



By Gerry Oberst

Efficient Use of Satellite Orbits and Frequencies

The Radiocommunication Bureau (BR) of the International Telecommunication Union (ITU) plans to hold a one-day workshop May 6 in Geneva, on the efficient use of spectrum and orbit resources.

This Geneva event should have a reasonable audience because it follows the meetings of Working Parties of Radiocommunication Study Group 4 on Satellite Services, so many satellite experts will be there anyway. We also plan to discuss these same issues in advance at the SATELLITE 2009 conference in Washington in the “Capacity Crunch” panel that this author is moderating March 25.

The BR seeks to improve the system it administers for recording frequency assignments in the Master International Frequency Register to avoid harmful interference and set priorities for orbits and frequencies. It has identified two key questions to focus upon in meeting this challenge:

- Do ITU and the Radio Regulations, through the existing procedures for registration of satellite frequency assignments, bring added value to administrations and the satellite community?
- What mechanisms and practical strategies can be employed to ensure efficient use of spectrum/orbit resources and to improve the current international satellite spectrum management systems?

These topics are reminiscent of previous efforts to improve the satellite registration system. For example, the Kyoto ITU Plenipotentiary Conference in 1994 adopted a resolution 18 on international satellite coordination and registration. A flurry of meetings and reports in 1996 and 1997 resulted from the resolution, leading to considerations at the 1997 World Radiocommunication Conference (WRC) in Geneva.

Since that time, the ITU has continued to seek improvements to the registration procedures. For instance, a decade after resolution 18 was considered, the 2007 WRC revised a couple of other resolutions, emphasizing ways to improve procedures and reflect the latest technologies. As the BR notes, ITU study questions call for more work on these topics.

These activities remind one of the phrase “the more things change, the more they remain the same.”

In any event, the BR identifies recurring problems for both planned

and non-planned satellite bands. Planned bands are those identified in the ITU radio regulations for particular countries to use for national coverage. This system often is criticized for being inefficient, both because satellite services rarely can be limited to a single country and the frequencies go unused. As a pragmatic result, the plans often have been modified on an ad hoc basis, but the BR notes that these modifications tend to block the countries that originally were to use the frequencies.

For non-planned bands, which are by far the majority, problems remain with “paper satellites,” i.e., filings for satellites that will never be built as described on paper. The BR notes that a survey of its Space Radiocommunication Stations database indicates that fewer than 20 percent of networks as filed will complete the last stage in the registration process. The BR complains it is “receiving filings for satellite networks with characteristics far beyond what may be considered reasonable for the normal operation and delivery of expected services, even allowing for a flexibility factor with regard to forecast use.” This development matches the increasing value of satellite orbital slots as spectrum becomes more intensively used. One result, notes the BR, is that countries have no real incentive to give up spectrum/orbit resources or update their satellite filings.

Available information on the “real use” of orbits and frequencies often shows big differences between the information on paper and what is really happening in orbit. The author has had the experience of challenging satellite filings that were almost pure fiction — but the current ITU procedures have limited means of reliably questioning such claims that must otherwise be taken at face value.

The BR listed an extensive series of technical, regulatory and economic options that could be used to increase efficiency. It is now seeking submissions from industry and governments on the various ideas. A web page for the BR Workshop Forum has been established at <http://groups.itu.int/br-ssd> for relevant documentation, including information on presentations and subsequent participation at the meeting.

The workshop will include four sessions. Prospective speakers are requested to submit the title and summary of their presentation in electronic form at brmail@itu.int by February 16. ▣

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