

2 June 2021

English only

**Committee on the Peaceful
Uses of Outer Space
Legal Subcommittee
Sixtieth session**

Vienna, 31 May – 11 June 2021

Item 6 (b) of the provisional agenda*

**Matters relating to the character and utilization of
the geostationary orbit, including consideration of
ways and means to ensure the rational and
equitable use of the geostationary orbit without
prejudice to the role of the International
Telecommunication Union**

**Conference room paper on the issue of equitable access of
the Developing Member States to Geostationary Orbit
under the agenda item 6(b) of the Legal Subcommittee**

Proposed by the Delegation of the Islamic Republic of Iran

A. Introduction

It is a long time that in different sessions of the Legal Subcommittee a number of member States have been expressing their views to reflect their concerns regarding the equitable access to the geostationary orbit.

In 1996, Colombia submitted to the Legal Subcommittee at its thirty-fifth session a working paper entitled “Some considerations concerning the utilization of the geostationary orbit” (A/AC.105/C.2/L.200 and Corr.1), recommending certain principles that could be applied to the management of frequencies and orbital positions relating to the geostationary satellite orbit.

The Islamic Republic of Iran, in line with the views of many other member states, believes that since that time, after more than two decades, the current utilization of geostationary orbit still is not satisfactory from the point of view of the equitable access.¹

The Islamic Republic of Iran is of the view that equitable access to geostationary orbit is not ensured in the current situation that a number of member States without satellite

* A/AC.105/C.2/L.317.

¹ Concerns reflected in the Report of the last session (fifty-eighth) of Legal Subcommittee (A/AC.105/1203, paras. 99, 100, 101, 102, 103, 104, 108, 109, 110, and 111).



in this orbit, are not able to locate even one satellite with economical characteristics with a minimum coverage area over their own countries.

The only available resource for such developing countries would be Plan resources that have a predefined characteristic and established by ITU to response the need for equitable access. However, these predefined characteristics are not economical because they established many years ago and the latest available development and advancement in technology is not taking into account, so a member State that decides to use its national planned resources in an economically viable manner, very often needs to modify the initial characteristics of its original Plan which will result in a lot of coordination requirements. More details regarding this issue are presented in section C of this document.

The subject of the geostationary orbit has also been under consideration for many years by the Scientific and Technical Subcommittee. Recently, STCS had before it a conference room paper on the issue of equitable access of developing member States to geostationary orbit proposed at its fifty-eighth session by the Islamic Republic of Iran (A/AC.105/C.1/2021/CRP.26) as attached to this document for ease of reference.

B. Deficiencies of the current regime regulating the utilization of geostationary orbit from the equitable access point of view

In Response to the dire need for equitable access to GSO orbit, International Telecommunication Union has a Plan Approach known as BSS Assignment and FSS allotment. The objective of ITU Planning is to ensure that all countries have a permanent amount of frequency resources in GSO orbit and to enable them utilizing these resources whenever they have access to that orbit.

The Plan characteristic defined by ITU was established many years ago and the latest development and advancement in technology has not been taken into account, so when a State decides to use its national planned resources in GSO orbit in an economically viable manner, very often needs to modify the initial characteristics of its original Plan. In doing so, required modification would be considered as additional use/system, not as a Plan; therefore all the considerations that are given to Plan resources by ITU will be ignored.

When a request for modification to a Plan resource is submitted, the submission would be queued at the end of the last submission received before it, based on “first-come first-served” concept, so a large number of coordination requirements will be identified with the countries which have already satellite or submissions in this orbit.

When a new comer modify its Plan resources, several number of existing networks/submissions which most of them belong to the developed countries and usually have wide/Regional Coverage and service area will be affected, even if the coverage and service area of the new comer’s network has been limited to its territory.

Unrealistic technical characteristics used in some satellite networks/submissions design to obtain a high sensitivity to interference from later submissions, and the conservative criteria used in ITU Radio Regulation are other causes of such a large number of coordination requirements.

Another shortcoming of Plan resources is that some frequency bands such as ka-band and higher bands were not considered in the establishment of Plan resources, due to the technological limitations trends of that time, which made those bands unpopular for satellite communications. Therefore, it is necessary to preserve a spectrum share for the States who will use these bands with delay and to avoid saturation of this orbit in these frequency bands.

Due to the aforementioned reasons, for a new comer who modifies its Plan resources, it would be extremely difficult, if not totally impossible, to succeed coordination within the regulatory deadline, although the coverage area of the new comer’s network might be still limited to its national territory.

C. Proposal by the Islamic Republic of Iran under the agenda item 6(b)

Although in different sessions of subcommittee and under the agenda item 6(b), serious concerns regarding to the capability of the current provisions to provide and ensure equitable access to geostationary orbit have been raised, still no effective action has been taken by the Legal Subcommittee and it was confined to reflect these concerns in the final report of the meetings as echoed views expressed by member states.

Islamic Republic of Iran suggests following proposals for consideration by the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space at its sixtieth session

- (a) Predefined characteristics of the ITU Plan resources are not economical anymore since they have been established many years ago and are not compatible with the latest available technological development and advancement. In addition, some frequency bands such as ka-band and higher bands were not considered in the establishment of the ITU Plan resources due to the technological limitations trends of that time.

Pursuant to the paragraph 8(c) of the Paper adopted by the Legal Subcommittee at its thirty-ninth session (A/AC.105/738, annex III),² after more than two decades, further technological development has warranted the re-examination of the issue of equitable access to the geostationary orbit as envisaged by para 8(c) of the above mentioned paper adopted by LSC in year 2000. Accordingly, we propose to re-establish a working group on the issue of equitable access to the geostationary orbit and as suggested by Pakistan national statement in the 58th STSC, an intergovernmental panel of expert could also be established within the working group to elaborate the issue and submit its findings.

Since the equitable access to geostationary orbit is a cross cutting issue, the proposed re-established working group could be a joint initiative of both LSC and STSC to elaborate legal and technical aspects and characteristics of the issue.

- (b) As the member states are aware, the I.R of Iran requested the STSC at its recent session to establish a sub-item under agenda item 16 to review and examine the technical aspects of the issue and to develop ways and means to ensure equitable access to GSO orbit.³

As suggested by some delegations the legal sub- committee due to its already consideration of the legal aspects of this issue, is well competent body to reconsider the matter in both legal and technical aspects and further recommend to the next session of the COPUOS 2021, stating the importance and effectiveness of adding such a sub-item agenda to the STSC.

- (c) ITU has the main role in the management of frequency and orbital resources and any practical solution for improving the current situation in the utilization of geostationary orbit and to make it more equitable could be reached by cooperation of International Telecommunication Union (ITU). The Legal Subcommittee as a competent body to examine and comment on the subject of the geostationary satellite orbit should initiate

² This paragraph states that: "Item 6 of the agenda of the Legal Subcommittee continue to remain on the agenda of the Subcommittee. However, no working group shall be convened on the issue of equitable access to the geostationary orbit. This decision could be re-examined in due course, in accordance with the Subcommittee's normal procedure, if further developments warranted".

³ This proposal is broadly elaborated in conference room paper A/AC.105/C.1/2021/CRP.26.

its contribution to the ITU-R Study Group 4 and working party 4A which are involved in the studies related to the issue of equitable access and Plan resources.

As a first step, the LSC contribution could be an invitation for ITU-R to cooperate with this Subcommittee regarding the mentioned studies and to consider the effectiveness and feasibility of the solutions which will be proposed by this Subcommittee.

Consistent with the appropriate template of contribution to ITU-R Working Parties, a proposed liaison statement has been drafted and attached to this document to be sent to the ITU-R SG 4 and WP 4A. This liaison statement contains some possible solutions to be taken into account by SG 4 and WP 4A.

Attachment 1: page 5 to 6

Attachment 2: page 7 to 8

28 April 2021

English only

**Committee on the Peaceful
Uses of Outer Space**
Scientific and Technical Subcommittee
Fifty-eighth session
Vienna, 19–30 April 2021
Item 17 of the Provisional Agenda

**Conference room paper on the issue of equitable access of
the Developing Member States to Geostationary Orbit
under STSC agenda item 16**

Proposed by the Delegation of the Islamic Republic of IRAN

The Islamic Republic of Iran, in line with the views of a number of COPUOS Member States, believes that current utilization of geostationary orbit (GSO) does not ensure equitable access of all member states to this limited natural outer space orbit resource. Current ITU Radio Regulation is mainly established based on the concept of “first come first serve” which gives the priority to the primary users of this orbit. This concept can restrict and prevent access to use certain frequency bands and orbital positions by those members who reach the satellite technology with delay.

This priority has led to a situation that early users are able to use a number of satellites with excellent technical parameters and large coverage area (as large as a whole continent or more), While depriving late users of having even one satellite with a small coverage area limited to their territories to provide service to their citizens. The deprivation of late users indicate that, despite all efforts made by the International Telecommunication Union (ITU) to meet the need for equitable access to this orbit, as emphasized in ITU constitution, this goal has not been achieved as yet.

This delegation believes that mere noting the concerns in the report is the very first step in resolving the problem. It has been observed that it's a long time that we are in this stage and we must move beyond and take serious actions toward finding practical solutions. Therefore, the Islamic Republic of Iran proposed to establish a new agenda or sub agenda in a way that encourages countries to discover the shortcomings of this governing regime, regulating the use of GSO. The observations of this delegation show that the deficiencies are not merely legal in nature, but there are many technical issues that need to be addressed in STSC.

Couple of examples can better clarify these shortcomings, which are of a technical nature, if reviewed by STSC that may lead to solutions to ensure equitable access to the GSO. The first example is related to Plan Resources, which refers to those frequency and orbital resources that the ITU has permanently reserved in the GSO orbit for all United Nations Member States, and its provisions are set out in Appendix 30, 30A and 30B of the Radio Regulations.



As the distinguished representative of Pakistan stated yesterday under agenda Item 16 (in the meeting of the subcommittee on April 27, 2021), although these resources are permanently available, there are technological limitations that make the use of these resources uneconomical and unjustifiable. In other words, countries must meet certain technical characteristics to use these permanent resources. These predefined characteristics are old because established many years ago and the latest available development and advancement in technology has not been taken into account to further review them. Therefore, one of the solutions that can lead to equitable access to the GSO orbit is the technical examination by this subcommittee, regarding the upgrading the technical characteristics of the plan resources and the acceptable amount of this upgrade to ensure the equitable access.

The second technical example is related to the possibility that given to first comer countries, so that they can have a larger share in the Plan frequency band, than what is intended for all countries. This possibility is known as “additional use” and naturally the countries were able to take advantage of this possibility that had earlier acquired the satellite technology. Consequently, the Plan frequency band, which was supposed to be used fairly and not according to the concept of “first come first serve” used by additional systems.

Licensing for additional systems is also based on the concept of “first come first serve” which result in coordination between countries based on coordination criteria. The important issue is that if any upgrade in the specifications of the Plan resources be done even for their national coverage, it will considered as another additional system and requires to get agreement from all previous systems based on coordination criteria. Therefore, the second technical activity that this subcommittee can undertake is to study the coordination criteria to propose revision of their formulation so that countries can economically upgrade the technical characteristics in their national resources and in a way that does not make it subject to obtaining agreements from other additional systems.

The Technical issues regarding the current deficiencies are not limited to the two above mentioned examples. There are many other reasons that need to be discussed in the Subcommittee such as registering satellite networks with unrealistic technical parameters which make them sensitive to interference, in a way that subsequent submissions would be considered as interferer to those systems.

Finally, due to the fact that the final solution to the issue is neither purely technical nor purely legal, the Islamic Republic of Iran is of the view that this agenda needs to be established in this Subcommittee. By this approach, any proposal for a solution that contains technical elements will be firstly reviewed and discussed in STCS from the technical and feasibility aspects, and then could be referred to the Legal Subcommittee for review of the consequence of technical solutions upon the implementation of space law treaties that explicitly have the provisions of equal and equitable access of all to other space orbits.

Based on the above discussions and justifications, the Islamic Republic of Iran proposes that a new sub agenda item under agenda item 16 be established for the draft provisional agenda of the fifty-ninth session of the Subcommittee:

1. The numbering of this new sub agenda item be as: 16.1 or 16(a),
2. The language report of this new sub agenda is proposed to as following:

“Review of the current utilization of geostationary orbit from the perspective of equitable access in order to assess the capability of current regime regulating the use of this orbit in providing equitable access to geostationary orbit and to propose possible solutions for the observed deficiencies.”



Received: Date 20xx

Document 4/-E
Document 4A/-E
Date 20xx
Original: English

Committee on the Peaceful Uses of Outer Space's Legal Subcommittee

LIAISON STATEMENT TO ITU-R STUDY GROUP 4 AND WORKING PARTY 4A

REQUEST FOR COOPERATION REGARDING THE STUDIES ON THE WAYS AND MEANS TO IMPROVE THE EQUITABILITY OF ACCESS TO GEOSTATIONARY ORBIT

Considering that task of ensuring equitable access of all member states to orbital resources is stated in ITU constitution and also considered as a regular agenda item 6(b) of the Legal Subcommittee, the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space invites Study Group 4 and Working Party 4A to cooperate with this Subcommittee regarding the related studies and to comment on the effectiveness and feasibility of the solutions which will be proposed by this Subcommittee.

The title of agenda item 6(b) of the Legal Subcommittee is as follows:

“Matters relating to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union”.

The Legal Subcommittee believes that Planning approach is a valuable legacy in ITU-R which are included in AP30, AP30A and AP30B of Radio Regulation, to reserve a portion of frequency resources in geostationary orbit for all the member states. This Subcommittee also appreciate subsequent attempts to enhance equitable access by establishing Resolution 553 (Rev.WRC-15) and Resolution 170 (WRC-19).

Despite the valuable activities of IRU-R, there are still a number of concerns between the member states in Legal Subcommittee about sufficiency of the current provisions governing the utilization of geostationary orbit in providing equitable access to all member states to this orbit. For example, there are some concerns regarding the characteristics in the Plan claiming that the latest available development and advancement in technology is not taken into account. So, if a State decides to use its national planned resources in an economically viable manner, very often needs to modify the initial characteristics of its original Plan, which results in many coordination requirements, even if the satellite coverage be limited to the territory of that State. While this large number of coordination requirements are mostly due to the multiple networks/filings of some member states that occupies multiple positions in geostationary orbit in the Plan bands. There are also other views regarding the need for new Planning for new frequency bands such as Ka-band and higher. This is because these frequency bands were not considered in the establishment of Plan resources, due to the technological limitations and technological trends of the time, which made them unpopular for satellite communications. Therefore, it is necessary to preserve a spectrum share for the States who will use these bands with delay and to avoid saturation of this orbit in these frequency bands.

Finally, the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space kindly invites SG 4 and WP 4A to initiate bilateral cooperation to assess if the current provisions sufficiently address and ensure the equitable access of all member states to geostationary orbit and to find possible regulatory and technical ways and means to enhance this important task which is also included in ITU Constitution.

The following possible solutions is provided based on the contributions to the Legal Subcommittee to be taken into account during the future meeting of SG 4 and WP 4A.

- 1- Provisioning new rules or Rules of Procedures to simplify updating existing Frequency Plans according to current technology trends and the latest available developments.
- 2- To initiate studies toward designing a new “Frequency Planning” for new frequency bands such as Ka band or higher bands to preserve a spectrum share for the States who will use these bands with delay and promoting equitable and rational use of frequency spectrum and avoid saturation of this orbit in these frequency bands.
- 3- To investigate whether these studies can be added as a Topic under Agenda Item 7 of WRC-23 which consider possible changes in Radio Regulation in order to facilitate the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary orbit.

Status: For consideration and appropriate actions

Contact: TBD

E-mail: TBD
