By Gerry Oberst

Next Generation Satellites

The next World Radiocommunication Conference will be held by the International Telecommunication Union (ITU) from late October to early November 2007. Preparation for WRC-07 already is in full swing, and the European communications satellite sector has staked out its position on frequencies for the next generation of mobile systems.

These issues will be discussed at WRC-07 under agenda item 1.4, one of at least 28 items on the very busy schedule of the radio conference.

What the ITU calls International Mobile Telecommunications 2000, or IMT-2000, is generally known as 3G. Future networks already under discussion are being called beyond 3G or 4G, while the ITU seems ready to adopt the name IMT-advanced. Regardless of the name, these future systems will need lots of radio spectrum, which the satellite sector fears will come mainly at its expense.

To lay out the satellite position, the Satellite Action Plan Regulatory Group (SAP REG), representing most satellite operators and manufacturers in Europe, submitted a paper entitled "Satellite and Beyond 3G" to European spectrum managers in mid-April. The SAP REG paper notes that beyond 3G systems will lead to a convergence of services, including fixed and mobile service, telecommunications and broadcasting, as well as a hybrid of satellite and terrestrial platforms. Basic requirements of all these systems, however, are huge bit rates, up to several hundreds of megabits per second.

The result is a need for more spectrum, which leads to the perennial conflict between terrestrial and satellite interests. The SAP REG argues that insufficient effort is being made to identify bands for satellite in the 3G context, which could jeopardize the role of satellites and a significant part of the European space industry.

The SAP REG paper focuses on two main threats to illustrate the need for a higher priority for the satellite sector.

First, fixed satellite operators are concerned over future use of the C-band at 3.7 to 4.2 gigahertz. Nearly two of every three communication satellites manufactured in Europe has C-band capacity, according to the SAP REG. Nevertheless, this band apparently has been selected by Japan for beyond 3G terrestrial systems, which could have serious implications for satellite manufacturers and operators.

In response to this concern, SAP REG recommends that Europe should be "extremely cautious" in the international debate. It urges regulators to avoid unacceptable constraints on continued satellite use of the band or Earth station development.

One European administration already has made its position clear on this issue, urging all other administrations to accept that for the C-band (and certain other bands extensively used by current satellite operations) no change to the international radio regulations should be considered under agenda item 1.4, because any use of these bands by beyond 3G terrestrial mobile systems would be incompatible with satellite operations. It is too early to predict whether this position will stand.

Second, SAP REG is concerned over the general satellite role in 3G planning. In its view, European regulators are too swift to limit the satellite component of next generation mobile systems and exclude satellite from beyond 3G. These fears are not groundless. In April, a group of Nordic countries, which coincidently is home to significant manufacturing of terrestrial handsets, bluntly urged that "the focus area [under agenda item 1.4] for spectrum identification is for the terrestrial component of IMT."

SAP REG recommends that Europe should push for a "segment neutral" identification of spectrum for beyond 3G systems in order to rely on the substantial potential for hybrid terrestrial/satellite systems being developed by the European space industry. This SAP REG position is similar to the "technology neutrality" principle loosely enshrined in European Union law.

The debate at WRC-07 centers around demand projections for services throughout the 2010-2020 time frame. ITU study groups are focused on traffic forecasts, working parties are drafting language for the conference and battle lines are being drawn alongside economic interests. The satellite sector must show its importance to the next generation of services, whatever the name, and the SAP REG paper is one step towards this goal.

Gerry Oberst is a lawyer in the Brussels office of the Hogan & Hartson law firm.