

BR DIRECTOR'S REPORT TO WRC-15 A Quick Guide

Yvon HENRI


Chief of Space Services Department

WHAT IS BR DIRECTOR'S REPORT

Report on activities of ITU-R since last WRC
Submit to WRC-15 and considered under Agenda Item 9
Available from <http://www.itu.int/md/R15-WRC15-C-0004/en>

THE PURPOSE

Inform WRC-15 of activities since WRC-12
Report difficulties & inconsistencies of Radio Regulations
Inform on action in response to **Res 80* (Rev.WRC-07)**



ITU-R to study procedures for measurement & analysis in application of CS/Art.44:

1. Limit spectrum use to minimum
2. Use frequencies & orbits rationally, efficiently, economically, equitably

BR to submit progress report

Source: CV/125 of Art7, CV/180 Art12, Art 44 of CS, AI 9 of Res807, CA/201, Doc. CMR15/4

*Due diligence in applying the principles (Article 44 of Constitution - Use of Radio-Frequency Spectrum, GSO and Other Satellite Orbits) embodied in the Constitution

THE STRUCTURE

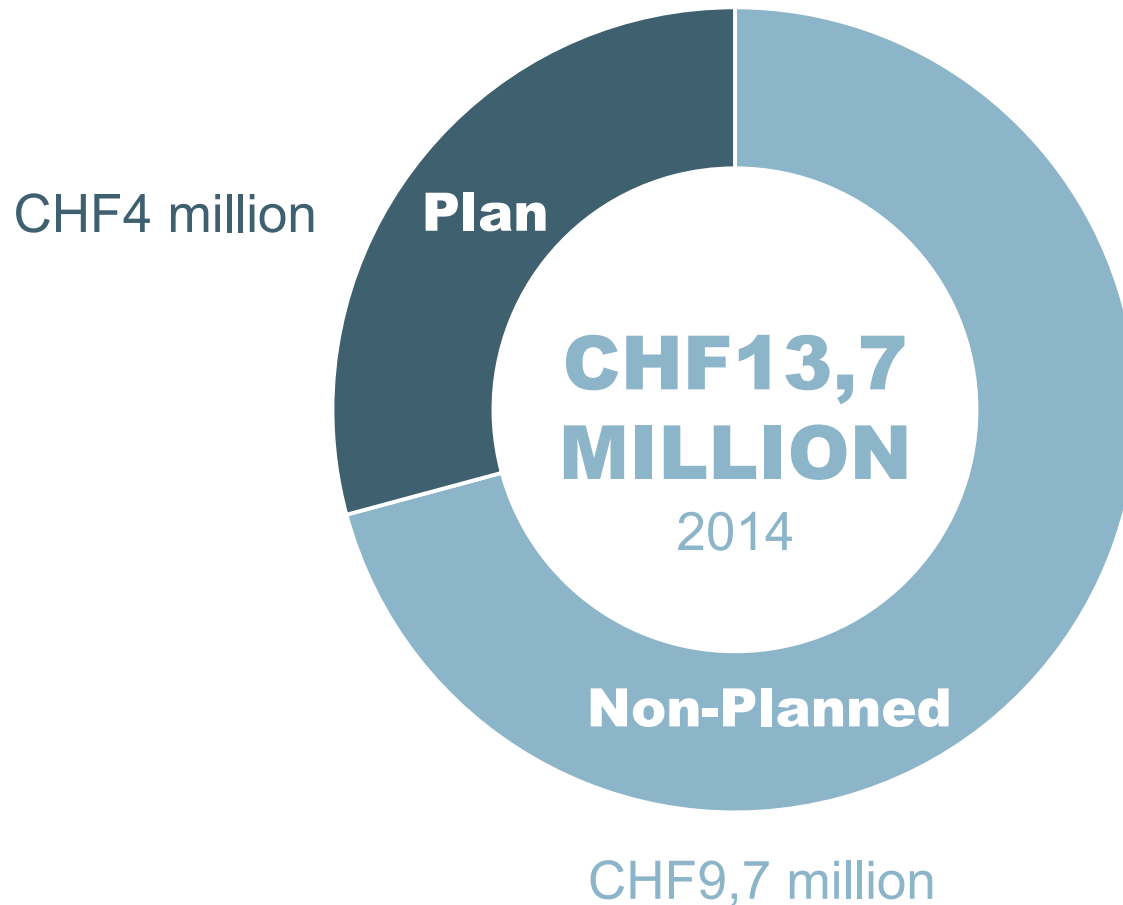
- Part 1 Activities WRC-12 to WRC-15
- Part 2 Experience in radio regulatory procedures
- Part 3 Activities of Radio Regulations Board (RRB)
- Part 4 Management of Maritime Mobile Service Identity (MMSI)
- Part 5 Changes to call signs
- Part 6 Implementation of Res 547 (Updating “Remarks” column)

TOPICS COVERED TODAY

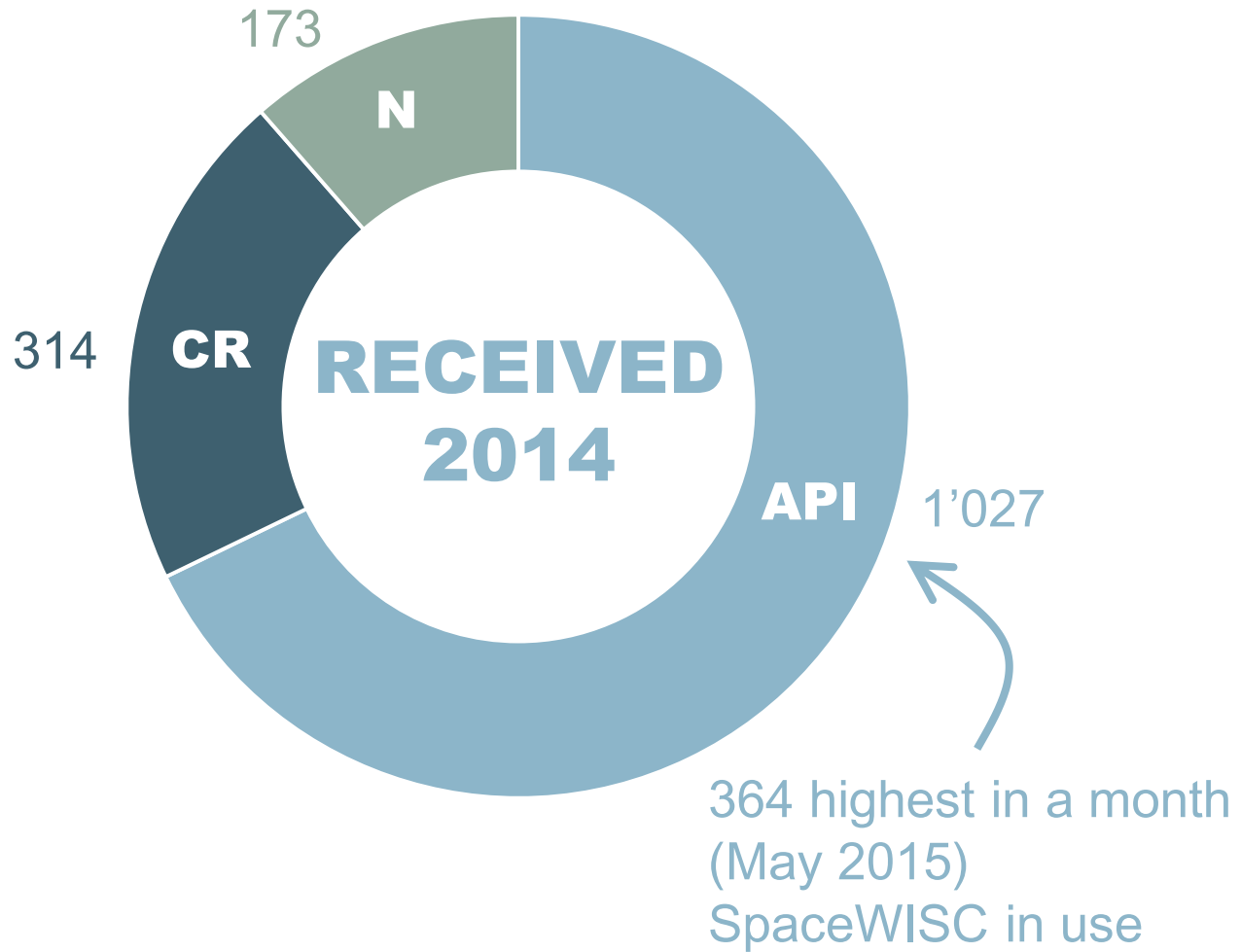
Improvements to non-planned (space) procedures

Technical / regulatory issues related to space services

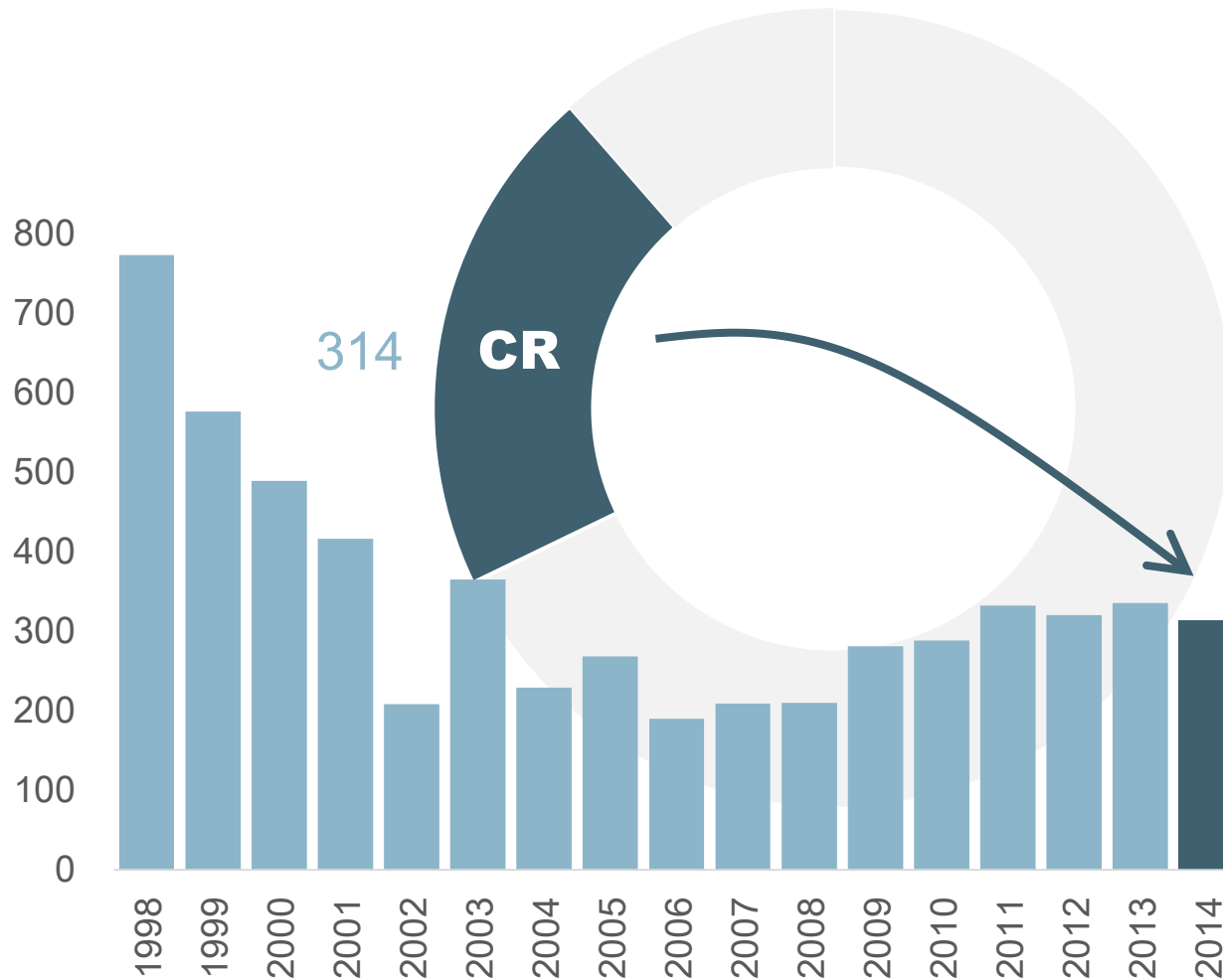
ITU-R IN NUMBERS



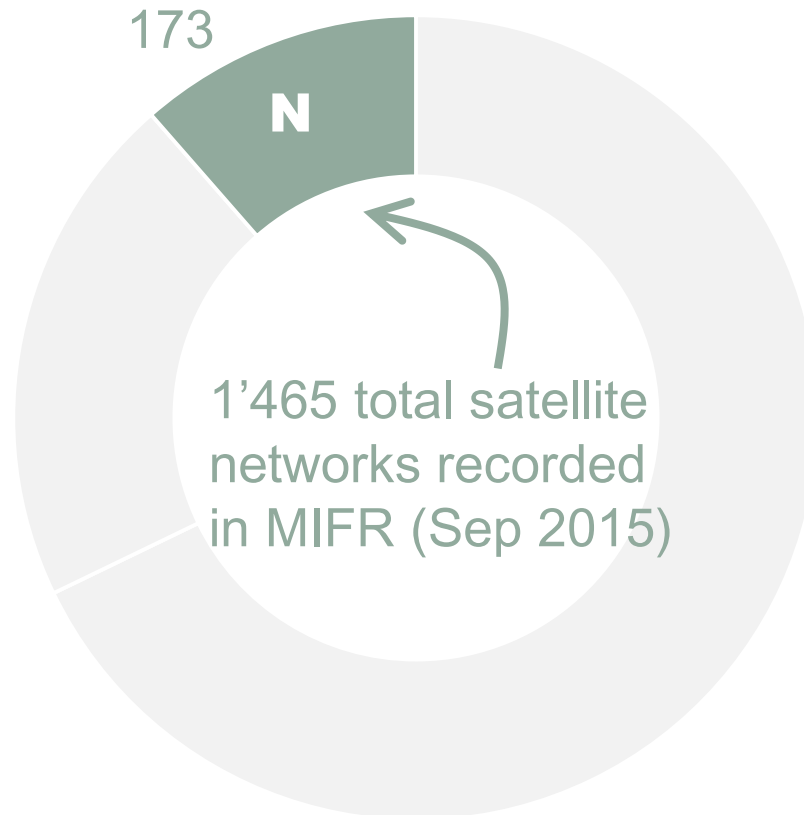
NON-PLANNED



NON-PLANNED



NON-PLANNED



FREE DOWNLOADS

 8,7 million downloads

Recommendations www.itu.int/pub/R-REC

Reports www.itu.int/pub/R-REP

Handbooks www.itu.int/pub/R-HDB

Radio Regulations www.itu.int/pub/R-REG

Rules of Procedures www.itu.int/pub/R-REG

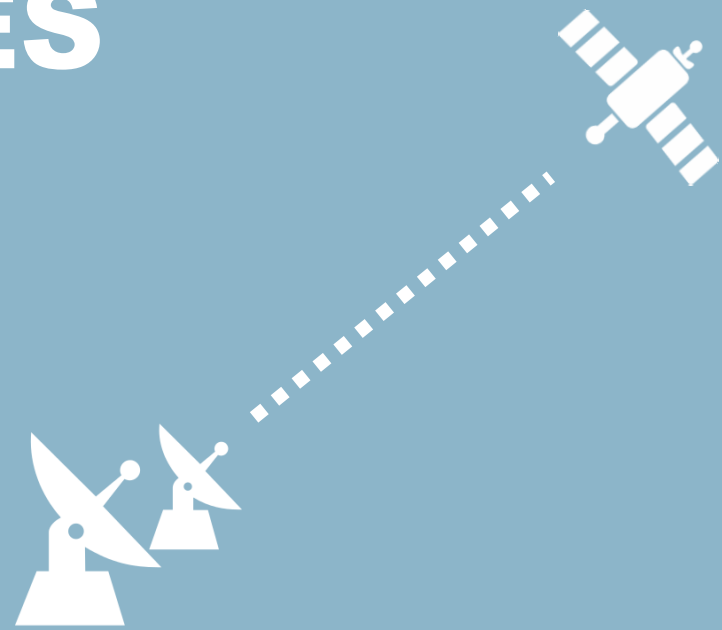


SEMINARS

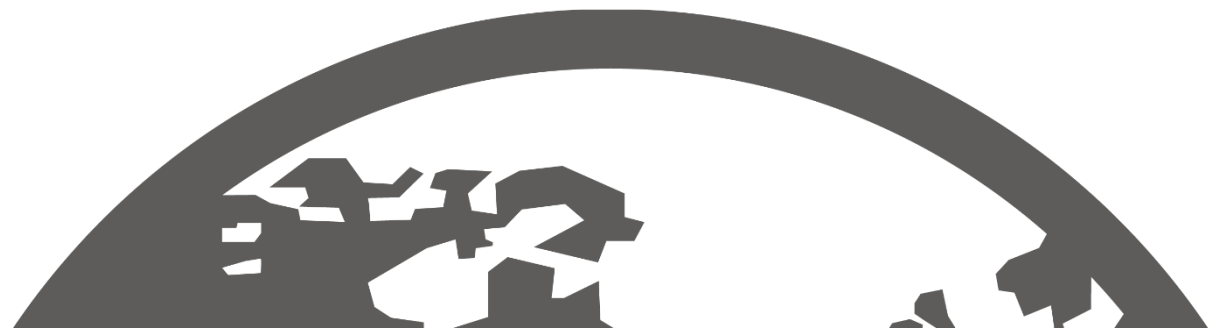


2 World Seminars
10 Regional Seminars
1'575 participants (165 countries)

IMPROVEMENTS TO NON-PLANNED PROCEDURES









NON-PLANNED PROCEDURE



← 7 years →



ADVANCED PUBLICATION SUBMISSION

- Web-based submission using SpaceWISC
 - API (subject to coordination) (Art 9 Sub-Section IB)
 - Comments (No. 9.5B)
- 534 APIs submitted / 249 users / 40 administrations
- TIES login: <http://extranet.itu.int/itu-r/spacewisc>
- **Result: Since Mar 2015, no more email / mail / fax**



CHANGES TO NO. 9.41

- Satellite networks outside CA (coordination arc) can be included in coordination via No. 9.41 if $\Delta T/T > 6\%$
- CA reduction & criteria used in No. 9.41 (GSO vs GSO) was studied (RS756)
- Considering use of C/I instead of $\Delta T/T$
- BR observed C/I alone would not reduce coordination; there is increase in No. 9.41 requests
- **Suggestion: Address unrealistic parameters, not only change criteria**



ADDITIONAL 15-DAY REMINDER

- Adm may seek BR assistance if concerned Adm:
 - does not acknowledge coordination request (No. 9.46)
 - disagrees but no info provided (No. 9.60)
- 30 days to respond to BR (Nos. 9.47 & 9.62) else no complaint of & not cause harmful interference (Nos. 9.48 & 9.49)
- **Result: RRB approved +15-day reminder (RoP 9.47 & 9.62)**



PFD LIMITS FOR STEERABLE BEAMS

- If PFD hard limits exceeded, finding is still favourable if:
 - Steerable beam
 - One position where limit is met without power reduction
 - Method to meet limit is provided e.g. Annex to RoP21.16
- Some Adms still unaware, receives unfavourable
- **Suggestion: Include conditions in Appendix 4 of RR**



‘AS-RECEIVED’ PUBLICATION

- Since June 2000, BR publishes ‘as-received’ within 30 days
- Takes processing time, useful when there was backlog
- **Suggestion: Only publish ‘as-received’ if BR unable to meet regulatory deadlines for publications**



OBSOLETE API & COORDINATION REQUEST

- CR of recorded assignments maintained >7 years
- Created overprotection and burden on Adm
- **Result:**
 - 1018 satellite networks removed in IFIC 2788 / 17.02.2015
 - Regular removal every 2 weeks
 - Relevant dates transferred to notification



NOTIFICATION OBJECTIONS

- Affected Adm (sometimes) objects to Part 1/2/3-S
- Coordination agreement was actually not obtained
- Notifying Adm has 30+15 days to response else no agreement
- **Result: BR formulates / review findings depending on outcome**



COORDINATION STATUS UNDER NO. 11.41

- Networks recorded under No. 11.41 due to:
 - Unsuccessful coordination, and
 - Unfavourable w.r.t probability of harmful interference with affected network (No. 11.32A)
- Currently, if affected network is SUP, No. 11.41 remains NOC
- **Result: For notification received from 01.01.2015, BR will review findings & update status (No. 11.41A)**



RS49 IMPROVEMENTS

- RS49 provided before launch & not updated
- No provision to confirm post-launch or change of spacecraft
- No transparent link between frequency assignments in spacecraft and recorded assignments
- **Suggestion: Submit RS49 after BIU & update during suspension/BBIU, introduce ITU ID number linked to spacecraft similar to RS552 (BSS 21.4-22GHz)**



MILITARY INSTALLATIONS

- BR consults if assignments not BIU or no longer in use (No. 13.6)
- 15 Adm (120 satellite networks) made ref to Art 48 “Member States retain .. freedom with regard to military radio installations”
- **Suggestion: Consider relevance of nature/services e.g. 46% stations open to public correspondence**





MODERN COMMUNICATION

- Difficulty faxing 22% of Adms
- Adverse regulatory impact
- Eventually use modern electronic communications between Adm and BR including filing submissions
- **Suggestion: Review terms, definitions etc; authorize digital signatures or secure encrypted web servers** (TIES, CRM - Customer Relationship Management, MFA - Multi-Factor Authentication)

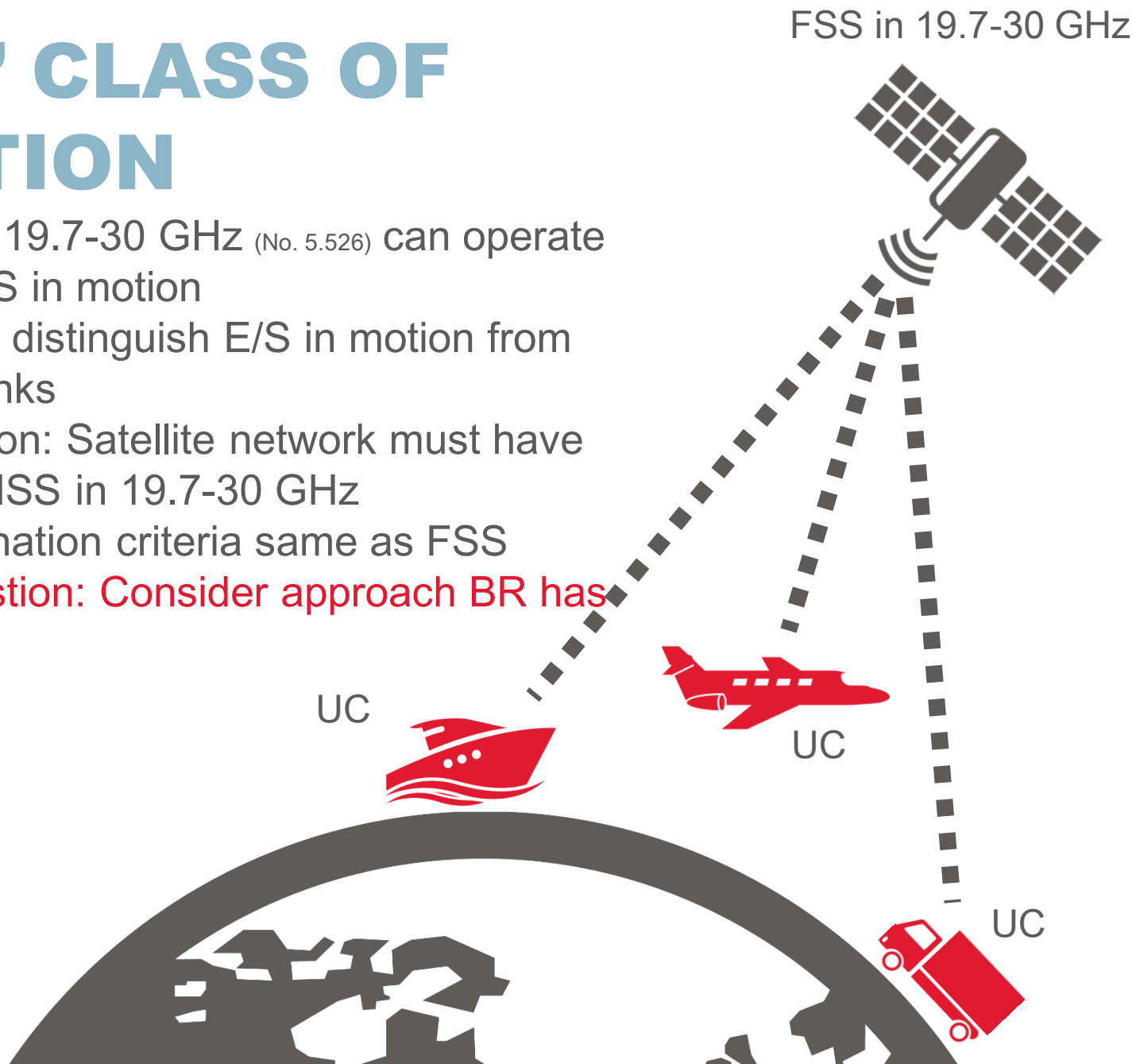


TECHNICAL / REGULATORY ISSUES RELATED TO SPACE SERVICES



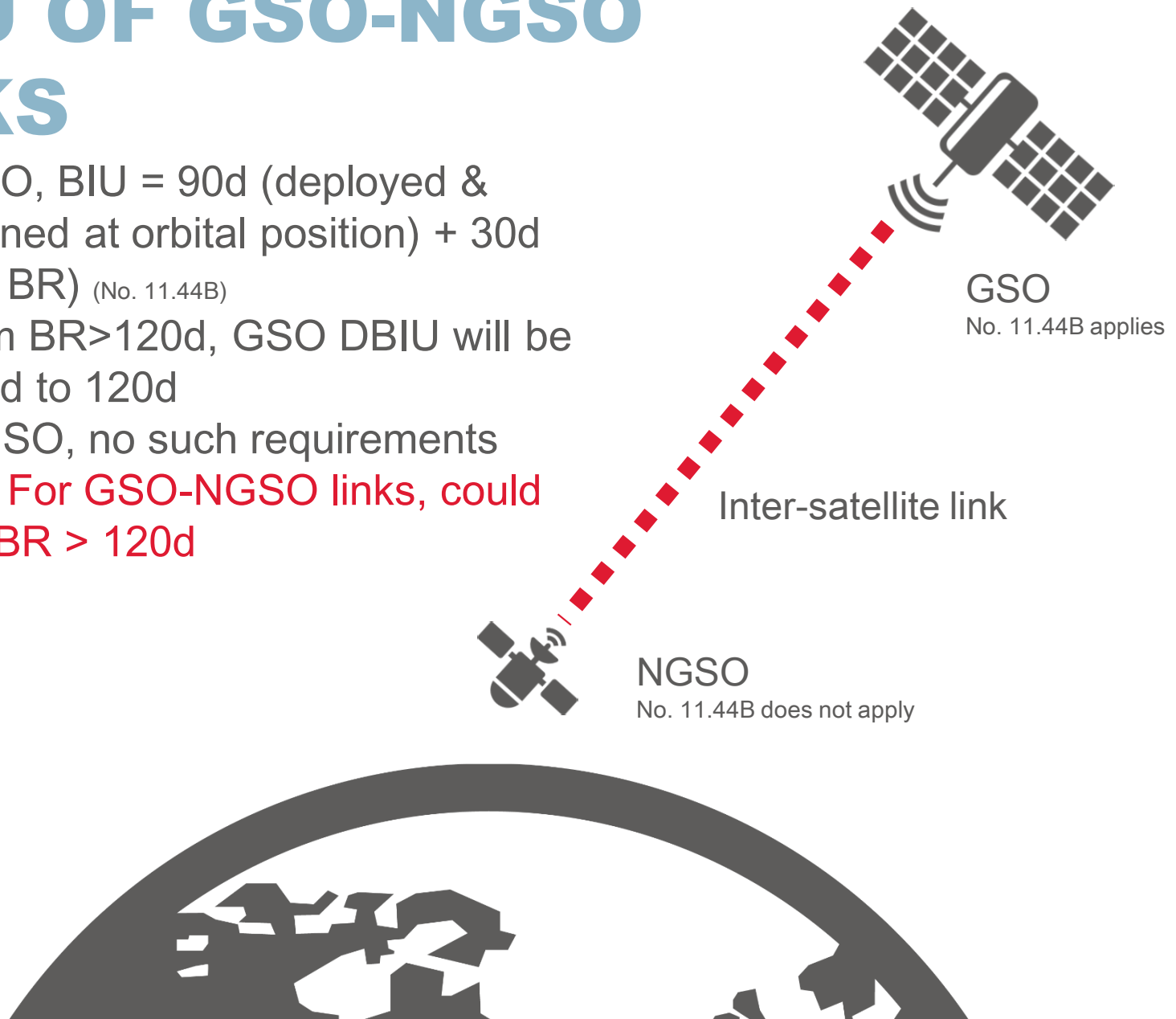
“UC” CLASS OF STATION

- FSS in 19.7-30 GHz (No. 5.526) can operate with E/S in motion
- “UC” to distinguish E/S in motion from other links
- Condition: Satellite network must have FSS+MSS in 19.7-30 GHz
- Coordination criteria same as FSS
- **Suggestion: Consider approach BR has taken**



DBIU OF GSO-NGSO LINKS

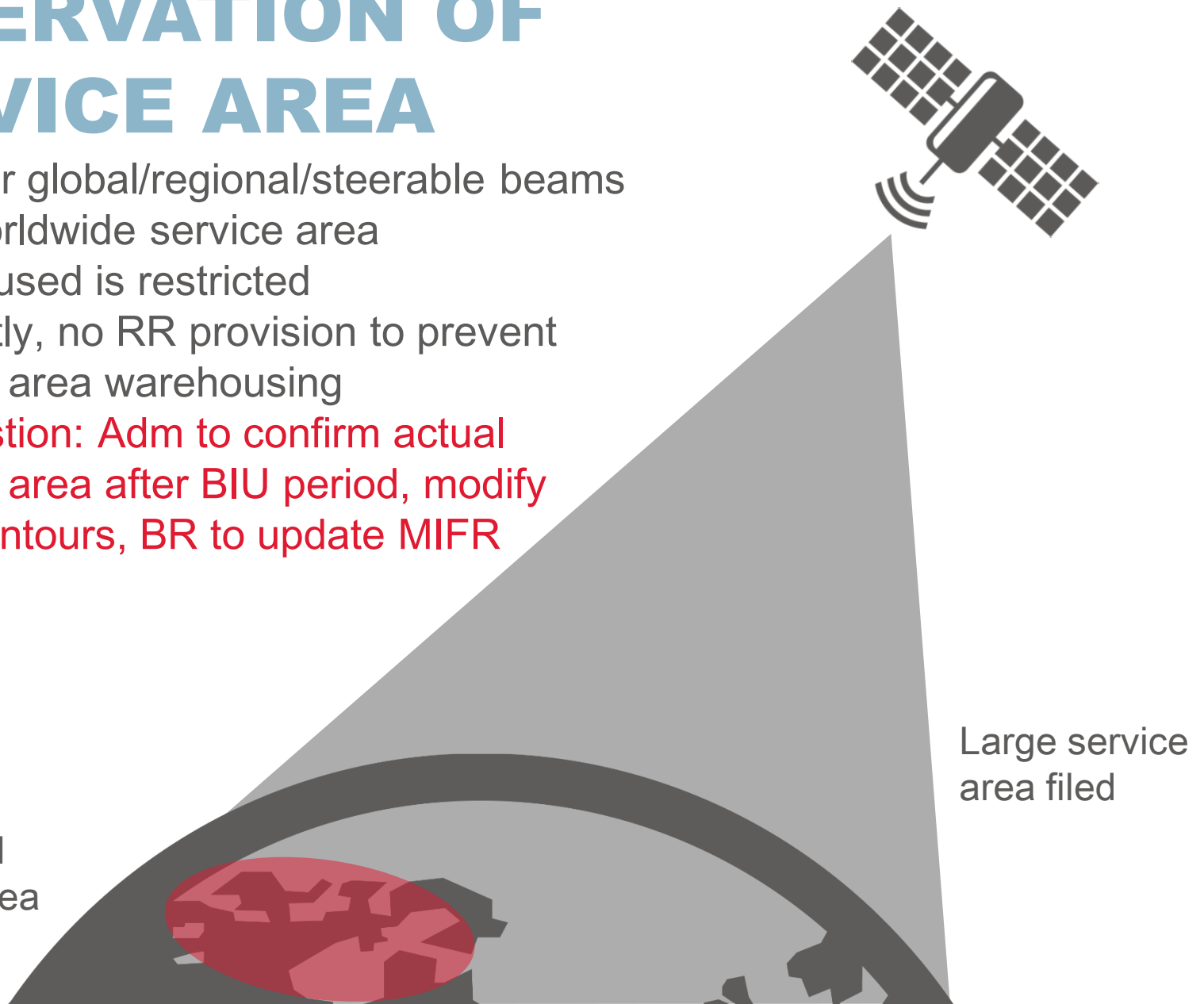
- For GSO, BIU = 90d (deployed & maintained at orbital position) + 30d (inform BR) (No. 11.44B)
- If inform BR > 120d, GSO DBIU will be adjusted to 120d
- For NGSO, no such requirements
- **Result: For GSO-NGSO links, could inform BR > 120d**



RESERVATION OF SERVICE AREA

- Filed for global/regional/steerable beams with worldwide service area
- Actual used is restricted
- Currently, no RR provision to prevent service area warehousing
- **Suggestion: Adm to confirm actual service area after BIU period, modify gain contours, BR to update MIFR**

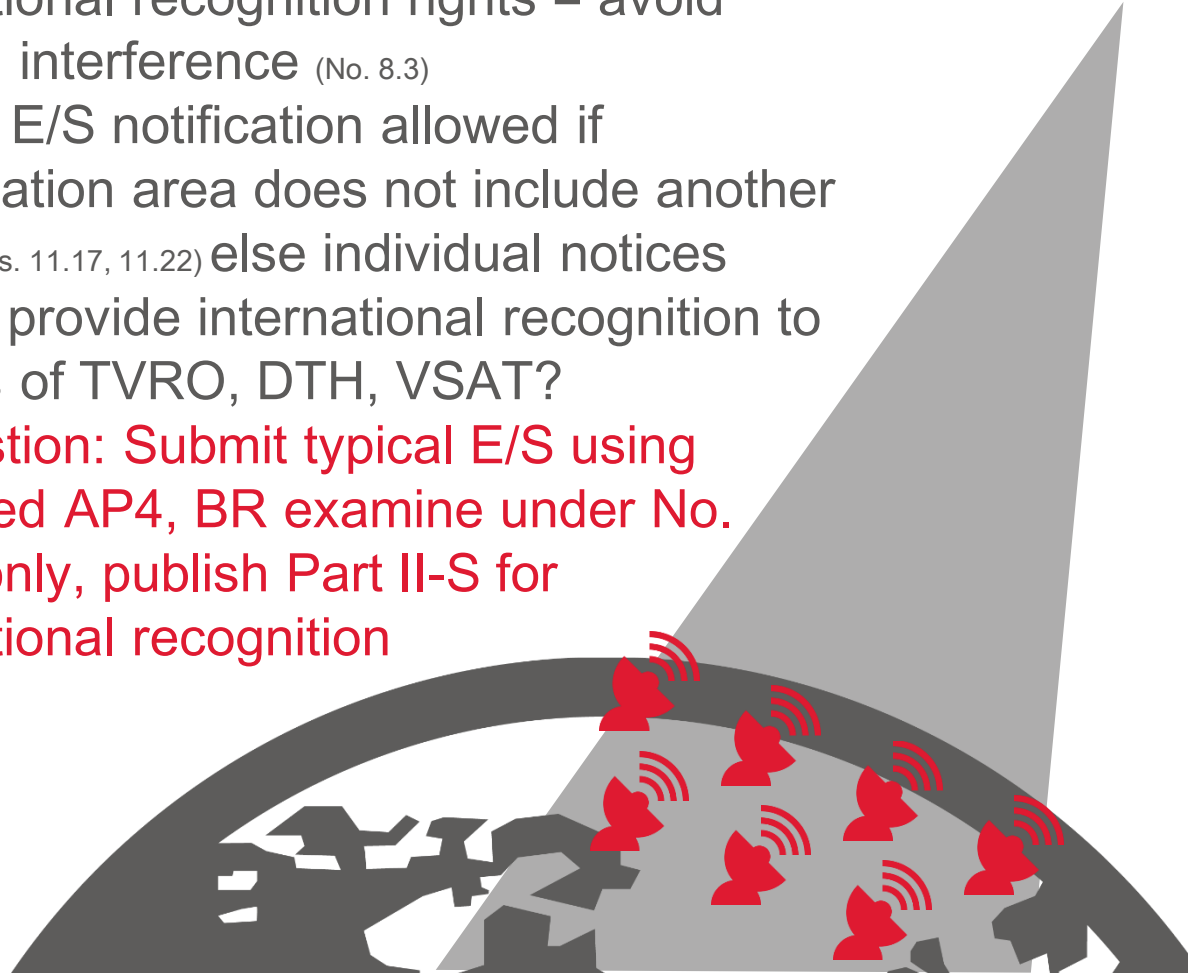
Restricted service area used



Large service area filed

TYPICAL FSS EARTH STATION

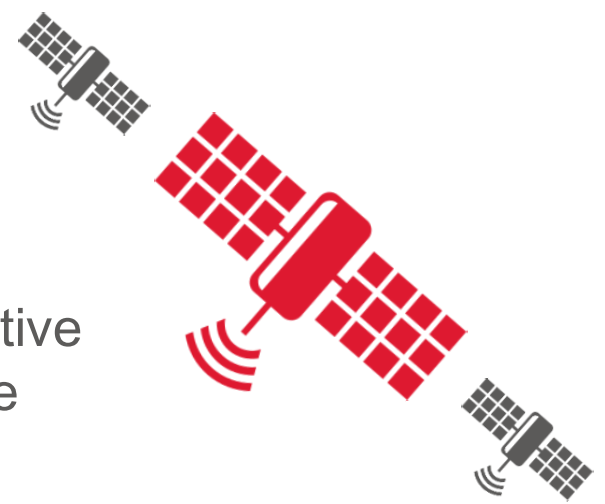
- MIFR recording + No.11.31 favourable = international recognition rights = avoid harmful interference (No. 8.3)
- Typical E/S notification allowed if coordination area does not include another Adm (Nos. 11.17, 11.22) else individual notices
- How to provide international recognition to millions of TVRO, DTH, VSAT?
- **Suggestion: Submit typical E/S using simplified AP4, BR examine under No. 11.31 only, publish Part II-S for international recognition**



Large number
of TVRO, DTH,
VSAT

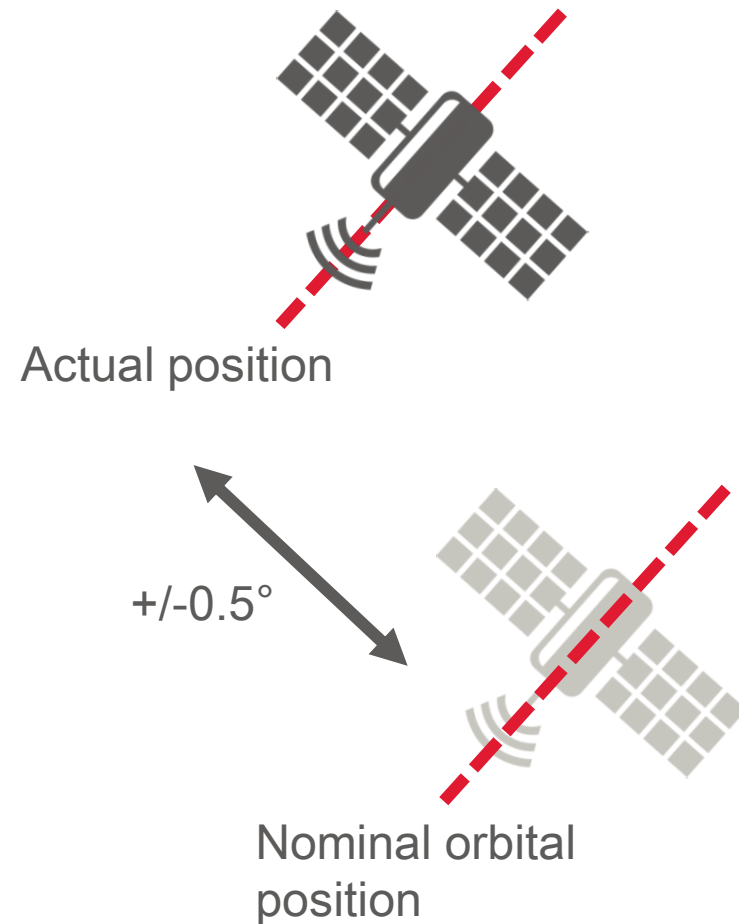
EXCESSIVE PARAMETERS

- Wide range of parameters in MIFR, over-sensitive assignments & unrealistic levels of interference
- BR to identify excessive/unrealistic criteria
- E.g. obsolete antenna patterns, low noise temperature, high off-axis/EIRP, 0 dB contours outside of service area etc.
- **Suggestion: BR to request clarification (No. 13.6)**



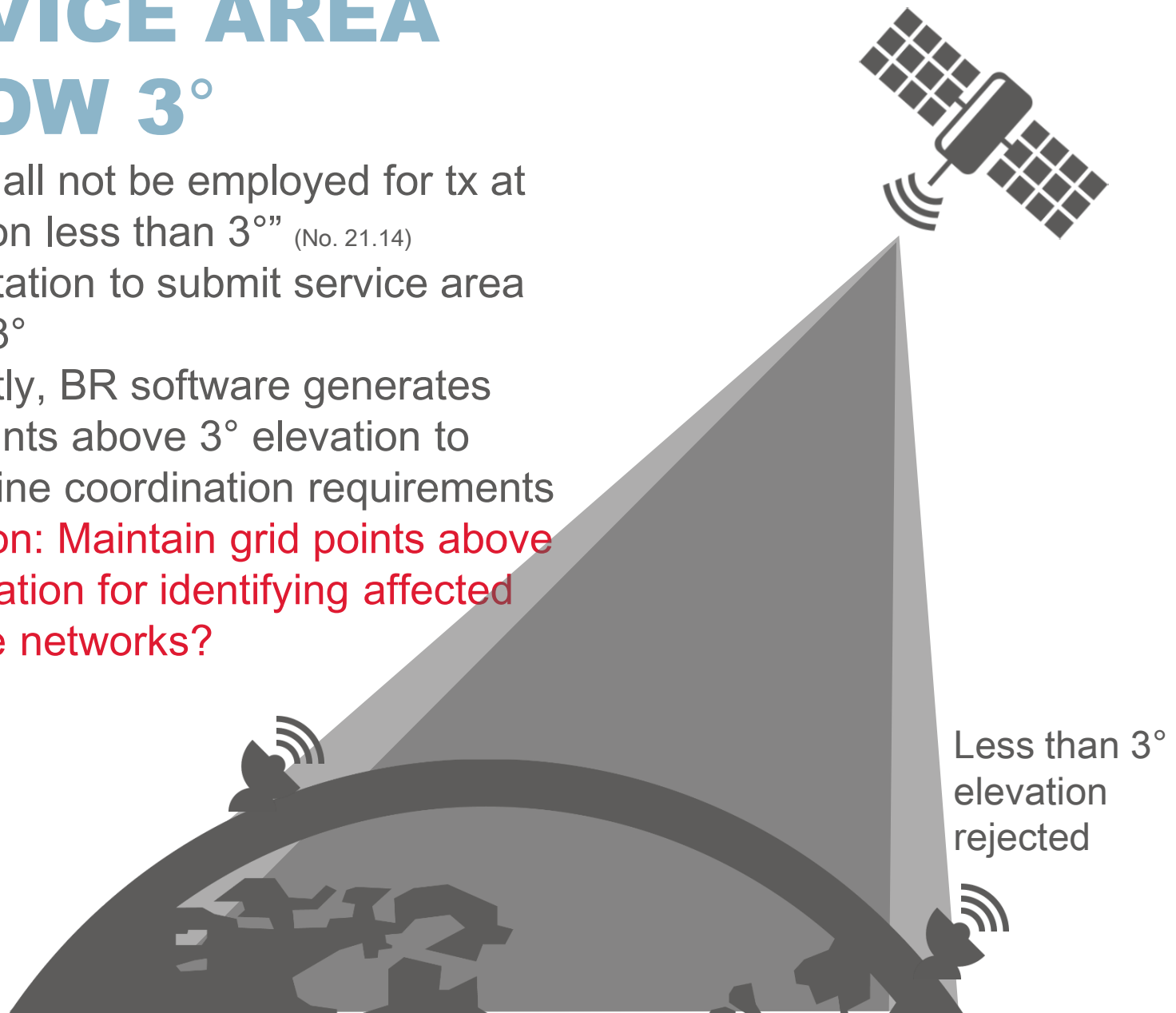
STATION KEEPING

- Up to $\pm 0.5^\circ$ from nominal orbital position accepted (Nos. 11.44, 11.44B, 13.6)
- Condition: Satellite network filings at one position, capable to be maintained at 0.1° , same interference or protection required at 0.1° tolerance
- **Suggestion: Investigate if different satellite networks within 0.5° could share same satellite**



SERVICE AREA BELOW 3°

- “E/S shall not be employed for tx at elevation less than 3°” (No. 21.14)
- No limitation to submit service area below 3°
- Currently, BR software generates grid points above 3° elevation to determine coordination requirements
- **Question: Maintain grid points above 3° elevation for identifying affected satellite networks?**



KEY POINTS

- Report covers activities since WRC-12 and issues related to difficulties, inconsistencies and application of RR
- Any improvements can reduce obstacles impeding development and bringing into operation of new satellite networks providing real opportunity to use spectrum/orbit resource more efficiently
- WRC-15 may consider mechanisms for fixing problems or agenda item for next WRC

<http://www.itu.int/md/R15-WRC15-C-0004/en>

BR DIRECTOR'S REPORT TO WRC-15 A Quick Guide

Yvon HENRI

Chief of Space Services Department