illustrate and identify:
- a All stations in the system
 - b Frequencies used by each station

- c Type of station
- d Assigned call signs;

9 Modification and updating. An existing radio frequency assignment may be updated or modified by marking the desired changes on a copy of the Radio Frequency Authorization provided by the USDA FAS Representative.