

2015 WORLD RADIOCOMMUNICATION CONFERENCE

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

TITLE: To consider spectrum requirements for the development of advanced satellite services operating in the fixed satellite services and possible regulatory actions, including additional allocations for both geostationary and non-geostationary orbit use, taking into the results of ITU-R studies.

AGENDA ITEM 10: *to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention,*

U.S. PROPOSAL: The US proposes the adoption of an agenda item for WRC-19 aiming at the consideration of spectrum requirements for the development of fixed satellite services, and possible regulatory actions, including additional allocations to the fixed satellite for both geostationary and non-geostationary orbit use in the Earth-to-space and space-to-Earth directions of transmission. While not limited in its view of potential bands, the United States proposes these potential bands for consideration for fixed satellite services: 8.5 - 10.6 GHz; 21.4-22.55 GHz; and 31.5-37 GHz.

BACKGROUND

Today satellite operators provide a wide range of broadband services to a rapidly growing customer base, with more systems to come before 2019. Advances in satellite technologies are allowing a variety of new services including innovative broadband, video and mobile services covering all corners of the globe and providing service to places and regions not covered by traditional terrestrial services and that, accordingly, are missing out on the benefits of new and innovative telecommunications services. Innovative and cost-effective fixed satellite services can support a number of important public interest initiatives including tele-health, tele-education and public protection and disaster relief.

Just to name a few examples, high throughput satellites are bringing broadband connectivity to rural and remote areas, thereby advancing countries' broadband objectives. New satellites are providing ultra-HDTV services to millions of subscribers. Advanced mobile networks are providing critical data services to airlines, ships, covering all ocean and Polar Regions.

This is not by chance; the technological progress in radio communication enables the satellite industry to offer much more capacity today with much less spectrum. This applies to the fixed

satellite service whether operating in the geostationary or non-geostationary orbits. The satellite industry takes this development into account by using new frequency ranges with the most spectrum efficient technologies, including advances in spot-beam technologies and frequency reuse. In addition, satellites are particularly good at sharing spectrum for a number of services, including their gateway stations. However, even with this efficiency, demand for fixed satellite services outpaces the spectrum available for this service today.

Nonetheless, the growing demand for fixed satellite services, including broadband and data services, means that there is a real risk of a short fall if no additional spectrum is allocated. Today, satellite frequencies are heavily used and are nearing saturation for many services. In addition, for some satellite applications, such as gateways, sharing with terrestrial and other services is more easily accomplished.

Satellite operators are seeking access to additional spectrum to satisfy existing and anticipated requirements as the C-, Ku-, and 20/30 GHz bands are nearing capacity. Currently in the US, the satellite industry is either using or is actively planning use in the near term the LMDS band (27.5- 28.35; 29.1-29.25), the 24 GHz band (24.25-24.45 GHz; 25.05 – 25.25 GHz), the V-band (39 GHz and 37/42 GHz), the 60 GHz band and the 70/80 GHz bands.

Recognizing the long lead times required for the development and deployment of satellite networks, operators require certainty and clarity in the spectrum bands available for the use and the regulatory treatment of the services in those bands.

However, to accommodate growing demand is only part of the problem. There is a need for global coverage and the closing of broadband gaps. Accordingly, it is important that at this point in time, all frequency bands above the 6 GHz frequency band be considered. The United States proposes these potential bands for consideration for future satellite services: 8.5 - 10.6 GHz; 21.4-22.55 GHz; and 31.5-37 GHz. Other services shall be taken into account, but also the possibility to more efficiently utilize the spectrum resource.

Proposals

MOD USA/10/1

RESOLUTION 808 (WRC-15)

Agenda for the 2019 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

Reasons: To modify the agenda for WRC-19 to add a new item.

ADD USA/10/2

XX To consider spectrum requirements for the development of fixed satellite services and possible regulatory actions, including additional allocations in these potential bands (8.5 - 10.68 GHz; 21.2-22.55 GHz; and 31.0-37.0 GHz) to the fixed satellite service for both geostationary and non-geostationary orbit use, taking into the results of ITU-R studies.

Reasons: To support the requirement for additional spectrum being allocated to advanced satellite services to support increased demand.

ADD USA/10/3

DRAFT RESOLUTION [USA/11/ADVANCED SATELLITE SERVICES] (WRC-15)

Studies relating to the identification of frequency bands to be allocated to advanced satellite services

The World Radiocommunication Conference (Geneva, 2015),

considering

- a) that demand for satellite broadband is growing for all commercial satellite services, whether geostationary or non-geostationary;
- b) that satellite technology are increasingly being used to deliver broadband services and can help enable universal broadband access, essential to 21st century life;
- c) fixed satellite services bring substantial benefits to the public in a number of areas including tele-health, tele-medicine, telework, and public protection and disaster response;
- d) that satellites take years to design and construct and as a result satellite operators need regulatory certainty regarding available frequencies for their planning;
- e) that next-generation end-user satellite broadband will dramatically increase speeds as 45 mbps is already available, with significantly faster rates in the near future;
- f) that first responders and relief workers can coordinate response efforts domestically, regionally and globally through the use of satellites when terrestrial services are down;
- g) that governments rely on satellites for mission-critical military and intelligence communications and other national security needs;
- h) that satellite connectivity is available quickly and only requires cost-effective ground units for the connection of each site;
- i) that Resolution 37 of the WTDC 2014 noted that the use of radiocommunication systems, in particular satellite systems, to provide ubiquitous access for local communities located in rural or remote areas without increased connection costs due to distance or other geographical characteristics is an extremely useful tool for bridging the digital divide; and that satellite broadband systems support communication solutions offering high connectivity, speed and reliability in both urban areas and rural and remote

areas, and thus constitute a fundamental driver of economic and social development for countries and regions;

- j)* that, by Resolution 71 (Rev. Guadalajara 2010) of the Plenipotentiary Conference, ITU adopted its strategic plan for the period 2012-2015, which contains, as one of the strategic goals of ITU-R: “To seek ways and means to ensure rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite-orbit resources and to promote flexibility for future expansion and new technological developments”;

noting

- a)* that satellite operators provide a wide range of broadband services to a rapidly growing customer base, many in bands above 24 GHz, with more systems to come before 2019;
- b)* that the satellite industry is either significantly using or is actively planning to use in the near term the Ka band (27.5- 28.35; 29.1-29.25), the 24 GHz band (24.25-24.45 GHz; 25.05 – 25.25 GHz), the V-band (39 GHz and 37/42 GHz), the 60 GHz band and the 70/80 GHz bands;
- c)* that fixed satellite service networks are often spectrum efficient due to advances in spot-beam technologies and frequency re-use;
- d)* that for certain satellite applications, such as gateways, sharing with other radioservices is possible;
- e)* that a number of satellite operators have proposed to construct systems in the V-band spectrum;

recognizing

- a) that studies will be required in order to ensure protection to existing services and to develop regulatory changes, including additional allocations to satellite services, to meet the growing spectrum requirements;

resolves

1. to conduct, and complete in time for WRC-19, studies considering spectrum requirements for the development of advanced satellite services and possible regulatory actions, including additional co-primary allocation to the fixed satellite service for both geostationary and non-geostationary orbit use the following frequency bands: 8.5 - 10.6 GHz; 21.4-22.55 GHz; and 31.5-37 GHz;
2. to invite WRC-19 to consider the results of the above studies and take appropriate actions,

invites ITU-R

to conduct, and complete in time for WRC-19, the appropriate studies considering spectrum requirements for the development of advanced satellite services and possible regulatory actions, including additional co-primary allocations to the fixed satellite service for both geostationary and non-geostationary orbit use in the following frequency bands: 8.5 - 10.6 GHz; 21.4-22.55 GHz; and 31.5-37 GHz bands 8.5 - 10.6 GHz; 21.4-22.55 GHz; and 31.5-37 GHz; and,

invites administrations

to participate actively in these studies by submitting contributions to ITU-R.