



CGMS-36, NOAA-WP-10
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Discussed in WG1

Technical Input to the Space Frequency Coordination Group and ITU-R

NOAA-WP-10 presents a summary of technical inputs provided by NOAA to the Space Frequency Coordination Group and various ITU-Radiocommunication groups during 2008 as well a summary of the frequency issues concerning metsats. Also included is a brief summary of the WMO Steering Group on Radio Frequency Coordination.

This document is to provide information to CGMS Members regarding radio frequency management activities that could possibly affect frequencies used by metsats.

Technical Input to the Space Frequency Coordination Group and ITU-R

1. Introduction

There are various international groups, some ad hoc in nature that meet on a regular basis to discuss management of radio frequencies. Decisions reached by these groups can often affect the future access to the spectrum by meteorological satellites (metsats). NOAA is actively engaged in defending as well as promoting the use of the radio frequencies for metsats in order to meet the needs of our satellite missions. Such spectrum use includes not only communication links, both space-to-Earth and Earth-to-space, but also use for passive and active sensing needs.

2. Space Frequency Coordination Group (SFCG)

Like most recent meetings, SFCG-28 was held in September, with the Canadian Space Agency as host in Quebec City. This ad hoc international group meets annually to discuss radio frequency matters of interest to the various civil space agencies. SFCG is the pre-eminent radio-frequency collegiate of space agencies and related national and international organizations through which global space systems spectrum resources are judiciously husbanded for the benefit of humanity. The input documents are usually attributed to one of several working groups. The two working groups of most importance to metsats are the "ITU Matters and preparation for WRC-11" and the "EES and Metsat". (Note: ITU = International Telecommunication Union, WRC = World Radiocommunication Conference, EES = Earth exploration satellite).

NOAA inputs to SFCG-28 proposed a revision to the existing SFCG passive sensing resolution using information, *inter alia*, from the three NOAA Silver Spring passive remote sensing workshops held in 2005-2007 and provided an updated list of present and future radio frequency requirements of NOAA satellite networks.

At SFCG-28 the working group on ITU Matters and preparation for WRC-11 drafted a new resolution dealing with WRC-11 agenda items of importance to the SFCG membership. Those items critical to metsats are discussed in detailed in CGMS-36, NOAA-WP-YY. The special working group on EES and metsat reviewed many input documents and focused its discussion on active and passive sensors, and meteorological issues (metaids and metsats). The group also reviewed the many resolutions and recommendations attributed to EES and metsats. Of interest to CGMS are the discussions on protection of passive sensor frequencies and the communications links used by metsats.

3. International Telecommunication Union – Radiocommunication (ITU-R) sector Working Parties 7B and 7C (WP7B, WP7C)

The ITU-R WP7B and WP7C met twice in the last 12 months (31 March – 4 April 2008 and 7-13 October 2008). WP7B is concerned with space radio systems, i.e. the transmissions between the Earth and satellites, both uplinks and downlinks. A major topic of interest to CGMS under consideration in this WP is furthering technical studies toward gaining approval of expanding the existing non-geostationary metsat

space-to-Earth allocation at 7750-7850 MHz by 50 MHz, i.e. by 50%. As a result of an input by EUMETSAT at the second meeting, work was initiated on coordination with the fixed and mobile services. Since the sharing in the expanded frequency range would be with same services in 7750-7850 MHz, the technical studies should be similar to those done prior to WRC-97 when the allocation was approved.

WP 7B also considers all of the ITU Radiocommunication Bureau recommendations dealing with communication links to and from metsats. At its last meeting, WP 7B considered further revisions to ITU-R Recommendation SA.1026 entitled "Interference criteria for space-to-earth data transmission systems operating in the earth exploration-satellite and meteorological-satellite services using satellites in low-earth orbit". This recommendation is in need of a major update to include, among other changes, the necessary interference criteria for the NPOESS satellite network. Work on the update to this recommendation was completed at the second meeting. A companion recommendation, viz. SA.1027 entitled "Sharing and coordination criteria for space-to-earth data transmission systems in the earth exploration-satellite and meteorological-satellite services using satellites in low-earth orbit" was also updated. Both were sent forward to Study Group for consideration and final approval.

WP7C covers applications in the EES concerning active and passive sensors as well as metajds, i.e. radiosondes and meteorological radars. The major thrust in WP7C during the last meeting of interest to CGMS is to address the WRC-11 agenda item 1.6, viz., to review the last footnote (5.565) in the ITU table of frequency allocations in order to update the spectrum use by the passive services between 275 GHz and 3 000 GHz.

4. World Meteorological Organization (WMO) Commission for Basic Systems (CBS) Steering Group on Radio Frequency Coordination (SG-RFC)

The WMO's SG-RFC met in 2008 to discuss topics related to metajds and metsats. The major topic of interest to metsat operators was to finalize updates to the handbook entitled "Use of Radio Spectrum for Meteorology". Completion of revisions to the handbook will permit availability of a new edition in late 2008, updating the original edition published in 2002. The WMO position on WRC-07 on several agenda items of concern to metsats and metajds was also discussed, including expansion of the metsat allocation in 7750-7850 MHz.

5. International Telecommunication Union's World Radiocommunication Conference 2007 (WRC-07)

A summary of the outcome regarding the agenda items of interest to CGMS members is provided in CGMS-36, NOAA-WP-YY.