

MANUAL OF REGULATIONS AND PROCEDURES FOR FEDERAL RADIO FREQUENCY MANAGEMENT

*May 2014 Revision of the
May 2013 Edition*



**U.S. DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration**

ABOUT THIS MANUAL

DISTRIBUTION

This Manual is distributed by virtue of the authority delegated to the Assistant Secretary for Communications and Information pursuant to Reorganization Plan No. 1 of 1977, Executive Order 12046 of March 26, 1978, and Department of Commerce Organization Order 10-10 of October 5, 1992.

PREFACE

1. This Manual is issued by the Assistant Secretary of Commerce for Communications and Information (hereafter referred to as the Assistant Secretary) and is specifically designed to cover his/her frequency management responsibilities pursuant to delegated authority under Section 305 of the Communications Act of 1934, as amended. Its contents are based on the advice, as appropriate, of the Interdepartment Radio Advisory Committee.

2. Within the jurisdiction of the United States Government, use of the radio frequency spectrum for radio transmissions for telecommunications or for other purposes shall be made by United States Government stations only as authorized by the Assistant Secretary. Such use shall, unless specific provision is made otherwise, comply with the provisions of this Manual.

3. The Communications Act of 1934, as amended, vests in the Federal Communications Commission (FCC) responsibility for the regulation of non-Government interstate and foreign telecommunication, including the assignment of space in the radio frequency spectrum among private users, regulation of this use of that space, and authorization of alien amateur operators, licensed by their governments, for operation in the United States under reciprocal arrangements.

4. The Act, in recognition of the Constitutional powers of the President, provides that radio stations "belonging to and operated by the United States" shall use frequencies as determined to be in the national interest, to authorize foreign governments to construct and operate radio stations in the fixed service at the United States seat of government, and to assign frequencies thereto (47 U.S.C. 305(d)).

5. The President by Reorganization Plan No. 1 of 1977 and Executive Order 12046 of March 26, 1978, delegated to the Secretary of Commerce authority to act in the discharge of certain of the President's telecommunication functions under the Communications Act of 1934 and the Communications Satellite Act of 1962.

6. The Secretary of Commerce has delegated this Presidential authority to the Assistant Secretary of Commerce for Communications and Information (Administrator of the National Telecommunications and Information Administration, NTIA).

7. The Assistant Secretary discharges these radiocommunication and frequency management functions as the Administrator of NTIA with the aid of the Interdepartment Radio Advisory Committee (IRAC).

8. The IRAC is now comprised of representatives of the Departments of Agriculture, Army, Air Force, Commerce, Energy, Homeland Security, Interior, Justice, Navy, State, Treasury and Veteran's Affairs; the U.S. Coast Guard, the Federal Aviation Administration, the National Aeronautics and Space Administration, the National Science Foundation, the Broadcasting Board of Governors and the U.S. Postal Service. The FCC is not a member of the IRAC; however, the Commission has designated a Liaison Representative to the IRAC, who works with the IRAC and its subcommittees. The Officers of the IRAC and the Chairmen of its subcommittees are appointed by the Assistant Secretary.

9. National frequency coordination and assignments are effected as follows:

a. Each Government agency decides, in the light of policies, rules, regulations, frequency allocations, and the availability of frequencies, whether, what, and how many mission requirements can be fulfilled by using telecommunications systems. Each agency makes the necessary technical studies, selects potential frequencies, coordinates with other agencies involved, and prepares and files an application with the NTIA, Office of Spectrum Management (OSM), Spectrum Services Division (SSD), for consideration by the Frequency Assignment Subcommittee (FAS) of the IRAC.

b. The FCC FAS Representative submits frequency assignment applications for non-Government use of the spectrum in shared bands and other bands where there might be an impact on, or from, Government operations. The FCC, as a Government entity, also submits frequency requests to the FAS for FCC spectrum requirements.

c. The OSM/SSD, using a combination of computer and manual procedures, reviews the applications for

accuracy, completeness, and compliance with regulations and procedures. The FAS agendas are distributed to each FAS member agency for study regarding the protection of their existing assignments. OSM/SSD reviews the agendas to ensure adequate justification, compliance with policy and regulations, technical appropriateness, potential for major problems, whether or not spectrum support for the system, if applicable, has been certified by the Spectrum Planning Subcommittee (SPS) of the IRAC, and whether there is a conflict with the assignments of the FAS non-member agencies.

d. Each month the FAS considers pending items and takes action within established policy guidelines. When additional policy guidance is needed, agreement cannot be reached, the IRAC has so directed, or an agency requests, applications are referred to the IRAC. Matters that cannot be resolved with the IRAC, those that NTIA directs, or those requested by an agency, are referred to the Deputy Associate Administrator (OSM), NTIA, who resolves them or refers them to the Associate Administrator (OSM) and if necessary to the Administrator, NTIA, for decision. Government frequency assignment decisions made by the Administrator, NTIA, may be appealed to the Director of the Office of Management and Budget (OMB) per paragraph 3-2 of Executive Order 12046.

e. Matters of considerable importance, such as changes to the National Tables of Frequency Allocations, significant Government use of non-Government frequency bands, and advice to the Department of State, are recommended to NTIA for consultation with the FCC or other appropriate agencies. Although Government applications are not heard in public for security reasons, the public is represented by the FCC who may object, concur, or give tacit approval.

f. After each FAS meeting when the FAS minutes have been approved by the Deputy Associate Administrator of OSM, the Government Master File (GMF) is updated.

g. International frequency coordination is carried out through the International Telecommunication Union (ITU) and with other countries within the ITU provisions, by or under the aegis of the Department of State.

Promulgation

By virtue of the authority vested in me pursuant to Reorganization Plan No. 1 of 1977, Executive Order 12046 of March 26, 1978, and Department of Commerce Organization Order 10-10 of October 5, 1992, I hereby approve this Manual of Regulations and Procedures for Federal Radio Frequency Management for the use of agencies and establishments of the Federal Government.

This order is UNCLASSIFIED.



Lawrence E. Strickling
*Assistant Secretary for
Communications and Information*

Dated: JUN 24 2014



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

JUN 25 2014

To: HOLDERS OF THE NTIA MANUAL OF REGULATIONS AND PROCEDURES
FOR FEDERAL RADIO FREQUENCY MANAGEMENT

Subject: May 2014 Revision of the May 2013 Edition of the NTIA Manual

The Assistant Secretary for Communications and Information has approved the May 2014 Revision of the May 2013 Edition of NTIA Manual for use by the agencies and establishments of the Federal Government.

Karl B. Nebbia
Associate Administrator
Office of Spectrum Management

Table of Contents

ABOUT THIS MANUAL

DISTRIBUTION.....	i
PREFACE	i

Chapter 1

Authority and Organization

1.1	AUTHORITY	1-1
1.2	NTIA AND ITS FREQUENCY MANAGEMENT SUPPORT ORGANIZATION	1-4
1.2.1	<i>Organization Charts</i>	1-4
1.3	INTERDEPARTMENT RADIO ADVISORY COMMITTEE	1-5
1.3.1	<i>Status</i>	1-5
1.3.2	<i>Bylaws</i>	1-5
1.4	REIMBURSEMENT REGARDING AUTHORIZATION FOR SPECTRUM USE	1-14

Chapter 2

Telecommunication Policy

2.1	OBJECTIVES FOR THE USE OF THE RADIO SPECTRUM APPLYING TO AGENCIES AND ESTABLISHMENTS OF THE FEDERAL GOVERNMENT.....	2-1
2.2	FORMULATION OF TELECOMMUNICATIONS POLICY	2-2
2.3	TELECOMMUNICATIONS POLICY APPLYING TO AGENCIES AND ESTABLISHMENTS OF THE FEDERAL GOVERNMENT.....	2-3
2.3.1	<i>General</i>	2-3
2.3.2	<i>Functions to be Achieved</i>	2-3
2.3.3	<i>Federal Government Use of Commercial Telecommunication Service</i>	2-4
2.3.4	<i>Use of Space Radiocommunication Techniques in the Aeronautical Services</i>	2-4
2.3.5	<i>Role of Leadership by the Federal Government</i>	2-5
2.3.6	<i>Radio Spectrum Administration</i>	2-5
2.3.7	<i>Spurious Emissions</i>	2-6
2.3.8	<i>Ionosphere Sounders</i>	2-6
2.3.9	<i>Safety Service</i>	2-6
2.3.10	<i>Use of Spectrum Conserving Methods for Radio Communication Systems</i>	2-6
2.3.10.1	<i>Land Mobile Systems</i>	2-7
2.3.11	<i>Reserved</i>	2-7
2.3.12	<i>Proof of Compliance with FCC Licensing Requirements</i>	2-7
2.3.13	<i>Special Conditions for Department of Defense Use of the Spectrum</i>	2-7
2.4	BASIC COORDINATION ARRANGEMENT BETWEEN NTIA AND THE FCC WITH RESPECT TO DECISIONS REGARDING THE USE OF THE RADIO SPECTRUM	2-8
2.4.1	<i>The Following Arrangement Was Agreed by the NTIA and the FCC January 31, 2003</i>	2-8

Chapter 3

International Matters

3.1	TREATIES AND AGREEMENTS.....	3-1
3.2	THE INTERNATIONAL TELECOMMUNICATION UNION	3-1
3.2.1	<i>Purposes of the Union</i>	3-2
3.2.2	<i>Structure of the Union</i>	3-2
3.2.3	<i>Plenipotentiary Conference</i>	3-2
3.2.4	<i>The Council</i>	3-2

3.2.5	<i>General Secretariat</i>	3-2
3.2.6	<i>Radiocommunication Sector</i>	3-3
3.2.7	<i>Telecommunication Standardization Sector</i>	3-3
3.2.8	<i>Telecommunication Development Sector</i>	3-3
3.3	SUBMISSION OF INFORMATION TO THE ITU	3-4
3.3.1	<i>Provision of Information Regarding Satellite Networks in Planned Satellite Systems</i>	3-4
3.3.1.1	<i>Satellite Network Cost Recovery Fees</i>	3-4
3.3.1.2	<i>Exemption Requests for Submitting Space System Information to the BR</i>	3-4
3.3.2	<i>Additional Guidance and Requirements for Space Station Frequency Assignments</i>	3-5
3.3.2.1	<i>Administrative Due Diligence Applicable to Some Satellite Communication Services</i>	3-5
3.3.2.2	<i>Bringing Into Use of Frequency Assignments to GSO Networks</i>	3-5
3.3.2.3	<i>Satellite Failure During the Ninety-Day Bringing Into Use Period for GSO Networks</i>	3-5
3.3.2.4	<i>Suspension of Recorded Frequency Assignment to a Space Station</i>	3-5
3.3.2.5	<i>Bringing Back Into Use of Frequency Assignments to GSO Networks</i>	3-5
3.3.2.6	<i>Assignments Recorded Under ITU No. 11.41</i>	3-6
3.3.2.7	<i>Use of Frequency Assignments for a Space Station That Are Inconsistent With What is Recorded in the Master Register</i>	3-6
3.3.3	<i>Provision of Information Regarding Terrestrial Systems</i>	3-6
3.4	AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND CANADA CONCERNING THE COORDINATION AND USE OF RADIO FREQUENCIES ABOVE 30 MEGACYCLES PER SECOND.....	3-6
3.4.1	<i>General</i>	3-6
3.4.2	<i>Index to the Technical Annex</i>	3-7
3.4.3	<i>No. 228 of the ITU Radio Regulations</i>	3-9
3.4.4	<i>Text of Arrangement B</i>	3-9
3.4.5	<i>Text of Arrangement C</i>	3-10
3.4.6	<i>Text of Arrangement D</i>	3-11
	APPENDIX 1 TO ARRANGEMENT D	3-12
	APPENDIX 2 TO ARRANGEMENT D	3-12
	APPENDIX 3 TO ARRANGEMENT D	3-13
3.4.7	<i>Determination of the Coordination Area Around an Earth Station</i>	3-13
3.4.8	<i>Text of Arrangement E</i>	3-13
	ANNEX C	3-17
	TABLE C1: Limits of ERP and EAH	3-18
	TABLE C2: Values of Assumed Average Terrain Elevations (AATE)	3-18
	Map. Canada/United States Sharing Arrangement	3-19
	Figure 1. Canada/United States Sharing Arrangement 421-430 MHz Band	3-20
	Figure 2. Canada/United States Sharing Arrangement 421-430 MHz Band Coordination Zones	3-21
	Figure 3. Canada/United States Sharing Arrangement 421-430 MHz Band Overlap Coordination.....	3-22
3.5	FOREIGN REPORTS TO FCC OF INTERFERENCE FROM U.S. GOVERNMENT STATIONS.....	3-23
3.6	PROCEDURE FOR RESOLVING HARMFUL INTERFERENCE FROM CANADIAN STATIONS.....	3-23
3.7	APPLICATIONS TO OPERATE WITHIN THE INMARSAT SYSTEM	3-23
3.8	INTERNATIONAL AGREEMENTS.....	3-23
3.9	UNITED STATES – MEXICO SHARING AND COORDINATION AGREEMENTS, PROTOCOLS AND ARRANGEMENTS	3-23
3.9.1	<i>General</i>	3-23
3.9.2	<i>Agreement Between the Government of the United States of America and the Government of the United Mexican States Concerning the Allocation and Use of Frequency Bands by Terrestrial Non-Broadcasting Radiocommunication Services along the Common Border</i>	3-24
3.9.3	<i>Protocol 1 Concerning the Allocation and Use of the Channels in the 220-222 MHz Band for Land Mobile Services along the Common Border</i>	3-28
	APPENDIX - TABLE OF ALLOTMENT (220-222 MHz Band).....	3-30

3.9.4	<i>Protocol 6 Concerning the Allotment and Use of Channels in the 932-932.5 and 941-941.5 MHz Bands for Fixed Point-to-Multipoint Services along the Common Border</i>	3-34
	<i>APPENDIX - TABLE OF ALLOTMENT 932-932.5 and 941-941.5 MHz Bands</i>	3-36
3.9.5	<i>Protocol 9 Concerning the Use of Bands Allocated to the Aeronautical Radionavigation and Aeronautical Communications Services Along the Common Border (in 16 Separate Bands from 190 kHz to 15.7 GHz)</i>	3-36
3.9.6	<i>Protocol 10 Concerning the Use of Channels in the 932.5-935 MHz and the 941.5-944 MHz Bands for Fixed Point-to-Point Services Along the Common Border</i>	3-40
	<i>TABLE. ANTENNA PERFORMANCE STANDARDS</i>	3-42
3.9.7	<i>Protocol 12 - Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment and Use of the 380-399.9 MHz Band for Fixed and Mobile Terrestrial Non-Broadcasting Services Along the Common Border</i>	3-44
3.9.8	<i>Protocol 13 - Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment and Use of the 406.1-420 MHz Band for Fixed and Mobile Services Along the Common Border</i>	3-48
3.9.9	<i>Protocol 16 (Permanent) Protocol Between the Department of State of the United States of America and the Secretaría de Comunicaciones y Transportes of the United Mexican States Concerning the Allotment And Use of the 138-144 MHz Band For Terrestrial Non-Broadcasting Radiocommunication Services Along the Common Border.....</i>	3-54
3.9.10	<i>Administrative Arrangement Between the United States of America and the United Mexican States Concerning Frequencies Used by the International Boundary and Water Commission....</i>	3-59
	<i>MAP ANNEX II</i>	3-64
3.9.11	<i>U.S. and Mexican Special Purpose Operations</i>	3-65
3.9.12	<i>Interference Resolution</i>	3-65
3.9.13	<i>U.S. and Mexico Shared Radio Frequencies and Equipment for Firefighting, Certain Other Emergency, and Disaster Relief Operations.....</i>	3-65

Chapter 4

Allocations, Allotments and Plans

4.1	FREQUENCY ALLOCATIONS	4-1
4.1.1	<i>ITU Table of Frequency Allocations ITU Table of Frequency Allocations</i>	4-1
4.1.2	<i>National Table of Frequency Allocations</i>	4-1
4.1.3	<i>Federal Table of Frequency Allocations.....</i>	4-1
	<i>Chart of Regions as Defined in the Table of Frequency Allocations.....</i>	4-3
	<i>International Radio Regulations.....</i>	4-71
	<i>United States (US) Footnotes.....</i>	4-119
	<i>Non-Federal Government (NG) Footnotes</i>	4-144
	<i>Federal Government (G) Footnotes</i>	4-149
4.2	FREQUENCY ALLOTMENTS	4-152
4.2.1	<i>Allotment of 27575 and 27585 kHz for Short-Distance Low-Power Service.....</i>	4-152
4.2.2	<i>Allotments in the Band 1755-1850 MHz for Fixed Security Surveillance Systems.....</i>	4-152
4.2.3	<i>Allotments for Wide-Area, Common-Use Frequencies.....</i>	4-152
4.2.4	<i>Allotments for Local-Area, Common-Use Frequencies</i>	4-153
4.3	FREQUENCY PLANS	4-154
4.3.1	<i>CW Phase Comparison Radiolocation Plan.....</i>	4-154
4.3.2	<i>Plan for Wireless Microphones in the Band 162-174 MHz</i>	4-154
4.3.3	<i>Plan for Hydrologic and Meteorological Operations in the Bands 162-174 and 406.1-420 MHz.....</i>	4-155
4.3.4	<i>Telemetry Plans</i>	4-156
4.3.5	<i>VHF/UHF Plan for Aeronautical Radionavigation.....</i>	4-157
4.3.6	<i>Channeling Plan for Assignments in the Band 29.89-50 MHz</i>	4-163
4.3.7	<i>Channeling Plan for Assignments in the Band 162-174 MHz (12.5 kHz Plan)</i>	4-164

4.3.8	<i>Splinter Channel Assignment Plan in the band 162-174 MHz (12.5 kHz plan)</i>	4-166
4.3.9	<i>Channeling Plan for Assignments in the Band 406.1-420 MHz</i>	4-167
4.3.10	<i>Reserved</i>	4-174
4.3.11	<i>Plan for Bio-Medical Telemetry and Medical Radiocommunication</i>	4-174
4.3.12	<i>Channeling Plan for Assignments in the Fixed Service in the 14500.0 to 14714.5 and 15136.5 to 15350.0 MHz</i>	4-176
	Table 1: Center Frequencies (MHz) of 2.5 MHz Channels in the Bands 14500.0-14714.5 MHz and 15136.5-15350.0 MHz	4-177
4.3.13	<i>Channeling Plan for Assignments in the Maritime Mobile Service</i>	4-178
4.3.14	<i>Channeling Plan for Assignments in the Fixed Service in the Bands 932.4-935 MHz and 941.4-944 MHz</i>	4-178
	Table 1: Paired Frequencies for Point-to-Multipoint Assignments (12.5 kHz Bandwidth).....	4-179
	Table 2: Paired Frequencies for Point-to-Point Assignments	4-179
4.3.15	<i>Channeling Plan for Land Mobile Assignments in the Band 220-222 MHz</i>	4-180
	Table of 220-222 MHz Channel Designations.....	4-180
4.3.16	<i>Plans for Federal Interoperability Channels for Interagency Law Enforcement and Incident Response Operations in the Bands 162-174 MHz and 406.1-420 MHz</i>	4-183
4.3.17	<i>Plan for JTIDS TDMA Waveform Systems</i>	4-185
4.3.18	<i>4400-4940 MHz Channel Plan</i>	4-185
	Figure 1: The 4400-4940 MHz Channel Plan	4-186
	Table 1: The Center Frequencies for the 40 MHz Wide-Band Paired Channels (A-Channels)..	4-187
	Table 2: The Center Frequencies for the 30 MHz Wide-Band Paired Channels (B-Channels)..	4-188
	Table 3: The Center Frequencies for the 20 MHz Wide-Band Paired Channels (C-Channels)..	4-188
	Table 4: The Center Frequencies for the 10 MHz Wide-Band Paired Channels (D-Channels)..	4-188
	Table 5: The Center Frequencies for the 5 MHz Narrow-Band Paired Channels (E-Channels)	4-189
	Table 6: The Center Frequencies for the 2.5 MHz Narrow-Band Paired Channels (F-Channels)	4-189
	Table 7: The Center Frequencies for the 1.25 MHz Narrow-Band Paired Channels (G-Channels)	4-190
	Table 8: The Center Frequencies for the Unpaired or Single Channels in the 4400-4940 MHz Channel Plan	4-191
4.3.19	<i>7125-8500 MHz Channel Plan</i>	4-192
	Figure 1: 7 GHz Channel Plan	4-193
	Figure 2: 8 GHz Channel Plan	4-194
	Table 1: The Center Frequencies of the 30 MHz Paired Channels	4-196
	Table 2: The Center Frequencies of the 20 MHz Paired Channels	4-196
	Table 3: The Center Frequencies of the 10 MHz Paired Channels	4-196
	Table 4: The Center Frequencies of the 5 MHz Paired Channels	4-197
	Table 6: The Center Frequencies of the 30 MHz Unpaired Channels	4-198
	Table 7: The Center Frequencies of the 20 MHz Unpaired Channels	4-198
	Table 8: The Center Frequencies of the 10 MHz Unpaired Channels	4-198
	Table 9: The Center Frequencies of the 5 MHz Unpaired Channels	4-199
	Table 10: The Center Frequencies of the 2.5 MHz Unpaired Channels	4-199

Chapter 5

Spectrum Standards

5.1	GENERAL	5-1
5.1.1	<i>Introduction</i>	5-1
5.1.2	<i>Consequences of Non-conformance with the Provisions of this Chapter</i>	5-1
5.1.3	<i>Agency Procurement Specifications</i>	5-1
5.1.4	<i>Measurement Methods</i>	5-1
5.1.5	<i>Terminology</i>	5-1
5.2	FREQUENCY TOLERANCES AND UNWANTED EMISSIONS	5-2
5.2.1	<i>Table of Frequency Tolerances</i>	5-2

5.2.2	<i>Location of Standards for Levels of Unwanted Emissions</i>	5-8
5.2.2.1	<i>Location of Specific Standards</i>	5-8
	Table 5.2.2.1.....	5-8
5.2.2.2	<i>General Standards</i>	5-8
	Below 29.7 MHz, the following standard applies when no other standard applies:	5-8
	29.7 MHz and above, the following standard applies when no other standard applies	5-9
5.3	FIXED AND MOBILE STATIONS	5-9
5.3.1	<i>HF Single Sideband and Independent Sideband Equipment (2-29.7 MHz)</i>	5-9
5.3.1.1	<i>Transmitter Standards</i>	5-10
5.3.1.2	<i>Receiver Standards</i>	5-10
5.3.1.3	<i>Antenna Standards</i>	5-10
	Station	5-11
5.3.2	<i>Maritime Mobile Stations using FM (150.8-162.0125 MHz)</i>	5-11
5.3.3	<i>Fixed Services (406.1-420 MHz Band, the 932-935/941-944 MHz Bands, the 1710 MHz-15.35 GHz, the 21.8-22.075 GHz and 23-23.275 GHz Frequency Ranges)</i>	5-11
5.3.3.1	<i>Transmitter Standards</i>	5-11
5.3.3.2	<i>Receiver Standards</i>	5-13
5.3.3.3	<i>Antenna Standards</i>	5-14
	Table 5.3.3.....	5-15
5.3.4	<i>Land Mobile, Single Channel Narrowband Operations (220-222 MHz Band)</i>	5-16
5.3.4.1	<i>Transmitter Standards</i>	5-16
5.3.4.2	<i>Geographic Separation of Sub-Band A Base Station Receivers and Sub-Band B Base Station Transmitters</i>	5-16
5.3.4.3	<i>Limitations on Power and Antenna Height:</i>	5-16
5.3.5	<i>Standards for Fixed and Mobile Analog or Digital FM/PM Operations (29.7-50, 138-150.8, 162-174, and 406.1-420 MHz Bands)</i>	5-17
5.3.6	<i>Standard for Fixed and Mobile Analog or Digital FM/PM Wideband Operations (29.7-50, 162-174, and 406.1-420 MHz Bands)</i>	5-17
5.3.6.1	<i>Transmitter</i>	5-17
	Figure 5.3.6.1	5-18
5.3.6.2	<i>Receiver</i>	5-18
5.3.7	<i>Standards for Fixed and Mobile Analog or Digital FM/PM Narrowband Operations in the 138-150.8, 162-174 and 406.1-420 MHz Bands</i>	5-19
5.3.7.1	<i>Standards</i>	5-19
5.3.7.2	<i>Effective Dates</i>	5-19
5.3.7.3	<i>Waivers</i>	5-19
	A. Transmitter	5-19
	B. Receiver	5-20
	Figure 5.3.7.1 LEVELS OF UNWANTED EMISSIONS	5-20
5.3.8	<i>Low Power Channels and Splinter Channels (162-174 MHz Band)</i>	5-21
5.3.9	<i>Telemetry, Terrestrial (1435-1525, 2200-2290, 2310-2320 and 2345-2390 MHz Bands)</i>	5-21
5.3.10	<i>Low Power Transmit (21.8-22.075 and 23.0-23.275 GHz Band Segments)</i>	5-21
5.4	DISTRESS AND SAFETY COMMUNICATIONS	5-22
	1. Global Maritime Distress and Safety System (GMDSS):.....	5-22
	2. 121.5/243 MHz EPIRBs:	5-22
5.5	RADAR SPECTRUM ENGINEERING CRITERIA (RSEC)	5-22
5.5.1	General	5-22
5.5.2	<i>Applicability of RSEC</i>	5-23
	COTS	5-24
	Waivers of RSEC	5-25
5.5.3	<i>RSEC Emission Mask</i>	5-25
5.5.3.1	<i>Non-Hopping radars</i>	5-26
5.5.3.2	<i>Hopping Radars (contiguous frequencies)</i>	5-28
5.5.3.3	<i>Shifting the RSEC Mask</i>	5-29
5.5.4	<i>Non-Hopping Radar -40 dB Bandwidth Equations</i>	5-30
	Continuous Wave (CW)/Frequency Modulated Continuous Wave (FMCW) -40 dB	

	Bandwidth Equations	5-30
	Non-FM pulse radars (including Spread Spectrum and Phase Coded pulse radars) -40 dB	
	Bandwidth Equations	5-30
	FM-pulse radars (intentional FM) -40 dB Bandwidth Equations	5-30
5.5.4.1	<i>Frequency Hopping -40 dB Bandwidth Equations</i>	5-31
	Frequency Hopping Non-FM pulse and Phase Coded -40 dB Bandwidth Equations.....	5-32
	Frequency Hopping FM-pulse radars (intentional FM) -40 dB Bandwidth Equations.....	5-32
5.5.5	<i>The Applicability of the RSEC Effective Dates</i>	5-32
5.5.6	<i>Compliance with RSEC -40 dB Bandwidth and Emission Mask.....</i>	5-33
5.5.7	<i>RSEC Criteria</i>	5-33
5.5.7.1	<i>RSEC Criteria A.....</i>	5-33
	Criteria A Applicability	5-33
	Criteria A Emission Mask.....	5-34
	-40 dB bandwidth Equations.....	5-34
	Roll-off in the Out-of-Band (OOB) Domain.....	5-34
	Spurious Domain Limits	5-34
	Criteria A Antenna Pattern.....	5-35
	Criteria A Radar Tunability	5-35
	Criteria A Radar Receivers	5-36
	Criteria A Measurement Capability	5-36
5.5.7.2	<i>RSEC Criteria B.....</i>	5-36
	Criteria B Applicability.....	5-36
	Criteria B Emission Mask for Un-modulated Pulsed, FM Pulsed, and Phase Coded Radars.....	5-36
	Criteria B Emission Mask for Continuous Wave (CW) and FM/CW Radars.....	5-36
	Criteria B Antenna Pattern.....	5-37
	Criteria B Radar Tunability.....	5-37
	Criteria B Radar Receivers.....	5-37
	Criteria B Measurement Capability	5-37
5.5.7.3	<i>RSEC Criteria C.....</i>	5-37
	Criteria C Applicability.....	5-37
	Criteria C Emission Mask for Un-modulated Pulsed, FM Pulsed, and Phase Coded radars	5-38
	Criteria C Emission Mask for Continuous Wave (CW) and FM/CW radars.....	5-39
	Compatibility with EESS (passive systems).....	5-39
	Criteria C Antenna Pattern.....	5-39
	Criteria C Radar Tunability.....	5-39
	Criteria C Radar Receivers.....	5-39
5.5.7.4	<i>RSEC Criteria D</i>	5-40
	Criteria D Applicability	5-40
	Criteria D Emission Mask for Non-FM Pulsed, FM Pulsed, and Phase Coded radars	5-40
	Criteria D Emission Mask for Continuous Wave (CW) and FM/CW radars.....	5-41
	Criteria D Antenna Pattern.....	5-41
	Criteria D Radar Tunability	5-41
	Criteria D Radar Receivers	5-41
	Criteria D EMC Provisions	5-41
	Criteria D Measurement Capability	5-42
5.5.7.5	<i>RSEC Criteria E.....</i>	5-42
	Criteria E Applicability	5-42
	Criteria E Emission Mask for all Modulations.....	5-43
	Radar emission bandwidth and emission levels for wind profiler radars at 449 MHz (Criteria E).....	5-44
	Criteria E Permitted EIRP	5-45
	Criteria E WPR Receiver	5-45
	Criteria E EMC Provisions	5-45
	Criteria E Measurement Capability.....	5-45
5.5.8	<i>Commercial off-the-shelf (COTS) Radar Systems.....</i>	5-45
5.6	<i>Space Services.....</i>	5-46

5.6.1	General.....	5-46
5.6.2	Unwanted Emission Mask.....	5-46
5.6.3	Multi-Carrier Emissions and Multi-Transponder Satellites	5-47
5.6.4	Unwanted Emissions From One Transponder Falling Within The Frequency Band of Another Transponder On The Same Satellite.....	5-47
5.6.5	Narrow Band Emissions.....	5-47
5.6.6	Table 5.6.1 Minimum Bandwidth.....	5-48

Chapter 6

Definitions and Particulars of Assignments

6.1	DEFINITIONS	6-1
6.1.1	Special Terms (General)	6-1
6.1.2	Stations (alphabetical by classes).....	6-15
6.1.3	Stations (alphabetical by symbols).....	6-20
6.1.4	Table of Services, Station Classes, and Stations.....	6-25
6.2	FREQUENCY NOMENCLATURE	6-27
6.3	EMISSION DESIGNATORS	6-28
6.3.1	Classification of Emissions	6-28
6.3.2	Necessary Bandwidth.....	6-28
6.4	CLASSES OF EXPERIMENTAL STATIONS	6-28
6.5	CALL SIGNS	6-29
6.5.1	International Provisions	6-29
6.5.2	Use of Call Signs.....	6-29
6.5.3	Obtaining Call Signs.....	6-30
6.6	MARITIME SERVICE IDENTITIES	6-30

CHAPTER 7

Authorized Frequency Usage

7.1	GENERAL	7-1
7.1.1	Lasers and Other Systems That Operate Above 3000 GHz	7-1
7.2	USE OF FREQUENCIES CONTAINED IN THE LIST OF FREQUENCY ASSIGNMENTS TO FEDERAL GOVERNMENT RADIO STATIONS.....	7-1
7.3	USE OF FREQUENCIES FOR NATIONAL SECURITY AND EMERGENCY PREPAREDNESS (NS/EP)	7-1
7.3.1	Overview	7-1
7.3.2	Spectrum Management in Support of the National Response Framework (Non-Wartime).....	7-2
7.3.3	Deployment of Spectrum Dependent Systems	7-2
7.3.4	Emergency Communications for which an Immediate Danger Exists to Human Life or Property	7-2
7.3.5	National Security and War Emergency Communications.....	7-2
7.3.6	Emergency Use of Non-Federal Frequencies.....	7-3
7.3.7	Status Reporting Procedures.....	7-3
7.3.8	Coordination and Use of Emergency Networks.....	7-3
7.3.9	Use of Amateur Radio High Frequency Equipment for Emergency Communications	7-4
7.4	USE OF FREQUENCIES BY FIXED AND LAND STATIONS	7-4
7.5	USE OF FREQUENCIES BY MOBILE STATIONS	7-4
7.5.1	Frequencies Assigned to Federal Stations in the Mobile Service and Mobile Earth Stations.....	7-4
7.5.2	Frequencies Authorized by the FCC for Ship Stations	7-5
7.5.3	Frequencies for the Safety of Life and Property	7-5
7.5.4	Frequencies for Coordinating Search and Rescue Operations.....	7-6
7.5.5	Coast Station Frequencies	7-6
7.5.6	Frequencies for Marine Environmental Protection Operations.....	7-6
7.5.7	Ship Station Frequencies in the Bands 4000-4063 and 8100-8195 kHz.....	7-6

7.5.8	<i>Federal Government Use of the Family Radio Service (FRS)</i>	7-6
7.5.9	<i>Federal Use of Medical Telemetry Devices in Certain Bands</i>	7-7
7.6	USE OF FREQUENCIES BY AIRCRAFT STATIONS.....	7-7
7.7	USE OF FREQUENCIES BY MANNED SPACECRAFT	7-7
7.8	PURCHASE AND USE OF NON-LICENSED DEVICES.....	7-7
7.9	DEVELOPMENT AND USE OF NON-LICENSED DEVICES	7-8
7.10	USE OF FREQUENCIES BY INDUSTRIAL, SCIENTIFIC, AND MEDICAL (ISM) EQUIPMENT	7-8
7.10.1	<i>Operation on Particular Frequencies Designated for ISM Equipment</i>	7-8
7.10.2	<i>Operation on Frequencies Other than Those Designated for ISM Equipment</i>	7-9
7.11	USE OF FREQUENCIES BY CERTAIN EXPERIMENTAL STATIONS.....	7-10
7.12	USE OF FREQUENCIES AUTHORIZED TO NON-FEDERAL STATIONS UNDER PART 90 OF THE FCC RULES.....	7-16
7.13	MILITARY COMMUNICATIONS UNDER APPENDIX 13 (Part A2), INTERNATIONAL TELECOMMUNICATION CONVENTION	7-16
7.14	PERFORMANCE OF ELECTRONIC ATTACK TEST, TRAINING, AND EXERCISE OPERATIONS	7-17
7.15	MILITARY COMMUNICATIONS FOR TACTICAL AND TRAINING OPERATIONS	7-17
7.15.1	<i>Military Communications in the Bands 3500-4000, 20010-22000, and 22855-24990 kHz for Tactical and Training Operations</i>	7-17
7.15.2	<i>Military Communications in the Broadcast Bands between 4 and 27 MHz, the Maritime Mobile Band between 4.005 and 4.063 MHz, and Specified Frequencies between 2 and 27 MHz for Tactical and Training Operations</i>	7-17
7.15.3	<i>Military Communications in Non-Federal Bands Above 25 MHz for Tactical and Training Operations</i>	7-19
7.15.4	<i>Military Communications in the Federal Bands Between 30 and 50 MHz for Tactical and Training Operations</i>	7-22
7.16	RESERVED	7-22
7.17	MILITARY COMMUNICATIONS AT TEST RANGES IN NON-FEDERAL BANDS ABOVE 25 MHz.....	7-22
7.17.1	<i>Locations</i>	7-23
7.17.2	<i>Frequency Bands</i>	7-23
7.17.3	<i>Conditions</i>	7-23
7.17.4	<i>Coordination</i>	7-24
7.17.5	<i>Frequency Assignment Lists</i>	7-24
7.18	MILITARY TELEMETERING AND TERRESTRIAL TELECOMMAND IN RADIOLOCATION BANDS	7-25
7.19	RESERVED	7-25
7.20	USE OF NON-FEDERAL FREQUENCIES BY THE FCC FIELD OPERATIONS BUREAU	7-25
7.21	TEMPEST ZONE TESTING OF PHYSICAL FACILITIES	7-25
7.22	USE OF FREQUENCIES 10.525 GHz AND 24.150 GHz OR THE BAND 33.4-36.0 GHz FOR RADIOLOCATION DEVICES	7-25
7.23	FEDERAL GOVERNMENT AGENCIES AS END USERS OF FCC LICENSED COMMERCIAL SERVICES	7-25
7.24	ESTABLISHING INTEROPERABILITY BETWEEN FEDERAL ENTITIES AND NON- FEDERAL PUBLIC SAFETY ENTITIES	7-26
7.25	USE OF ELECTRONIC COUNTERMEASURES/EQUIPMENT IN RESPONSE TO RADIO- CONTROLLED IMPROVISED EXPLOSIVE DEVICES	7-26
7.26	AUTHORIZATION TO UTILIZE SPECTRUM BY FEDERAL SURFACE DEFECT TESTING SYSTEMS FOR LOW OBSERVABLE AIRCRAFT	7-27
7.26.1	<i>SPS Process</i>	7-27

Chapter 8

Procedures and Principles for the Assignment and Coordination of Frequencies

8.1	AUTHORIZING FREQUENCY USAGE	8-1
8.1.1	General Procedure for Authorizing Frequency Usage	8-1
8.1.2	Authorizing Frequency Assignments to Stations of Foreign Governments in Washington, DC	8-2
8.2	FREQUENCY ASSIGNMENT PRINCIPLES	8-3
8.2.1	Frequency Sharing	8-3
8.2.2	Planned Frequency Utilization	8-3
8.2.3	Consideration of Applications	8-3
8.2.4	Justification for Frequency Assignments	8-3
8.2.5	Withholding Funds Pending Availability of Frequency Support	8-4
8.2.6	Programs to Determine How the Spectrum is Used	8-4
8.2.7	Notification of Discontinuance of Service	8-5
8.2.8	Stations Located in Close Geographic Proximity	8-6
8.2.9	Authorized Area of Operations of Mobile Stations	8-6
8.2.10	Relative Priority of Frequency Assignments	8-6
8.2.11	Use of Radio Frequencies Below 30 MHz for Domestic Fixed Service	8-6
8.2.12	Explanation of the Term "Tactical and Training"	8-8
8.2.13	Guidance on Use of Frequencies by Stations in Certain HF Bands	8-9
8.2.14	Applications for Frequency Assignments in Bands Allocated to the Radio Astronomy Service	8-9
8.2.15	Referral of Applications Related to the Space Service	8-9
8.2.16	Assigning the Most Heavily Occupied Frequency Channel	8-10
8.2.17	Determining Whether a Station is a Federal Station	8-10
8.2.18	Assignment of a Band of Frequencies to a Station	8-10
8.2.19	Limitation of Radiated Power	8-10
8.2.20	Conversion of Fixed Stations to SSB Transmission	8-10
8.2.21	Use of Ionosphere Sounders	8-11
8.2.22	Use of Ionosphere Sounders for Purposes Other Than Those Mentioned in Section 8.2.21	8-11
8.2.23	Minimum Data Recommended for Inclusion on Applications for Antenna Testing Assignments Above 30 MHz	8-11
8.2.24	Use of Frequencies in the Bands Between 2850 and 22000 kHz Allocated Exclusively to the Aeronautical Mobile Service	8-12
8.2.25	Use of Frequency Diversity for LOS Transmissions in the Bands Allocated to the Fixed Service Above 1710 MHz	8-14
8.2.26	Use of Radio Frequencies to be in Accordance with ITU Provisions	8-14
8.2.27	Experimental Use of Certain Radio Spectrum	8-14
8.2.28	Radio Frequency Electromagnetic Field Safety and Protection	8-15
8.2.29	Use of Frequencies by Stations in the Maritime Mobile Service	8-15
8.2.30	Procedure in a Case of Harmful Interference	8-21
8.2.31	INITIAL REPORT OF RADIO INTERFERENCE TO U.S. STATIONS FROM MEXICO	8-23
8.2.32	Conversion of Stations in the Aeronautical Mobile Service to SSB or ISB Transmission	8-25
8.2.33	Control of Emissions from Space Stations	8-25
8.2.34	Selection of Sites and Frequencies for Earth and Terrestrial Stations in the Bands Above 1 GHz Shared with Equal Rights by Terrestrial Radiocommunication and Space Radiocommunication Services	8-25
8.2.35	Power and Direction of Maximum Radiation of Stations in the Fixed or Mobile Service in Certain Bands Shared with Stations in the Space Radiocommunication Services (Earth-to- Space) on an Equal Rights Basis	8-25
	Table: 8.2.34-1	8-25
	Table: 8.2.34-2	8-26
8.2.36	Power and Direction of Maximum Radiation of Earth Stations in Certain Bands Shared with Stations in the Fixed or Mobile Service	8-26
	Table: 8.2.35	8-27
8.2.37	Power Flux-Density Limits	8-27
8.2.38	Control of Interference between Geostationary-Satellite Systems and Non-Synchronous Inclined Orbit-Satellite Systems	8-31
8.2.39	Station Keeping of Space Stations	8-31
8.2.40	Pointing Accuracy of Antennas on Geostationary Satellites	8-32

8.2.40	Space Research in Bands other than those Allocated to the Space Research Service	8-32
8.2.41	Space Systems Using Necessary Bandwidths Greater Than 5 MHz for Transmissions from Space in the Band 2200-2290 MHz.....	8-32
8.2.42	Wildlife and Ocean Buoy Tracking and Telemetry.....	8-32
8.2.43	Frequency Assignments to Transportable Earth Stations in the 7300-7750 and 8025-8400 MHz Bands.....	8-33
8.2.44	(Reserved)	8-33
8.2.45	Frequency Assignments to Mobile Stations in Certain Frequency Bands Shared with Passive Sensors	8-33
8.2.46	Radiolocation Operations in the Band 15.7-17.3 GHz	8-34
8.2.47	Shared Federal/Non-Federal Radio Systems.....	8-34
8.2.48	Trunked Land-Mobile Radio Systems	8-35
8.2.48A	Land Mobile Radio Communications.....	8-35
8.2.49	Reserved.....	8-36
8.2.50	Federal/Non-Federal Frequency Sharing in the 932-935 MHz and 941-944 MHz Bands.....	8-36
8.2.51	Redeployment Requirement of Weather Radars.....	8-36
8.2.52	Federal Use of the Band 220-222 MHz	8-36
8.2.53	Tracking, Telemetry and Telecommand Operations	8-37
8.2.54	Policy on the Use of the Frequency Bands Between 406.1 and 450 MHz by Range Safety Operations.....	8-37
8.2.55	Wideband and Narrowband Emission Level and Temporal Measurements in the Navstar Global Positioning System Frequency Bands.....	8-37
8.2.56	Aeronautical Use by Mobile Stations of Frequencies in the Bands 162.05-173.2, 173.4-174, and 406.125-420 MHz on an Exceptional Basis.....	8-38
8.3	COORDINATION OF FREQUENCY USAGE	8-38
8.3.1	Basic Coordination Arrangement Between the IRAC and the FCC	8-38
8.3.2	Coordination of the Policy and Economic Aspects of Certain Federal Proposals to Use Non- Federal and Amateur Frequency Bands	8-38
8.3.3	Coordination of Frequencies Used for Communication with Non-Federal Stations Licensed Under Part 90 of the FCC Rules.....	8-39
8.3.4	Coordination of Military Use of Non-Federal Bands at Test Ranges and for Tactical and Training Operations.....	8-39
8.3.5	Intra-Military Coordination of Frequency Applications	8-39
8.3.6	Coordination for the Use of Hydrologic Channels in the Bands 162-174 and 406.1-420 MHz... 8-39	
8.3.7	Coordination of Meteorological Aids Operations in the Bands 400.15-406 and 1668.4-1700 MHz.....	8-41
8.3.7A	Coordination of GOES Satellite Terrestrial Data Collection Platforms.....	8-41
8.3.8	Coordination of Radio Operations in the Vicinity of Fort Huachuca, Arizona.....	8-41
8.3.9	Coordination of Assignments to Stations (Other than Mobile and Transportable) to be Located in the National Radio Quiet Zone	8-42
8.3.10	Coordination of Assignments to Stations Located in the Vicinity of the United States/Canada Borders.....	8-43
8.3.11	Coordination of Frequency Usage Outside the United States and Possessions	8-43
	Figure 1: National Radio Quiet Zone.....	8-44
8.3.12	Coordination of Assignments for Transmissions by Terrestrial Stations Located Within the Coordination Area of a Receiving Earth Station	8-45
8.3.13	Coordination of Assignments for Transmission or Reception by Earth Stations.....	8-45
8.3.14	Coordination of Assignments to Earth and Space Stations Which Utilize Geostationary- Satellites Networks.....	8-46
8.3.14A	Coordination of Assignments to Stations of Non-geostationary-Satellite Networks in Accordance with No. 9.11A of the ITU Radio Regulations.....	8-47
8.3.14B	Coordination of Assignments to Stations of Non-geostationary-Satellite Networks in Accordance with No. 9.21 of the ITU Radio Regulations	8-48
8.3.15	List of Coordinated Earth Stations	8-49
8.3.16	Procedures for Field Level Coordination of the Use of the Frequencies 1030 and 1090 MHz and Frequencies in the Bands 1215-1390, 2700-2900 and 9000-9200 MHz	8-56

8.3.17	<i>Procedures for Field Level Coordination, and Coordination with the Aerospace and Flight Test Radio Coordinating Council (AFTRCC), of the Frequency Band 1435-1525, 2310-2320 and 2345-2390 MHz.....</i>	8-58
8.3.18	<i>Reserved.....</i>	8-59
8.3.19	<i>Coordination of Assignments in the Band 406.1-410 MHz to Stations (Other Than Mobile) in the Vicinity of Certain Radio Astronomy Observatories.....</i>	8-59
8.3.20	<i>Coordination of Assignments to Stations (other than Mobile) to be located in the Vicinity of the Table Mountain Radio Receiving Site, Boulder, Colorado.....</i>	8-59
8.3.21	<i>Coordination of High Frequencies for Projects and Systems Involving Oceanographic Data Transmissions.....</i>	8-60
8.3.22	<i>Use of Aeronautical Mobile (R) Service Channels in the 5000-5010 MHz Band.....</i>	8-60
8.3.23	<i>Coordination of Assignments to Federal Broadcasting Stations (other than international broadcasting)</i>	8-60
8.3.24	<i>Coordination of Frequencies Used for Communications with Non-Federal Citizens Band Stations.....</i>	8-62
8.3.25	<i>Coordination Procedures for the 932-935 MHz and 941-944 MHz Bands</i>	8-62
8.3.26	<i>Coordination of Federal Radio Operations With DoD Area Frequency Coordinators in Frequency Bands Above 420 MHz</i>	8-63
	<i>Table: 8.3.26 - DoD Test Ranges, Areas of Concern, and Applicable Coordination Note.....</i>	8-63
8.3.27	<i>Notification in the Bands 10-490 kHz</i>	8-64
8.3.28	<i>Use of Fixed Devices That Re-Radiate Signals Received From the Global Positioning System..</i>	8-64
8.3.29	<i>Use of Land-Based Mobile Devices That Re-Radiate Signals Received From the Global Positioning System</i>	8-65
8.3.30	<i>Use Inside of Federal Owned Aircraft Devices That Re-Radiate Signals Received From the Global Positioning System</i>	8-65
8.3.31	<i>Coordinated Use of Federal Fixed Ultrawideband Systems Not Intended for Operation under Parts 7.8 or 7.9</i>	8-66
8.3.32	<i>Coordination of Special Temporary Authorization Assignments for Federal Agencies.....</i>	8-66
8.3.33	<i>Coordination of Frequency Assignments for Unmanned Aircraft Systems (UAS).....</i>	8-68
8.3.34	<i>PROCEDURES FOR COORDINATING USE OF FEDERAL SURFACE DEFECT TESTING SYSTEMS FOR LOW OBSERVABLE AIRCRAFT.....</i>	8-68
8.4	COGNITIVE RADIO, DYNAMIC SPECTRUM ACCESS, AND SOFTWARE DEFINED RADIO TECHNIQUES	8-68

CHAPTER 9

Preparation of Applications for Frequency Assignment Action

9.1	DETERMINING WHEN THE SUBMISSION OF AN APPLICATION IS REQUIRED.....	9-1
9.1.1	<i>When the Submission of an Application is Required to Obtain Authority to Use a Frequency.....</i>	9-1
9.1.2	<i>When the Submission of an Application is Not Required to Obtain Authority to Use a Frequency.....</i>	9-1
9.1.3	<i>When the Submission of an Application is Required for the Notification of the Use of a Frequency.....</i>	9-1
9.1.4	<i>Applications Required for Private Contractors</i>	9-2
9.2	SPECIAL INSTRUCTIONS CONCERNING CERTAIN APPLICATIONS	9-2
9.2.1	<i>Applications Handled by AAG or MAG.....</i>	9-2
9.2.2	<i>Applications for Sounder Network Stations or Sounder Prediction Stations.....</i>	9-3
9.2.3	<i>Reserved.....</i>	9-3
9.2.4	<i>Use of Data Plots and Coordination Contour Maps.....</i>	9-3
9.2.5	<i>Frequency Assignments for Use of Federal Fixed Ultrawideband Systems Not Intended for Operation under Sections 7.8 or 7.9</i>	9-4
9.3	SUBMISSION OF FAS AGENDA MATERIAL	9-4
9.3.1	<i>Frequency Assignment Applications.....</i>	9-4
9.3.2	<i>SECRET Documents, Supplemental Material and Administrative Agenda Items.....</i>	9-5
9.4	SECURITY CLASSIFICATION OF APPLICATIONS.....	9-5

9.5	REQUIRED JUSTIFICATION FOR A FREQUENCY ASSIGNMENT	9-6
9.6	DESCRIPTION OF TYPES OF FREQUENCY ASSIGNMENTS.....	9-6
9.6.1	<i>Regular Assignment</i>	9-6
9.6.2	<i>(Reserved)</i>	9-6
9.6.3	<i>Temporary Assignment</i>	9-6
9.6.4	<i>Trial Assignment</i>	9-6
9.6.5	<i>Group Assignment</i>	9-7
9.7	FREQUENCY APPLICATION.....	9-7
9.7.1	<i>Uses of the Application Format</i>	9-7
9.7.2	<i>Rules for the Use of the Application Format</i>	9-8
9.8	PREPARATION OF A NEW OR NOTIFICATION ACTION.....	9-12
9.8.1	<i>Introduction</i>	9-12
	Table: Index of Field Codes.....	9-12
9.8.2	<i>Application Data Requirements</i>	9-12
	VHF OMNI-RANGE--100 kHz Channel (Standard--VOR1A, Doppler--VOR1B).....	9-50
	VHF OMNI-RANGE (50 kHz Channel) (Standard--VOR2A, Doppler VOR2B)	9-50
	ILS LOCALIZER (ILSLOC).....	9-51
	ILS GLIDE SLOPE (ILSGS).....	9-51
	Part 1 - General Function Identifiers with Description	9-55
	Part 2 - Agency Specific Function Identifiers with Description	9-56
9.9	USE OF THE CARD FORMAT FOR MODIFICATION, RENEWAL, AND DELETION ACTION.....	9-71
9.10	USE OF FIELD CODES.....	9-71
	Table: Field Codes	9-71
9.11	PREPARATION OF THE CARD FORMAT FOR A MODIFICATION ACTION	9-72
9.12	PREPARATION OF THE CARD FORMAT FOR A RENEWAL ACTION.....	9-74
9.13	PREPARATION OF THE CARD FORMAT FOR A DELETION ACTION	9-74
9.14	APPLICATIONS CONSIDERED BY THE AERONAUTICAL ASSIGNMENT GROUP (AAG) AND THE MILITARY ASSIGNMENT GROUP (MAG)	9-74
9.14.1	<i>Applications Considered by AAG</i>	9-74
9.14.2	<i>Applications Considered by MAG</i>	9-75
9.15	OTHER GOVERNMENT MASTER FILE (GMF) FIELD CODES	9-75
9.16	FAS AGENDA ACTIONS	9-76
9.16.1	<i>FAS Votes and Agenda Corrections Directives</i>	9-76
9.16.2	<i>Agency Comments and Voting Procedures</i>	9-77
9.16.3	<i>Agency Votes and Directives on Canadian and Mexican Frequency Assignment Proposals</i>	9-78
9.16.4	<i>Coordination and Referral of Applications for Frequency Assignment Action</i>	9-79

Chapter 10

Procedures for the Review of Telecommunication Systems for Frequency Availability, Electromagnetic Compatibility (EMC), and Telecommunications Service Priority for Radiocommunications (TSP-R)

10.1	GENERAL	10-1
10.1.1	<i>Avoiding Interference</i>	10-1
10.1.2	<i>Satisfying OMB Circular A-11</i>	10-1
10.1.3	<i>SPS Review of New Systems</i>	10-1
10.1.4	<i>Administering the Telecommunications Service Priority for Radiocommunications (TSP-R) System</i>	10-1
10.1.5	<i>FCC Participation</i>	10-1
10.2	DEFINITIONS	10-2
10.2.1	<i>Telecommunication System</i>	10-2
10.2.2	<i>Telecommunication Subsystem</i>	10-2
10.2.3	<i>Major Terrestrial System or Subsystem</i>	10-2
10.2.4	<i>Major Modification</i>	10-2

10.2.5	System Review.....	10-2
10.2.6	Telecommunications Service Priority for Radio (TSP-R) Conflict	10-3
10.3	SCOPE OF PROCEDURE.....	10-3
10.3.1	Applicability and Limitations.....	10-3
10.3.2	Experimental Projects.....	10-3
10.3.3	EW/ECM Threat Simulators	10-3
10.3.4	Individual Stations, Links, or Networks	10-4
10.3.5	Individual Components	10-4
10.3.6	Federal Use of the Band 220-222 MHz	10-4
10.3.7	Non-Licensed Devices.....	10-4
10.3.8	Spectrum Support for Use of Federal Fixed Ultrawideband Systems Not Intended for Operation under Sections 7.8 or 7.9	10-4
10.4	STAGES OF REVIEW AND SCHEDULING	10-5
10.4.1	Stages of Review.....	10-5
10.4.2	Scheduling of Reviews.....	10-5
10.5	RESPONSIBILITIES.....	10-5
10.5.1	Spectrum Planning Subcommittee (SPS)	10-5
10.5.2	Space Systems Subcommittee (SSS)	10-6
10.5.3	Frequency Assignment Subcommittee (FAS)	10-6
10.5.4	Technical Subcommittee (TSC).....	10-6
10.5.5	Emergency Planning Subcommittee (EPS).....	10-7
10.5.6	Federal Agencies.....	10-7
10.5.7	National Telecommunications and Information Administration (NTIA)	10-7
10.6	EMC ANALYSIS SUPPORT	10-7
10.6.1	General.....	10-7
10.6.2	Types of Analysis.....	10-8
10.6.3	Prototype EMC Testing.....	10-8
10.7	GENERAL DATA REQUIREMENTS	10-8
10.7.1	Minimum Data Required.....	10-8
10.7.2	Submission of Additional Data.....	10-8
10.7.3	Upgrading of Data Previously Provided	10-9
10.7.4	Changes to Submissions.....	10-9
10.7.5	Selective Upgrading of Data.....	10-9
10.8	SPECIFIC DATA REQUIREMENTS.....	10-9
10.8.1	Information Required for all Systems	10-9
10.8.2	Required Data for Space Systems	10-10
10.8.2.A	Supplemental Information for Space Systems Using Necessary Bandwidths Greater Than 5 MHz for Transmissions from Space in the Band 2200-2290 MHz.....	10-11
10.8.3	Required Data for Terrestrial Systems (all stages).....	10-11
10.8.4	Related Analysis Data	10-11
10.8.5	Describe Equipment Characteristics	10-11
10.8.6	Required Transmitter Characteristics Data.....	10-11
10.8.7	Required Receiver Characteristics Data	10-12
10.8.8	Required Antenna Characteristics Data	10-12
10.8.9	Required Data for Wideband and Narrowband Emission Level and Temporal Measurements in the Navstar Global Positioning System Frequency Bands	10-12
10.9	TRUNKED LAND MOBILE DATA REQUIREMENTS.....	10-12
10.9.1	Requests for New Trunked Systems.....	10-12
10.9.2	Requests for Expansion/Additional Channels.....	10-13
10.9.3	Guidelines Regarding Certification of Spectrum Support for Trunked Systems.....	10-14
10.10	LAND MOBILE SYSTEM DATA REQUIREMENTS.....	10-14
10.11	ULTRA-WIDEBAND RADARS	10-14
10.11.1	Frequency Availability.....	10-14
10.11.2	Electromagnetic Compatibility	10-15
10.11.3	Requests for Spectrum Support.....	10-15
10.11.4	EMC Analysis.....	10-15

Chapter 11

Public Access to the Federal Spectrum Management Process

11.1	PREFACE	11-1
11.2	OPPORTUNITIES FOR THE PUBLIC TO PROVIDE INFORMATION AND ADVICE TO NTIA	11-1
11.3	INFORMATION REGARDING NTIA SPECTRUM MANAGEMENT ACTIVITIES	11-1
11.4	PUBLIC PRESENTATIONS TO OR RECEIVING ADVICE FROM THE IRAC	11-1
11.5	REQUESTING FEDERAL GOVERNMENT SPECTRUM MANAGEMENT INFORMATION ..	11-2
11.6	REQUESTING ACCESS TO SPECTRUM ALLOCATED FOR FEDERAL GOVERNMENT USE	11-2
11.7	PUBLICATION OF MAJOR FEDERAL SPECTRUM MANAGEMENT PROPOSALS AND DECISIONS	11-3

ANNEX A

Record Notes

A.1	Coordination Notes	A-1
A.2	Emission Notes.....	A-4
A.3	Limitation Notes.....	A-5
A.4	Minute Notes	A-6
A.5	Priority Notes	A-7
A.6	Special Notes.....	A-7

ANNEX B

Data and Procedures for Assessing Interactions Among Stations in the Space and Terrestrial Services

B.1	GENERAL	B-1
B.1.1	<i>Limitations on Power and Direction of Maximum Radiation of Stations in the Fixed Service in the Band 8025-8400 MHz</i>	<i>B-1</i>
	Ranges of Azimuths to be Avoided (Northern Hemisphere)	B-1
	Ranges of Azimuths to be Avoided (Southern Hemisphere)	B-3
B.1.2	<i>Earth Station Antenna Elevation Angle and EIRP Toward the Horizon</i>	<i>B-4</i>
B.1.3	<i>POWER FLUX DENSITY LIMITS</i>	<i>B-6</i>
	Table: Power Flux Density Limits at the Earth's Surface from Space Stations in Bands Shared with the Fixed and Mobile Services.....	B-7

ANNEX C

(RESERVED)

ANNEX D

Procedure for Field Level Selection and Coordination of the Use of Radio Frequencies

Table 1: FAA Coordinators, Geographical Areas of Responsibility and Applicable C-Notes for the Frequencies 1030 MHz and 1090 MHz and the Bands 1215-1390, 2700-2900 and 9000-9200 MHz	D-1
Figure 1: FAA Coordination Map.....	D-3
Figure 2: Designated Heavily Used Area in the 2700-2900 MHz Band.....	D-4
Designated Heavily Used Areas.....	D-5

Table 2: Designated Heavily Used Areas	D-5
Table 3: Federal/Non-Federal Field Level Coordination for the Bands 1435-1525, 2310-2320 and 2345-2390 MHz	D-6
Figure 3: Coordination Zones for the 1435-1535 and 2310-2390 MHz Bands	D-8
Figure 4: Gulf Area Coordinator Maps.....	D-9
Table 4: Spectrum Management Areas of Responsibility for Geographic Combatant Commands	D-11
Figure 5: US Combatant Commands Areas of Responsibility.....	D-12

ANNEX E

Guidance for Submission of INMARSAT Commissioning Applications

E.1	INMARSAT	E-1
E.2	AGENCY RESPONSIBILITIES	E-1
E.2.1	<i>Agency Representatives.....</i>	E-1
E.2.2	<i>Federal and Agency Regulations</i>	E-1
E.2.3	<i>Funding Documents</i>	E-1
E.2.4	<i>Maritime Mobile Service Identities (MMSI)</i>	E-2
E.2.5	<i>Procedure for Obtaining Secondary Surveillance Radar (SSR) Mode S Code for Federal Government Aircraft Earth Station Commissioning Applications.....</i>	E-2

ANNEX F

Frequency Assignment Review Procedure

F.1	FREQUENCY ASSIGNMENT REVIEW PROCEDURE.....	F-1
-----	--	-----

ANNEX G

Abbreviations

G.1	AGENCY, BUREAU, AND OTHER ORGANIZATIONAL ABBREVIATIONS	G-1
G.1.1	<i>Other Organizational Abbreviations.....</i>	G-11
G.2	GEOGRAPHICAL ABBREVIATIONS.....	G-11
G.2.1	<i>United States (50 United States and the District of Columbia)</i>	G-11
G.2.2	<i>United States Territories and Possessions.....</i>	G-11
G.2.3	<i>Area and Other Abbreviations</i>	G-12
G.2.4	<i>Country Abbreviations</i>	G-12
G.3	AREAS, DIVISIONS, AND DISTRICTS WITHIN THE CONTERMINOUS UNITED STATES	G-15
G.3.1	<i>Corps of Engineers Divisions and Districts (no description-see Figure 1).....</i>	G-15
G.3.2	<i>Tennessee Valley Authority Area (see Figure 2).....</i>	G-15
G.3.3	<i>Coast Guard Areas and Districts (see Figure 3)</i>	G-15
G.3.4	<i>Navy-Marine Corps MARS Regions (see Figure 4).....</i>	G-16
G.3.5	<i>Army Areas (see Figure 5)</i>	G-16
G.3.6	<i>Army Frequency Coordination Areas (see Figure 6).....</i>	G-16
G.3.7	<i>FAA Regions (see Figure 7).....</i>	G-17
G.3.8	<i>NRC Regions (see Figure 8)</i>	G-17
G.3.9	<i>FEMA Regions (see Figure 9)</i>	G-17
G.3.10	<i>EPA Regions (see Figure 10).....</i>	G-17
G.3.11	<i>GSA Regions (see Figure 11).....</i>	G-18
G.3.12	<i>USAF MARS Regions (see Figure 12)</i>	G-18
G.3.13	<i>VA National Cemetery System Memorial Service Networks (MSN) by State.....</i>	G-18
G.3.14	<i>VA Health Administration Integrated Service Network by (VISN) by Boundaries (see Figure 13)</i>	G-19
	Figure 1: Corps of Engineers	G-19

	Figure 2: Tennessee Valley Authority	G-20
	Figure 3: Coast Guard Districts.....	G-20
	Figure 4: Navy-Marine Corps MARS Regions.....	G-21
	Figure 5: Army Area Coordinators	G-22
	Figure 7: FAA Regions	G-23
	Figure 8: NRC Regions.....	G-23
	Figure 9: FEMA Regions.....	G-24
	Figure 10: EPA Regions	G-24
	Figure 11: GSA Regions	G-25
	Figure 12: USAF Mars Regions.....	G-25
	Figure 13: VA Health Administration Integrated Service Network by (VISN) by Boundaries ..	G-26
G.4	COMMON ABBREVIATIONS	G-26
G.5	MANUFACTURER CODES.....	G-26
G.6	ANTENNA ABBREVIATIONS	G-33

ANNEX H

(RESERVED)

ANNEX I

Procedure for Evaluating Frequency Proposals in the 162-174 MHz and 406.1-420 MHz Bands

I.1	PROCEDURE FOR EVALUATING FREQUENCY PROPOSALS IN THE 162-174 MHz AND 406.1-420 MHz BANDS.....	I-1
	Figure 1: Voltage to Power Conversion.....	I-3
	Figure 2: Power to dBw Conversion.....	I-4
	Figure 3: Calculations of Mean Antenna Height	I-5
	Figure 4: Propagation Loss for 168 MHz, Average Land.....	I-6
	Figure 5: Propagation Loss for 413 MHz, Average Land.....	I-7
	Figure 6: Propagation Loss for 168 MHz, Fresh Water.....	I-8
	Figure 7: Propagation Loss for 413 MHz, Fresh Water.....	I-9
	Figure 8: Propagation Loss for 413 MHz, Salt Water.....	I-10
	Figure 9: Propagation Loss for 168 MHz, Salt Water.....	I-11
	Figure 10: Adjacent Channel Selectivity and Desensitization	I-12
	APPENDIX.....	I-13
	REFERENCES.....	I-14

ANNEX J

Guidance for Determination of Necessary Bandwidth

J.1	INTRODUCTION.....	J-1
J.2	GENERAL	J-1
J.3	RADAR SYSTEMS.....	J-1
J.4	ANALOG FM	J-1
J.5	SYMBOLS	J-2
	Figure 1: FM Bandwidth Occupancy and Power Preservation with Sinusoidal Modulation.....	J-3
	Figure 2: FM Bandwidth Occupancy and Power Preservation with Band-Limited White Modulation.....	J-4
	Table A: Necessary Bandwidth Calculations.....	J-4
	Figure 3: Estimation of chip rise time for phase coded pulse signals	J-10
	Table B: Multiplying Factors for Use in Computing D, Peak Frequency Deviation, in Fm Frequency Division Multiplex (Fm/Fdm) Multi-Channel Emissions	J-10
J.6	References	J-11

ANNEX K

Technical Standards for Federal "Non-Licensed" Devices

K.1	INTRODUCTION.....	K-1
K.1.1	Definitions.....	K-1
K.1.2	Incidental Radiators.....	K-2
K.1.3	Susceptibility to Interference.....	K-3
K.1.4	Labeling Requirements	K-3
K.1.5	Emission Limits.....	K-3
K.1.6	Frequency Range and Distance Extrapolation of Radiated Measurements	K-3
K.2	UNINTENTIONAL RADIATORS	K-5
K.2.1	Conducted Limits	K-5
K.2.2	Radiated Emission Limits.....	K-6
K.3	INTENTIONAL RADIATORS	K-6
K.3.1	Antenna Requirements	K-6
K.3.1.1	External Radio Frequency Power Amplifiers and Antenna Modifications.....	K-6
K.3.2	Restricted Bands of Operation.....	K-6
K.3.3	Conducted Limits	K-9
K.3.4	Radiated Emission Limits, General Requirements.....	K-9
K.3.5	Radiated Emission Limits, Additional Provisions.....	K-10
K.3.5.1	Additional Provisions to the General Radiated Emission Limitations.....	K-10
K.3.5.2	Operation in the Band 160-190 kHz	K-11
K.3.5.3	Operation in the Band 510-1705 kHz	K-11
K.3.5.4	Operation in the Band 525-1705 kHz	K-11
K.3.5.5	Operation in the Band 1.705-10 MHz.....	K-11
K.3.5.6	Operation Within the Band 13.553-13.567 MHz	K-12
K.3.5.7	Operation Within the Band 26.96-27.28 MHz	K-12
K.3.5.8	Operation Within the Band 40.66-40.70 MHz	K-12
K.3.5.9	Periodic Operation in the Band 40.66-40.70 MHz and Above 70 MHz	K-12
K.3.5.10	Operation Within the Bands 46.60-46.98 MHz and 49.66-50.0 MHz.....	K-13
K.3.5.11	Operation Within the Band 49.82-49.90 MHz	K-14
K.3.5.12	Operation in the Bands 72.0-73.0 MHz and 75.4-76.0 MHz	K-14
K.3.5.13	Operation in the Band 88-108 MHz.....	K-14
K.3.5.14	Operation in the Band 174-216 MHz.....	K-15
K.3.5.15	Operation in the Band 890-940 MHz.....	K-15
K.3.5.16	Operation Within the Bands 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz and 24075-24175 MHz.....	K-15
K.3.5.17	Operation Within the Bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.....	K-16
K.3.5.18	Operation Within the Bands 902-928 MHz 2400-2483.5 MHz, 5725-5875 MHz and 24.0-24.25 GHz	K-17
K.3.5.19	Operation Within the Bands 2.9-3.26 GHz, 3.267-3.332 GHz, 3.339-3.3458 GHz and 3.358-3.6 GHz	K-18
K.3.5.20	Unlicensed National Information Infrastructure Devices.....	K-18
K.3.5.21	Unlicensed Personal Communications Service Devices.....	K-20
K.3.5.22	Operation within the Band 57-64 GHz	K-24
K.3.6	Operation of Non-Licensed Ultrawideband Systems (UWB) and Devices	K-26
K.3.6.1	Definitions:.....	K-26
K.3.6.2	Qualification Statements	K-27
K.3.6.3	Technical Requirements for Low Frequency Imaging Systems.....	K-27
K.3.6.4	Technical Requirements for Mid-Frequency Imaging Systems.....	K-27
K.3.6.5	Technical Requirements for High Frequency Imaging Systems	K-28
K.3.6.6	Technical Requirements for Indoor UWB Systems	K-29
K.3.6.7	Technical Requirements for Handheld UWB Systems	K-29
K.3.6.8	Technical Requirements Applicable to All UWB Devices.....	K-30
K.3.6.9	Coordination Requirements	K-31

K.3.6.10	Measurement Procedures.....	K-31
K.4	CONVERSION FORMULAS	K-32
K.5	CROSS-REFERENCE OF NON-LICENSE DEVICE STANDARDS IN ANNEX K AND THOSE IN THE FCC CFR 47 PART 15.....	K-33

ANNEX L

Freely Associated States

L.1	INTRODUCTION.....	L-1
L.2	AUTHORITY FOR USE OF THE RADIO FREQUENCY SPECTRUM.....	L-1
L.3	PROCEDURES FOR OBTAINING A FREQUENCY AUTHORIZATION	L-2
L.4	REVIEW PROCEDURE FOR COMMUNICATIONS SYSTEMS.....	L-3

ANNEX M

Measurement Methods

M.1	GENERAL	M-1
M.1.1	Introduction.....	M-1
M.1.2	Measurement Methods.....	M-1
M.1.3	Resolution Bandwidth	M-1
M.2	MEASUREMENT METHODS	M-1
M.2.1	Fixed and Mobile Services.....	M-1
M.2.1.1	Fixed and Mobile Single Sideband and Independent Sideband Equipment (2-29.7 MHz).....	M-1
M.2.1.2	Maritime Mobile, FM Operation (150.8 - 162.0125 MHz).....	M-1
M.2.1.3	Fixed Services (406.1 - 420 MHz, 932 - 935/941 - 944 MHz, and 1.71 - 15.35 GHz).....	M-2
M.2.1.4	Land Mobile, Single Channel Narrowband Operations (220 - 222 MHz).....	M-2
M.2.1.5	Analog or Digital FM/PM Operations.....	M-2
M.2.1.6	Wideband and Narrowband Emission Level and Temporal Measurements in the Navstar Global Positioning System Bands	M-3
M.2.2	Radar Spectrum Engineering Criteria (RSEC).....	M-3
M.2.2.1	General including RSEC-A.....	M-3
M.2.2.2	RSEC B.....	M-4
M.2.2.3	RSEC C and RSEC D.....	M-4
M.2.2.4	RSEC E.....	M-4

ANNEX N

Special Considerations for Federal Travelers Information Stations Operating on 1610 kHz

N.1	FEDERAL TRAVELERS INFORMATION STATIONS (TIS) OPERATING ON 1610 kHz	N-1
-----	--	-----

ANNEX O

RELOCATION OR SHARING BY FEDERAL GOVERNMENT STATIONS IN SUPPORT OF REALLOCATION

O.1	INTRODUCTION.....	O-1
O.1.1	Purpose	O-1
O.1.2	Organization of Annex; Updates and Supplements.....	O-1
O.2	DEFINITIONS	O-2
O.3	TRANSITION PLAN PREPARATION AND PROCEDURES	O-3
O.3.1	General.....	O-4
O.3.2	Preparation of Transition Plans	O-6
O.3.2.1	General Statutory Requirements.....	O-6
O.3.2.2	NTIA Notification to Federal Entities; Federal Entity Pre-Submission Information	O-6

O.3.2.3	Assignment Data Validation; Alternative Assignments	O-7
O.3.3	Submission of Initial Transition Plan to NTIA and Technical Panel.....	O-7
O.3.4	Review of Initial Transition Plan	O-8
O.3.5	Submission and Review of Revised Transition Plan	O-8
O.3.6	Compilation and Notification of Estimated Costs and Timelines	O-8
O.3.7	Publication of Transition Plans	O-9
O.3.8	Modification and Updates to Transition Plans.....	O-9
O.4	TRANSITION PLAN CONTENTS AND COMMON FORMAT	O-9
O.4.1	General.....	O-10
O.4.2	Specific Contents.....	O-10
O.4.2.1	Operational and Technical Data	O-10
O.4.2.2	Estimated Costs; Comparable Capability of Systems	O-11
O.4.2.3	Timelines	O-11
O.4.2.4	Factors	O-11
O.4.3	Common Format; Templates.....	O-12
O.4.3.1	Title Page (Tab A).....	O-12
O.4.3.2	General Information (Tab B)	O-12
O.4.3.3	Abstract (Tab C).....	O-12
O.4.3.4	Transition Timeline (Tab D)	O-12
O.4.3.5	Timeline for Funds (Tab E).....	O-13
O.4.3.6	NTIA Interactions (Tab F)	O-13
O.4.3.7	Excluded Information (Tab G).....	O-13
O.4.3.8	Factors (Tab H)	O-13
O.4.3.9	Additional Information (Tab I).....	O-13
O.4.3.10	Classified and Sensitive Annexes	O-13
O.4.3.11	Addendum for Updating Transition Plans	O-14
O.5	TRANSITION PLAN IMPLEMENTATION.....	O-14
O.5.1	Negotiation and Coordination with Non-Federal Users.....	O-14
O.5.2	Dispute Resolution	O-15
O.5.3	Finding of Comparable Capability	O-16
O.5.4	Termination or Modification of Eligible Frequency Assignments	O-16
O.6	TRANSFERS FROM SPECTRUM RELOCATION FUND.....	O-16
O.6.1	Pre-Auction Transfers of Pre-Auction Costs	O-16
O.6.2	Accelerated Implementation Payments	O-16
O.6.3	Subsequent Payments.....	O-17
O.7	CLASSIFIED AND OTHER SENSITIVE INFORMATION	O-17
O.7.1	Explanation of Terminology Used	O-17
O.7.2	Submission of Classified Information and Assignments and Other Sensitive Information in Transition Plans	O-17
O.7.3	Use, Access and Disclosure of Classified Information and Assignments and Other Sensitive Information in Transition Plans.....	O-18
	APPENDIX: COMMON FORMAT FOR TRANSITION PLANS	O-19
	Tab A: Title Page	O-23
	Tab B: General Information.....	O-24
	Tab C: Abstract	O-25
	Tab D: Transition Timeline	O-26
	Tab E: Timeline for Funds	O-27
	Tab F: NTIA Interactions.....	O-28
	Tab G: Excluded Information.....	O-29
	Tab H: Factors	O-30
	Tab I: Additional Information	O-31

(Last Page in the Table of Contents)