FLETCHER, HEALD & HILDRETH

FCC DEVELOPMENTS

MAY 2006– APRIL 2006

CORF MEETING
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I. Big LEO/Iridium Spectrum (IB Docket 02-362)

In its July 2004 Report and Order the FCC addressed allocation of spectrum to Big LEO MSS systems at 1610-1626 MHz.

Iridium had requested permanent allocation of 5.85 MHz of spectrum, at 1615.5-1621.35 MHz. Globalstar and Cornell opposed.

In the 2004 Order the FCC "split the baby" by giving Iridium 3.1 MHz of spectrum on a permanent basis. Specifically, 1618.25-1621.35 MHz is allocated for shared CDMA/TDMA use on a co-primary basis in the uplink direction, and on a secondary basis for TDMA (Iridium) in the downlink direction.

I. Big LEO/Iridium Spectrum (IB Docket 02-362) (cont'd)

The Order expressly recognized the need to protect RAS and reminded Iridium that its use of the additional spectrum is subject to Section 25.213 and its coordination agreements. In addition, the Order reminded Iridium that it will have to terminate operations if it causes "unacceptable interference" to RAS facilities "outside of the limits specified in the existing agreements.

In the Notice of Proposed Rulemaking portion of the July 2004 document, the FCC tentatively proposed to give Iridium 2.25 MHz MORE spectrum, specifically from 1616.0-1618.25 MHz.

Iridium has been using the additional 2.25 MHz for some time pursuant to Special Temporary Authority from the FCC. Most recent STA grant based on Hurricane Katrina.

I. Big LEO/Iridium Spectrum (IB Docket 02-362) (cont'd)

Iridium is making a big push to get the additional 2.25 MHz granted on a permanent basis. Good chance that FCC will give it to Iridium.

FCC staff is eager to talk to RAS community about this. Is there any evidence of interference? Is there anything else to talk about?

II. Unlicensed Operations on Channel 37 (ET Docket 04-186)

In a May 2004 NPRM, the FCC proposed to allow limited use of unlicensed devices where TV channels are not being "used".

- Device would test for use by GPS location or sensing signals.

The NPRM specifically proposed to prohibit operations on Channel 37, in order to protect RAS and WMTS.

- CORF filed comments supporting prohibition of unlicensed use of 608-614 MHz

- Due to huge opposition from broadcasters, FCC proceeding went nowhere.

II. Unlicensed Operations on Channel 37 (ET Docket 04-186) (cont'd)

- Advocates of wireless (apparently Intel and Microsoft) have now tried to get action from Congress.

- Pending before the Senate Commerce Committee are two bills which, if enacted, would require the FCC to broadly authorize the use of unlicensed wireless equipment on "vacant" broadcast channels. One of the bills explicitly excludes Channel 37 (608-614 MHz) from such use (introduced by Sen. Stevens-Alaska), and the other bill does not (Sen. Allen – Va.).

- Parallel legislation has also been introduced in the House by Reps. Inslee (Wash.), Eshoo (Calif.) and Boucher (Va.), which excludes Channel 37.

II. Unlicensed Operations on Channel 37 (ET Docket 04-186) (cont'd)

- If legislation is enacted without Ch. 37 prohibition, a good argument could be made that the bill actually would require the FCC to make Channel 37 available for unlicensed use, notwithstanding the prohibition on such use in Part 15 of the FCC's rules

- Furthermore, the remainder of the current bills would not require the FCC to enact rules protecting Radio Astronomers experiencing interference on Channel 37, as they appear to require protection only for "licensed services" and broadcast stations. While Channel 37 is allocated for use by Radio Astronomy, that allocation is not a "license."

II. Unlicensed Operations on Channel 37 (ET Docket 04-186) (cont'd)

- Further action expected in Senate shortly. Anything can happen.

- Small action by RAS could make a big difference.

III. NPRM on AMSS (IB Docket 05-20)

In a Feb. 2005 NPRM, the FCC made proposals and sought comments on a regulatory framework for licensing the operation of Aeronautical Mobile Satellite Service (AMSS) systems to communicate with fixed-satellite service (FSS) birds in the Ku-Band frequencies. Aircraft Earth stations (AES) in the AMSS can be used to provide broadband telecommunications services on aircraft.

Currently, Boeing and ARINC have authority to operate AMSS using 11.7-12.2 GHz downlinks and 14.0-14.5 GHz uplinks.

- Currently Boeing only uses on foreign-based commercial planes over U.S. territory, and on government and executive planes. Boeing negotiating commercial use with U.S. carriers.

III. NPRM on AMSS (IB Docket 05-20) (cont'd)

- ARINC apparently using on private aircraft.

- Both Boeing and ARINC have signed MOUs with the NSF, to coordinate operations and avoid harmful interference to existing and future U.S. observatories.

NPRM recognized that RAS has a secondary allocation at 14.47-14.50 in the International Table, and that Footnote US203 provides "practicable effort" protection to certain listed observatories. NPRM sought comments on a number of proposals to protect RAS in this band.

III. NPRM on AMSS (IB Docket 05-20) (cont'd)

In July of 2005, CORF filed Comments at the FCC, and recommended:

1. AMSS operators should have to coordinate with NTIA when AMSS facilities operate within line of site of a protected observatory. AMSS coordination could cover the narrower 14.47-14.50 portion of band if AMSS facilities meet requirements of ITU-R M.1643 Annex 1, Part C.

2. Observatories should provide advanced notice to AMSS on observations in the 14 GHz band in most cases. Such an approach is consistent with most RAS MOUs.

III. NPRM on AMSS (IB Docket 05-20) (cont'd)

3. AMSS operators should be required to keep aircraft tracking data for one year, and make it available on request to the FCC and NTIA, in connection with investigating interference event.

4. Revision to observatories listed for protection at 14 GHz per US203: Hat Creek, Tyngsboro, Amherst should be deleted, while Arecibo and VLBA sites should be added.

5. AMSS coordination with future new RAS sites: *Ad hoc* temporary process when NTIA/NSF notify FCC in advance, then rulemaking to modify US203.

I am told that the FCC is currently "working on" an Order is this proceeding.

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435)

In a 2004 NPRM, the FCC proposed to replace or relax its ban on airborne usage of 800 MHz cellular handsets.

- FCC rules currently prohibit the airborne use of 800 MHz cellular telephones.
- There is a similar, though less restrictive rule in Part 90 which places some limitations on airborne use of Nextel phones.
- While 1.8 GHz PCS handsets are not subject to FCC airborne use prohibition, FAA regulations prohibit the use of all types of mobile telephones on aircraft.

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435) (contd)

- Any steps the FCC ultimately takes will still leave the use of phones aboard aircraft subject to the separate rules and policies of the FAA and aircraft operators. However, a government/industry committee is currently studying the impact of phones on aircraft navigation and safety, and will submit a report to the FAA.

Background:

- cellular phones use the bands 824-849 MHz and 869-894 MHz.

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435) (cont'd)

- Nextel phones currently operate at 806-821 and 851-866 MHz, though per FCC Orders, they are in the process of moving their frequencies to 817-824 and 862-869 MHz over the next few years.

- PCS uses frequencies in the 1850-1990 MHz band.

- In addition, Verizon (GTE)/Airfone air to ground service at 849-851 (uplink) and 894-896 (downlink) MHz. Wired handsets inside the plane, with a single antenna on the plane transmitting to and receiving from the ground. [Auction for other Licensees on this band in May of 2006]

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435) (cont'd)

While not authorized, it is generally suspected that Passengers and pilots on general aviation aircraft are using their cell phones on a regular basis.

In May of 2005, CORF filed comments in this proceeding:

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435) (cont'd)

CORF took no position as to whether the Commission should Authorize the airborne use of cellular phones, but argued that if such use is to be authorized, it should be only if the handsets are controlled by an airborne pico cell. This could minimize the likelihood and severity of events of interference to RAS facilities, by limiting the handset transmissions to communications within the aircraft, rather than to transmissions to the ground, and would accordingly limit the power of cellular handset transmissions within the aircraft.

IV. NPRM on Airborne Use of Cell Phones (WT Docket 04-435) (cont'd)

CORF also supported the proposal to adjust the out-of-band and spurious transmission limits to account for airborne transmissions.

There was strong opposition to the FCC proposals from consumers, airlines and some terrestrial cellular operators.

FCC unlikely to act quickly. Even if they do, further action would be needed from the FAA.

V. MSV License

In May of 2005, the FCC issued Order granting an MSS license to Mobile Satellite Ventures, successor to Motient/AMSC. This License authorizes a replacement of an existing AMSC-1 satellite, And includes downlinks at 1525-44 MHz, 1545-59 MHz, 10.75-10.95 GHz, and 11.2-11.45 GHz; as well as uplinks at 1626.5-1646.5 MHz and 1646.5-1660.5 MHz.

The FCC:

- ordered MSV to coordinate with domestic RAS facilities observing at 1660-1660.5 MHz;

V. MSV License (cont'd)

- required MSV to operate at 10.7-10.95 GHz and 11.2-11.45 GHz on a "non-harmful interference basis" to RAS. MSV has apparently agreed to use an output filter on its 10.7 GHz transmitters that would protect RAS sites at a level of -160 dBW; and

- ordered MSV to coordinate with SETI observers in other countries at 1.5 GHz.

This is probably the best that we could have expected out of the FCC, given limited protections to RAS.

VI. New FCC Commissioners

- It has been many years since we have met with FCC Commissioners and their staff to provide general background on importance and needs of passive services.

- We have never met with any of the current Commissioners. Very likely that they have no knowledge of passive uses of spectrum.

- These folks make the final decisions, sometimes on policy/political basis, and sometimes without solid understanding of technical issues.

- Its time to go meet with them again, and explain the importance of protecting passive users.

Questions?

Thanks!

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