IWG-3/55
April 30, 2015

2015 WORLD RADIOCOMMUNICATION CONFERENCE

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

TITLE: To consider spectrum requirements for the 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 account existing services in the band and 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 service for both geostationary and non-geostationary orbit use in the Earth-to-space and space-to-Earth directions of transmission within the following frequency bands: 8.5 - 9 GHz and 32.3-37 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. 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 state of the art satellites that provide next generation satellite broadband**,** high quality video programming (including 3D and 4K programming), or mobile satellite services using Ka-band frequencies have recently been launched or will be launched shortly.

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 the most spectrum efficient technologies, including advances in spot-beam technologies and frequency re-use. In addition, for some satellite applications, such as gateways, sharing with Radiocommunication services could be

more easily accomplished. However, even with this efficiency, demand for fixed satellites services outpaces the spectrum available for this service today.

Nonetheless, there is growing demand for fixed satellite services, including broadband and data services which in many rural and remote locations are the only ways of receiving these important communication services,. Today, with C, Ku and Ka bands reaching capacity, satellite frequencies are heavily used and are nearing saturation for many applications. Therefore, Satellite operators are seeking access to additional fixed satellite service spectrum to satisfy existing and anticipated requirements for existing and new services, including broadband services. In the North America, for instance, over one million and a half customers currently rely on satellite broadband services and that number is growing each day.

The United States proposes these bands for consideration for fixed satellite services: 8.5 - 9 GHz; and 32.3-37 GHz. Other services shall be taken into account and this analysis shall include the possibility of sharing with existing uses of the bands.

Proposals

MOD USA/10/1

RESOLUTION 808 (WRC-15~~12~~)

~~Preliminary a~~Agenda for the 201~~98~~ World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 201~~52~~),

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 possible additional spectrum allocations in these bands (8.5 - 9 GHz; and 32.3-37 GHz) to the fixed satellite service for both geostationary and non-geostationary orbit use, taking into account existing services in the bands and the results of ITU-R studies in accordance with Resolution [USA/10/FIXED SATELLITE SERVICE] (WRC-15).

Reasons: To support the requirement for additional spectrum being allocated to the fixed-satellite service.

ADD USA/10/3

DRAFT RESOLUTION [USA/10/FIXED SATELLITE SERVICE] (WRC-15)

Studies relating to the spectrum requirements and the possible identification of frequency bands to be allocated to the fixed-satellite service

The World Radiocommunication Conference (Geneva, 2015),

considering

a) that satellite technology is increasingly being used to deliver broadband services and can help enable universal broadband access, essential to 21st century life;

b) that fixed satellite services contribute to the public in a number of areas including tele-health, tele-medicine, telework, and public protection and disaster response;

c) that next-generation end-user satellite broadband will dramatically increase speeds as 45 mbps is already available, with significantly faster rates expected in the near future;

d) that first responders and relief workers can coordinate response efforts domestically, regionally and globally through the use of satellites;

e) that satellite connectivity is available quickly and only requires ground units for the connection of each site;

f) that the frequency bands proposed herein are being utilized by a number of services and these uses must be taken into account;

g) that satellite operators provide a wide range of broadband services to a growing customer base, with more systems to come before 2019;

h) that technological developments such as advances in spot-beam technologies and frequency re-use are used by the fixed satellite service in order to increase the efficient use of spectrum; and

i) that certain satellite applications, such as gateways, are more conducive to sharing with other Radiocommunications services,

noting

a) 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”,

recognizing

a) that satellites take years to design and construct;
b) the need for regulatory certainty regarding the available spectrum for satellite design and planning purposes; and
c) the need to protect existing services when considering frequency bands for possible additional allocations to any service,

resolves to invite the ITU-R

to conduct, and complete in time for WRC-19:

1) studies considering additional spectrum requirements for the development of fixed satellite services taking into account the bands currently allocated to the fixed satellite service, the technical conditions of their use, and the possibility of optimizing the use of these bands with a view to increasing spectrum efficiency;

2) sharing and compatibility studies with existing services;

3) studies on possible regulatory actions, including additional co-primary allocation to the fixed satellite service for both geostationary and non-geostationary orbit use in the following frequency bands: 8.5 - 9 GHz; and 32.3-37 GHz,

further resolves

to invite WRC-19 to consider the results of the above studies and take appropriate actions,

invites administrations

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

ATTACHMENT

PROPOSAL FOR ADDITIONAL PRELIMINARY AGENDA ITEM AIMING AT THE CONSIDERATION OF SPECTRUM REQUIREMENTS FOR THE DEVELOPMENT OF FIXED SATELLITE SERVICES AND POSSIBLE REGULATORY ACTIONS, INCLUDING ADDITIOANL ALLCOATIONS TO THE FIXED SATELLITE SERVICE FOR BOTH GEOSTATIONARY AND NON-GEOSTGATIONARY ORBIT USE IN THE EARTH TO SPACE AND SPACE TO EARTH DIRECTIONS OF TRANSMISSION WITHIN THE FOLLOWING FREQUENCY BANDS; 8.5-9.0 GHZ AND 32.3-37.0 GHZ.

Subject: 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 service for both geostationary and non-geostationary orbit use in the Earth-to-space and space-to-Earth directions of transmission within the following frequency bands: 8.5 - 9 GHz and 32.3-37 GHz.

Origin: United States of America

Proposal: To develop a preliminary Agenda item 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 Service for both Geostationary and Non-Geostationary Orbit Use in the Earth to Space and Space to Earth Directions of Transmission with the following frequency bands: 8.5-9.0 GHz and 32.3-37.0 GHz

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Background/reason: 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. 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.

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Radiocommunication services concerned: FSS

Indication of possible difficulties: None foreseen

Previous/ongoing studies on the issue: Previous WRCs addressed similar issues in the 11/12/13/14 and 20/30 GHz bands.

Studies to be carried out by: SG4	***with the participation of:***

ITU-R Study Groups concerned: SG4

ITU resource implications, including financial implications (refer to CV126): Minimal

Common regional proposal: Yes/No	***Multicountry proposal:*** Yes/No ***Number of countries:***

Remarks