



BR Workshop on the Efficient Use of the Spectrum / Orbit Resource

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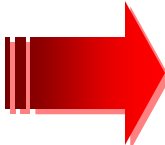
Presentation Overview

- ***The Efficient use of Orbit / Spectrum is one crucial challenges***
- Possible measures that may address the issue
 - Technical Aspects
 - Regulatory Aspects

The Efficient use of Orbit / Spectrum is one crucial challenges

Satellite network data entered in coordination and notification notices, geared to have worst case sharing scenario, often corresponding to the maximum and minimum operating which in practice are never applied.

- impractical maximum and minimum operating margins
- unspecific coverage
- wide range of unused frequency bands



Carrier-to-Interference examination based on these satellite parameters will result in excessive coordination requirements and eventually lead to an increase in the application of RR under Provisions No. **11.32A** or No. **11.41**.

The Efficient use of Orbit / Spectrum is one crucial challenges

More challenges

- Numerous space frequency assignments recorded in the MIFR after having completed all the required procedures but which will either never actually be used or whose corresponding satellites have already ceased operating.
- Although bilateral coordination negotiations lead to specific agreements limiting or modifying the parameters, but parties retain the operating parameters as originally notified, which are known to be either unused or over protecting ones.
- Upon checks against available launch records and radio monitoring findings, there are significant number of inaccurate satellite and launch vehicle manufacturer information contained in the Administrative Due Diligence information.
- The records of suspended satellite networks may not be reflecting the true situation.

The current ITU database may unfortunately not be a true reflection of spectrum and orbit utilization

Presentation Overview

- The Efficient use of Orbit / Spectrum is one crucial challenges

- ***Possible measures that may address the issue***
 - ***Technical Aspects***
 - ***Regulatory Aspects***

Addressing the issue

Possible
Measures

Technical aspects

Regulatory aspects

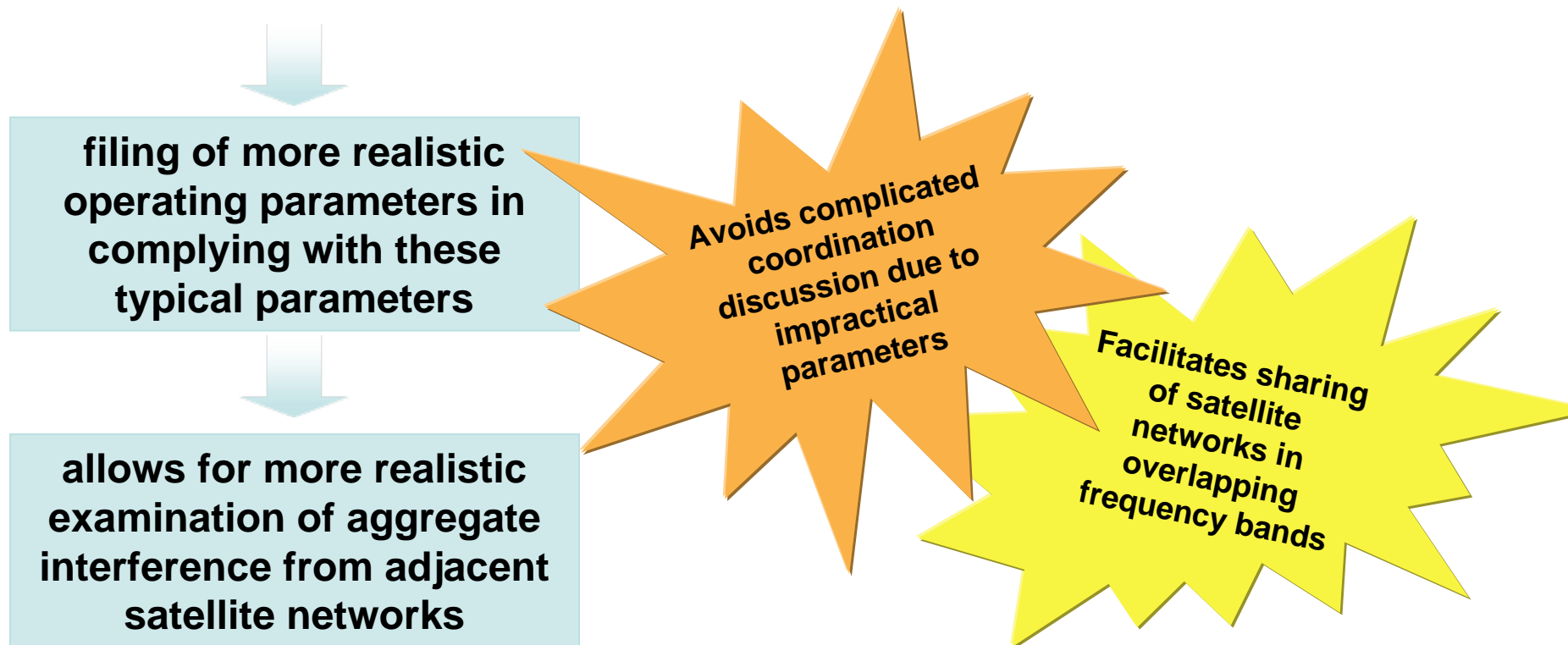


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Technical Aspects

- Homogenous operating parameters

- Defining realistic and homogenous operating parameters for satellite services i.e. typical maximum and minimum operating parameters for different types of services



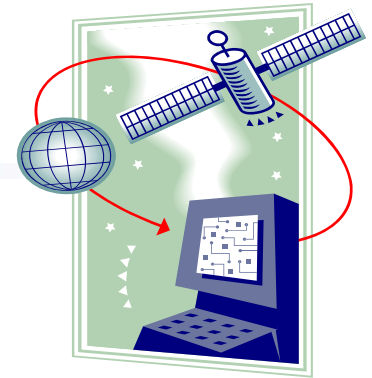
Possible incentives for submitting homogenous parameters for satellite networks



- Simplify the existing Radio Regulations procedures
 - eliminate the 6-month regulatory period between submission of the advance publication information (API) and coordination request (CR/C), or
 - suppress the API phase of these satellite networks, or
 - consideration to prioritize the processing of these coordination and notification notices.
- Reduction of cost recovery charges for the processing of these satellite networks since the procedures or complexity in the BR examinations will be reduced.

Regulatory Aspects

– International Satellite Monitoring (ISM)



- Current case

- Satellite networks successfully recorded in the MIFR, but with no actual satellites operating at these orbital locations.
- These frequency assignments have not been suspended in accordance with No. **11.49** even if the operational satellite was decommissioned.
- The incoming satellite networks are subjected to unnecessary and even infeasible coordination with these paper satellites.

New entrants with firm plans are blocked from utilising these orbital locations or even operating at adjacent orbital locations.

Regulatory Aspects

– International Satellite Monitoring (ISM)

- How ISM can help?
 - A feasible option to clear paper satellites from the MIFR and as a mechanisms to facilitate confirmation of Administrative Due Diligence information.
 - Able to minimize non existence of satellite networks which have submitted Administrative Due Diligence Information and Notification information to the BR.
 - Useful in resolving satellite interference disputes between administrations in cases brought up to the RRB.



Regulatory Aspects

– International Satellite Monitoring (ISM)

- There are many existing satellite operators or third party teleport that has the satellite monitoring capability:
 - Investigation of satellite transponder use from the perspective of the regulatory authority to ensure that the satellite industry follows proper international procedures (API, CRC, Notification)
 - Able to measure emission characteristics
 - Frequency
 - Bandwidth, polarization, total PFD
 - Orbital elements of space craft to identify unknown satellite e.g. in cases of interference
- Proposal can be made to the next Plenipotentiary Conference or WRC (as appropriate) for the setting up of an ITU's ISM system
- The existing ISM operator can be invited to provide the monitoring service with minimal fee or free of charge, voluntarily



Regulatory Aspects

– Partial Suppression of steerable beam

- Majority of the C and Ku-band coverage area of satellite networks recorded in the MIFR is with steerable capability.



Ku-band filing recorded a steerable coverage in MIFR



Commonly, the steerable beam is designed with a smaller coverage, and once commercial traffic has been commenced, the beam would remain at that position as long as commercial traffic remains active.

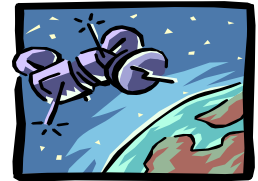
- To reflect this actual usage
 - Suspend the other area where the steerable beam is not covered with a provision similar to the RR No. **11.49**.
 - If the steerable beam is not re-positioned to other coverage area within a stipulated period, the regulatory priority for those areas should lapse.

This could potentially address hindrance of new usage by using steerable beam.

Regulatory Aspects

– Conditional application of RR No. 11.41

- Minimise the abuse of request for provisional notification under RR No. **11.41**, this provision could be modified to limit the extent of the applicability of this request.
 - Limited only for orbital separation that is relatively close, and
 - For cases that coordination genuinely cannot be successfully completed
- Modification of this provision may need to be addressed by a WRC.



THANK YOU