



19 DECEMBER 2022

Cyberspace Operations

SPECTRUM OPERATIONS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at www.e-Publishing.af.mil for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 910 CS/SCOT

Certified by: 910 CS/CC
(Maj Marc K. Meyer)

Pages: 6

This instruction implements DAFI 17-220, *Spectrum Management* and outlines the responsibilities and rules for management of radio frequencies within the jurisdiction of Youngstown Air Reserve Station. This instruction applies to all units assigned, attached, and associated to 910th Air Wing who use radio frequencies in facilities and the Vienna Ohio area including contractor and TDY personnel. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Additionally, if the publication generates a report(s), alert readers in a statement and cite all applicable Report Control Numbers in accordance with AFI 33-324. Refer recommended changes and questions about this publication directly to the 910CS/SCOT using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional' s chain of command.

1. Overview.

1.1. Due to increased radio frequency congestion in the local and surrounding area, commanders must manage assigned radio frequencies to meet key mission needs. Planning and coordination with proper command authority through the Installation Spectrum Manager (ISM) is essential for all radio frequency and electromagnetic compatibility matters to provide an environment free from interference. Youngstown ISM contact phone number is DSN: 346-1335 or Commercial (330)609-1335.

2. Roles and Responsibilities.

2.1. User Organization .

2.1.1. Maintain and identify a point-of-contact (POC) to the ISM for unit frequency matters.

2.1.1.1. Provide a point-of-contact to the ISM for unit frequency matters via e-mail or unit letterhead.

2.1.2. Maintain a copy of frequency authorizations received from the ISM. Radio Frequency Authorization (RFA).

2.1.3. New frequency requests must be received no later than 180 calendar days prior desired start date. Earlier is always better.

2.1.3.1. Exercise and deployment frequency requests must be received no later than 180 calendar days prior to exercise or deployment start date.

2.1.4. Obtain approval from ISM, wing safety office, and bioenvironmental prior to modifying any existing spectrum-dependent systems or antennas (i.e., increase power, change antenna, location, height or gain), if outside of the assigned parameters of the RFA in accordance with the NTIA Manual, Chapter 10. National Telecommunications and Information Administration (NTIA).

2.1.5. Obtain electromagnetic attack authorizations from the Department of the Air Force Spectrum Management Office prior to test, training, or exercises in accordance with CJCSM 3212.02E or CJCSM 3212.03A. Chairman of the Joint Chiefs of Staff Manual (CJCSM).

2.1.5.1. Notify ISM when electromagnetic attack software updates have been received.

2.1.5.2. Obtain updated electromagnetic attack authorizations that match the fielded software upgrade version.

2.1.6. Contact the ISM for interpretation or guidance of any national or military-level spectrum management policy.

3. Spectrum Supportability Actions.

3.1. Spectrum Certification

3.1.1. Local purchases of spectrum-dependent systems will be reviewed by the ISM to evaluate spectrum supportability prior to the obligation of funds. If the system will be deployed outside the United States, DAF policy is that host nation coordination is required in accordance with the DoDI 4650.01. ISM approves usage, not purchase or funding.

3.1.1.1. It is the responsibility of the organization attempting to procure a spectrum-dependent system, including a non-licensed device referenced in [paragraph 4.1](#), to submit a Project Workflow, Requirements and Resource (PWRR) request through 910 CS/SCX when purchasing locally or by Government Purchase Card.

3.1.1.2. When a PWRR request is submitted, include as much information as possible about any spectrum-dependent component (e.g. Federal Communications Commission (FCC) ID number, manufacturer, make, model number, frequency range, power level,

etc.). Identify the owning/using organization, as well as the name, email and phone number of a POC. If submission is initiated by ServiceNow Access Portal (SNAP), include the tracking number. SNAP submissions do not negate PWRR requirement.

3.1.1.3. Cyberspace Infrastructure Planning System (CIPS) is used only by 910CS/SCX for program coordination and submissions outside the local installation.

4. Non-Licensed Devices.

4.1. Non-Licensed/Annex K Devices. Section 7.8 of the NTIA Manual outlines the purchase and use of Federal and FCC non-licensed devices. Examples of non-licensed devices are wireless routers, wireless or lapel microphones, Family Radio Service (FRS) radios, cell phone boosters and cordless telephones. The following caveats and warnings apply:

4.1.1. DoD activities should not use non-licensed equipment for critical tactical or strategic command and control applications essential for mission success, protection of human life, or protection of high-value assets, as they offer no protection of spectrum use in support of operational requirements. Non-licensed devices operate on a non-interference basis, which includes accepting any interference from any federal or non-federal authorized radio station, other non-licensed device, or industrial, scientific, and medical equipment. Non-licensed devices must not cause interference to licensed stations.

4.1.2. Upon notification by cognizant spectrum management personnel that the device is causing interference, the operator of the non-licensed device shall cease all radiation from the device until it can be proven that further use will no longer cause interference.

4.1.3. Users will not modify, modernize, enhance, or change the equipment's power, antenna, waveform, or information transfer characteristics in any manner that would cause it to violate the NTIA criteria for non-licensed devices or the device's FCC type certification.

4.2. Family Radio Service (FRS). FRS is a FCC unlicensed low powered service that provides coverage up to 2 miles using frequencies within the FRS frequency pool. FRS radios may be used on any of the 14 FRS channels (typically channels 8-14, check owner's manual for FRS channels), which are shared between all FRS users. This reduces confusion between multiple conversations on the same channel. Privacy codes allow the FRS users to limit the transmissions received to those users on the same channel and privacy code (check owner's manual). **Note:** Any FRS user can listen to any ongoing conversation and can legally monitor and break into that conversation.

4.2.1. Federal government entities are authorized to purchase and operate radios certified by the FCC in the FRS pursuant to 47 CFR Part 95, Subpart B. Federal users will be accorded the same privileges as non-federal users. FRS users must share each channel and no user is assured protection from interference caused by another authorized user. FRS users may not purchase and operate FRS radios for planned communications operations that safeguard human life or property. FRS users must comply with the following conditions:

4.2.1.1. The provisions of 47 CFR Part 95 and Section 7.5.8 of the NTIA Manual.

4.2.1.2. Federal users and contractors are responsible for all communications using FRS radio equipment. Use must comply with federal, state, and local laws.

- 4.2.1.3. The installation commander may prohibit FRS when interference to mission essential spectrum dependent systems/spectrum dependent equipment is anticipated, or to resolve a suspected interference problem.
- 4.2.1.4. Federal users and contractors using FRS radios must relinquish channel use for emergency communication messages concerning the immediate safety of life or the immediate protection of property.
- 4.2.1.5. Use only FCC certified FRS. Any modification to the equipment cancels the FCC certification and voids authority. Illegal FRS equipment is subject to confiscation.
- 4.2.1.6. Units may use FRS devices to communicate with non-government users during AF supported or sponsored community activities, i.e., scouts, Special Olympics, youth activities/sporting events, civil disasters, funeral details for deceased military veterans, etc. In addition, FRS radios may be used for administrative purposes when communicating in warehouses, commissaries, base exchanges, billeting areas, work crews, etc.
- 4.2.1.7. Under no circumstance will FRS radios be permitted for use in controlled areas without express written consent of the installation commander and full compliance with all security directives.
- 4.3. Consumer Signal Booster (Cell Repeater).** Consumer signal boosters are permitted on Youngstown ARS, however ISM approval must be granted prior to any contractual agreements with service providers. In addition, a Joint Spectrum Center (JSC) study must be performed to ensure there will be no radio frequency (RF) interference to federal systems. Analysis, installation and maintenance costs are the sole responsibility of the requesting unit, ISM will only assist administratively. If no harmful interference is predicted in the JSC study, use of a consumer signal booster is permitted at the discretion of the ISM provided the power levels are maintained at/below FCC class B **Part 15** requirements and are acquired from wireless providers. The repeater may not be modified from the manufacturer's specifications. Use/location of repeaters must be approved by 910CS/SCXS TEMPEST personnel. Repeaters do not require certification and are provided no protection from interference other than what may be experienced in the non-federal bands.
- 4.3.1. These devices can only be used if the following conditions are met:
- 4.3.1.1. ISM has been notified of desired Booster/Repeater.
 - 4.3.1.2. A JSC study has been completed.
 - 4.3.1.3. TEMPEST survey has been conducted.
 - 4.3.1.4. The subscriber obtains some form of licensee consent to operate the booster.
 - 4.3.1.5. The booster is registered with its provider.
 - 4.3.1.6. The booster meets the Network Protection Standard.
 - 4.3.1.7. The booster is FCC certified.
 - 4.3.1.8. The booster is operated on a secondary, non-interference basis and must be shut down if it causes harmful interference to a licensed station.

4.3.1.9. Cellular boosters need to be entered into an FCC database. The owning organization must obtain the account required to register the equipment as part of registering the equipment and should be identified in the PWRR approval process so they are aware of the registration requirement. The ISM only manages mission essential boosters, designated so by the Communications or Installation commander.

5. Amateur Radio Service.

5.1. Before a licensed Amateur Radio Service (ARS) operator transmits from areas under the purview of the installation commander, they must obtain permission in writing from the ISM. At a minimum, they shall inform the ISM of their point of contact information to include work phone number, personal phone number, FCC issued call sign(s) and the make/model of their transceiver(s). All users of Amateur Radio stations need to have a valid FCC Radio Operator license and FRRS record filed in SPECTRUM XXI for deconfliction. Upon receiving written permission from the ISM, the Amateur Radio Service operator is responsible for adhering to all FCC, state, and local regulations. The ISM may deny permission to transmit, add additional constraints, or require the operator to cease and desist transmissions for reasons including, but not limited to, operational security or suspected interference to other stations.

5.2. Military Auxiliary Radio System (MARS) is a DOD sponsored program and supported at Youngstown ARS. MARS is considered an ARS and follows the same guidance unless otherwise stated in a DOD or USAF approved publication.

6. Review of Memorandum of Agreement (MOA) and Memorandum of Understanding (MOU).

6.1. The ISM will review MOU's and MOA's during the annual plans review or when initiated by the 910th Communications Squadron Commander. At a minimum, MOU's and MOA's should identify frequencies, FCC license IDs, call signs, and the owning unit so the ISM can verify FCC licenses are current and accurate within the FCC's database.

7. Electromagnetic Interference Resolution

7.1. The victim of interference will contact the ISM of other POC identified by higher headquarters where the interference has occurred in accordance with AFI 17-221.

MARC K. MEYER, Maj, USAF
Commander, 910th Communications Squadron

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

DAFI 17-220, *Spectrum Management*, 8 June 2021

AFI 17-221, *Spectrum Interference Resolution Program*, 11 May 2018

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2021 DoDI 3222.03, *DoD Electromagnetic Environmental Effects (E3) Program*, 25 Aug 2014

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*, 22 Sep 2009