

Activities of Interest to RAS, EESS, and SRS

Federal Communications Commission
Office of Engineering and Technology
May 27, 2009

Items of Interest

- Satellite Communications
 - Earth Stations on Vessels (ESVs)
 - Vehicle-Mounted Earth Stations (VMES)
 - Aeronautical Mobile-Satellite Service (AMSS)
 - V-band Satellite Service Rules
- Terrestrial Communications
 - Public Safety use of 4940-4990 MHz
- Unlicensed Operations
 - Tank Level Probing Radar (TLPR)
 - 57-64 GHz NPRM
 - Broadband over Power Lines (BPL) Remand
- WRC-07 Implementation
- WRC-11 Preparation

Earth Stations on Vessels (ESVs)

IB Docket No. 02-10; FCC Contact: Paul Locke, (202) 418-0756

- R&O (released January 6, 2005) permits ESVs to operate as an application of the FSS in C-band and Ku-band
- Petitions for reconsideration of the rules used to protect FSS and FS remain outstanding
- No parties sought reconsideration of the IRAC coordination obligations for ESV operations near TDRSS receive facilities in the 14-14.2 GHz band or RAS observatories in the 14.47-14.5 GHz band

Vehicle-Mounted Earth Stations (VMES)

IB Docket No. 07-101; FCC Contact: Howard Griboff, 418-0657

- NPRM proposes to amend Parts 2 and 25 of the Commission's Rules to allocate spectrum and adopt service rules and procedures to govern the use of VMES in certain frequency bands allocated to the fixed-satellite service
 - Co-primary VMES use of the 14-14.5 GHz uplink band and 11.7-12.2 GHz downlink band
 - Non-protected basis in the extended Ku-band downlink at 10.95-11.2 and 11.45-11.7 GHz
 - NPRM released May 15, 2007

VMES (cont.)

- NPRM proposes that VMES rules be based on the rules previously adopted for Earth Stations on Vessels (ESVs)
 - Proposals mirror IRAC coordination obligations for ESV operations near TDRSS receive facilities in the 14-14.2 GHz band and RAS observatories in the 14.47-14.5 GHz band
- VMES License Applications
 - Raysat and Qualcomm granted
 - L3 and Americom pending

Aeronautical Mobile-Satellite Service (AMSS)

IB Docket No. 05-20, Contact: Gardner Foster, (202) 418-1990

- NPRM proposes service rules and procedures to govern the use of AMSS earth stations using FSS satellites in the 14-14.5 GHz (uplink) and 11.7-12.2 GHz (downlink) bands
 - Proposes coordination in the band 14-14.5 GHz as a prerequisite for licensing
 - Seeks comment on updating the list of observatories and associated coordinates in US203
 - NPRM released February 9, 2005

AMSS (cont.)

■ AMSS license applications

- ARINC and ViaSat granted
- Boeing currently serving only U.S. Government aeronautical stations under experimental license
- Row 44 in-flight testing STA granted, underlying application is pending
 - Terminals would operate in 14.05-14.47 GHz and 11.7-12.2 GHz bands
 - Row 44 completed coordination agreement with NSF to mitigate risk of interference to radio astronomy observations

V-band Satellite Service Rules

IB Docket No. 97-95, Contact: David Strickland, (202) 418-0977

- V-band Second R&O harmonized U.S. allocations in the 37.5-43.5 GHz band with international allocations and finalized technical rules for sharing between the FS and the FSS in the 37.5-43.5 GHz band
- Implementation of a “soft-segmentation” approach in the 37.5-43.5 GHz band to promote sharing of the band between FS and FSS operations will be considered in a future FNPRM
- Second R&O released December 5, 2003

Public Safety Use of 4940-4990 MHz

WT Docket No. 07-100

- R&O declined to require that fixed operations coordinate with RAS observatories listed in US311
 - US311 permits observations in the 4950-4990 MHz band on an unprotected basis
 - CORF requested that fixed operations be required to coordinate within the areas defined in US311
 - Commission decided not to change Section 90.1207(d) requirements
 - site by site licensing
 - same power restrictions - maximum EIRP authorized for Public Safety operations in the 4940-4990 MHz band is significantly lower than the EIRP authorized in other FS bands
 - R&O and FNPRM released April 9, 2009

Tank Level Probing Radar (TLPR)

ET Docket No. 06-216; FCC Contact: Anh Wride, (202) 418-0577

- TLPR Waiver requests operation in the 78-79 GHz restricted band for use in metal or concrete storage tanks
- TLPR Petition for Rulemaking requests operation in the 77-81 GHz restricted band for use in storage tanks made of any type material
- Waiver Request and Petition for Rulemaking filed on November 3, 2006 (pleading cycle closed in January 2007)

57-64 GHz NPRM

ET Docket No. 07-113; FCC Contact: Anh Wride, (202) 418-0577

- NPRM proposes to:

- Increase the fundamental radiated emission limit for unlicensed 60 GHz transmitters with very high gain antennas
- Specify the emission limit as an EIRP level
- Eliminate the requirement for a transmitter identification for 60 GHz transmitters

- NPRM released June 1, 2007

Broadband Over Power Line (BPL) Remand

ET Docket No. 04-37, FCC Contact: Anh Wride, (202) 418-0577

- The U.S. Court of Appeals remanded the BPL decision to the Commission on April 25, 2008
 - Remand did not vacate the BPL Rules
 - FCC must afford a reasonable opportunity for public comment on the unredacted studies on which it relied in promulgating the BPL Rules, make the studies part of the record, and provide a reasoned explanation of its choice of an extrapolation factor for Access BPL systems
- The exclusion zones and consultation areas for RAS protection will not be affected by the remand
 - VLA exclusion zones (65/47 km) for the 73-74.6 MHz band
 - Consultation areas (4 km) for US311 facilities observing in the 1.705-80 MHz range

WRC-07 Implementation

FCC Contact: Tom Mooring, (202) 418-2450

- The FCC has commenced its process for implementing the WRC-07 Final Acts
 - WRC-07 Implementation will be done in two stages
 - In a WRC-07 Table Clean-up Order, the International Table will be updated
 - In the WRC-07 Implementation NPRM, changes to the U.S. Table will be considered
 - NTIA is finalizing its Recommendations for WRC-07 Implementation, which will form the basis for much of the NPRM

WRC-11 Preparation

- FCC's preparation for WRC-11
 - WRC-11 Advisory Committee (WAC)
 - Website: www.fcc.gov/ib/wrc-11
 - Subscribe to WAC Mailing Lists:
www.fcc.gov/ib/wrc-11/subscribe.html
- Schedule
 - Third WAC Meeting: September 1, 2009
 - CITEL: November 10-13, 2009
 - CPM: February 14-25, 2011
 - WRC-11: October/November 2011

Spectrum Above 275 GHz

■ Agenda Item 1.6

- To review RR No. 5.565 in order to update the spectrum use by the passive services between 275 GHz and 3000 GHz and to consider possible procedures for free-space optical-links

■ IWG-4 Regulatory Issues

- Contact: Allen Yang, (202) 418-0738
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SRS Allocation

- Agenda Item 1.11

- To consider a primary allocation to the space research service (Earth-to-space) within the 22.55-23.15 GHz band

- IWG-3 Space Services

- Contact: Sankar Persaud, (202) 418-2441
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Protection for 37-38 GHz

- Agenda Item 1.12

- To protect the primary services in the 37-38 GHz band from interference resulting from aeronautical mobile service operations

- IWG-1 Maritime, Aeronautical and Radar Services

- Contact: Michael Mullinix, (202) 418-0491
michael.mullinix@fcc.gov

METSAT Allocation

■ Agenda Item 1.24

- To consider the existing allocation to the meteorological-satellite service in the 7.75-7.85 GHz band with a view to extending this allocation to the 7.85-7.9 GHz band, limited to non-geostationary meteorological satellites in the space-to-Earth direction

■ IWG-3 Space Services

- Contact: Michael Mullinix, (202) 418-0491
michael.mullinix@fcc.gov

Earth Observation Applications

- Resolution 673
 - Invites the ITU-R to develop ways to improve the recognition of the essential role and global importance of Earth observation radiocommunications applications and the knowledge and understanding of administrations regarding the utilization and benefits of these applications
- Agenda Item 8.1.1
 - To consider and approve the report on ITU-R activities in response to RES 673 since WRC-07
- IWG-4 Regulatory Issues
 - Contact: Allen Yang, (202) 418-0738 allen.yang@fcc.gov

FCC Online Table

FCC Contact: Tom Mooring, (202) 418-2450

- The FCC Online Table and the FCC Allocation History File: www.fcc.gov/oet/spectrum
 - Updated shortly after a final rule has been released that amends Section 2.106 of the Commission's Rules
 - More up-to-date than the print version, which is revised as of October 1st

How can CORF help?

- Continue to monitor and comment in FCC rulemakings
 - Scrub RAS footnotes and identify necessary changes to ensure all RAS footnotes are up-to-date
- Participate in WRC-07 implementation
 - Through Scientific Community Spokesperson for IRAC; or
 - Directly in any future FCC rulemaking
- Review registration process for radio observatories (47 CFR § 2.107) as necessary
- Consider briefing FCC staff on spectrum issues