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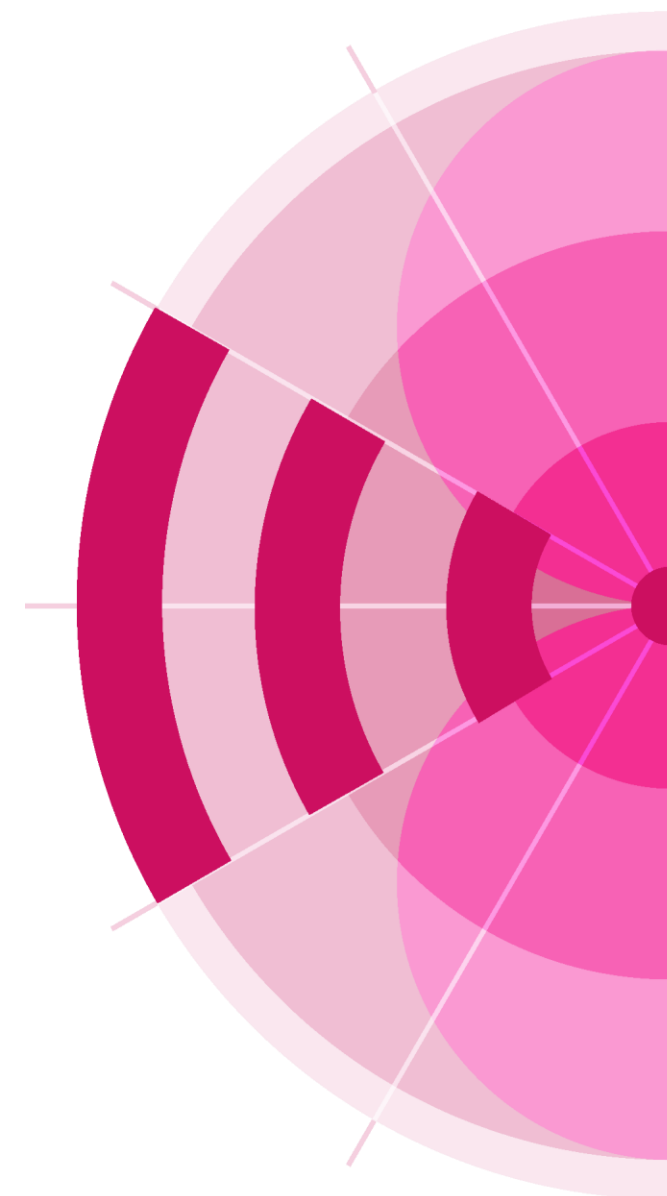
29TH WORLD RADIOCOMMUNICATION SEMINAR
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Introduction to BSS & FSS Plans

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www.itu.int/go/wrs-20

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ITU Constitution

Article 44

- Radio frequencies and any associated orbits are limited natural resources
- Must be used **rationally, efficiently and economically** in conformity with the Radio Regulations (RR)
- To have **equitable access** to those resources

Article 45

- **Not to cause harmful interference** to the service operating in accordance with the RR

Two Different Approaches

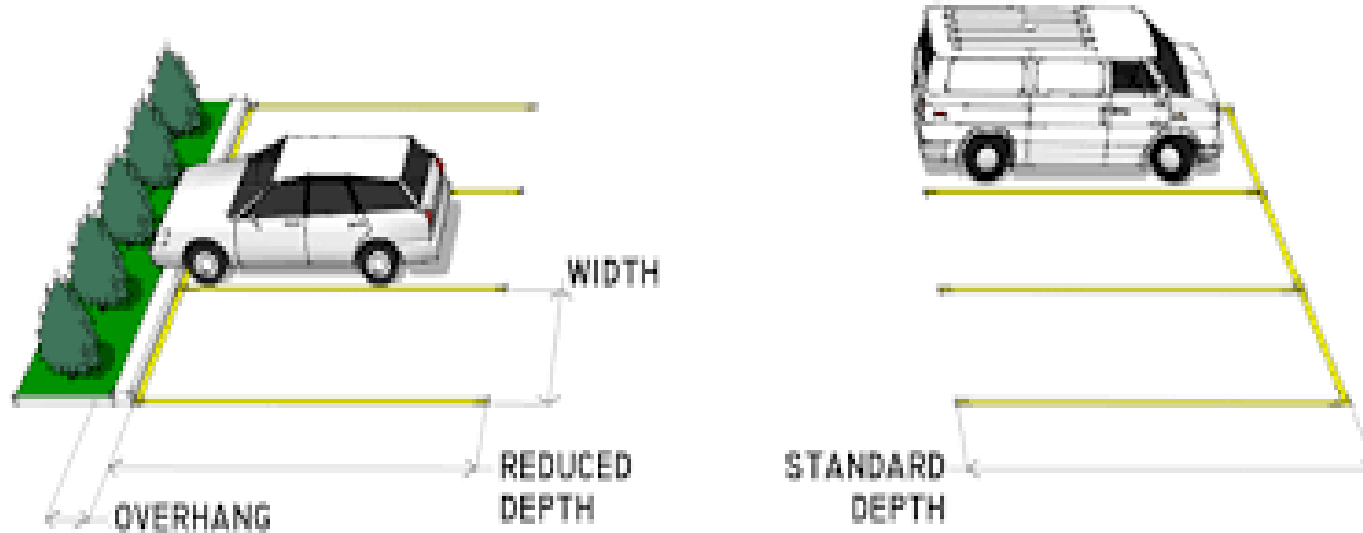
Coordination

- First come, first served based on current requirement
- Efficient /economical
- Late comers may not have access to as the early users have consumed all.

Plan

- Distribution of resources based on current and future requirement
- Equitable access

Car Parking Plan



- One family (including those who don't have a car) has one parking
- Each parking has the same “quality” and “quantity”
- Residents agree on RULES on how to use the parking

Car Parking Plan

- If a newcomer requests for a parking
- If one wants to “modify” its parking
- If one wants to have additional parking



Agreement must be obtained
from other residents !

Planning Approach: the “Space Plans”

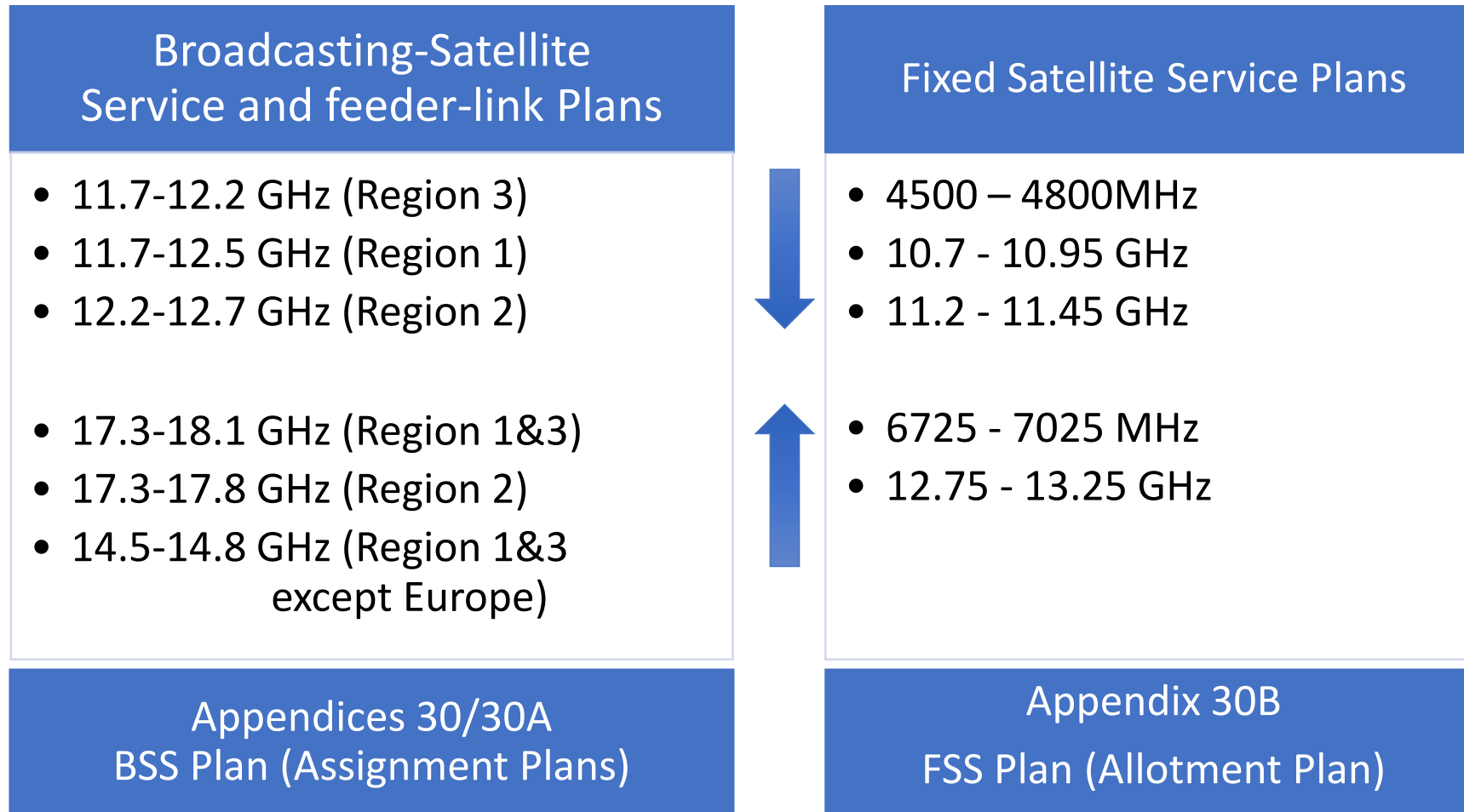
Car Parking Plan

- **Resource**: parking space
- **Parameters**: size, location
- **Rules** on use, modification, application for additional slot

Space Service Plans

- **Resource**: frequency bands, orbital positions
- **Parameters**: EIRP, earth stations, coverage, service area, C/N.....
- **Provisions and procedures** on use, modification and addition

Planning Approach: the “Space Plans”



Space Plans, a long HISTORY

- [WARC-77](#) established the Region 1&3 BSS Plan
- [RARC-83](#) established the Region 2 BSS and associated feederlink Plan
- [WARC ORB-85](#) included the Region 2 BSS and associated feederlink Plan into the Radio Regulations
- [WARC ORB-88](#) established the FSS Plan and Region 1 &3 BSS feeder-link Plan
- [WRC-97](#) revised the Region 1&3 BSS and associated feederlink Plans
- [WRC-2000](#) revised the Region 1&3 BSS and associated feederlink Plans
- [WRC-07](#) revised the FSS Plan
- [WRC-12](#), [WRC-15](#) and [WRC-19](#) Revised provisions in order to simplify the procedures and consider the development of technology
- [Future WRC.....](#)

Space Plans features (1)

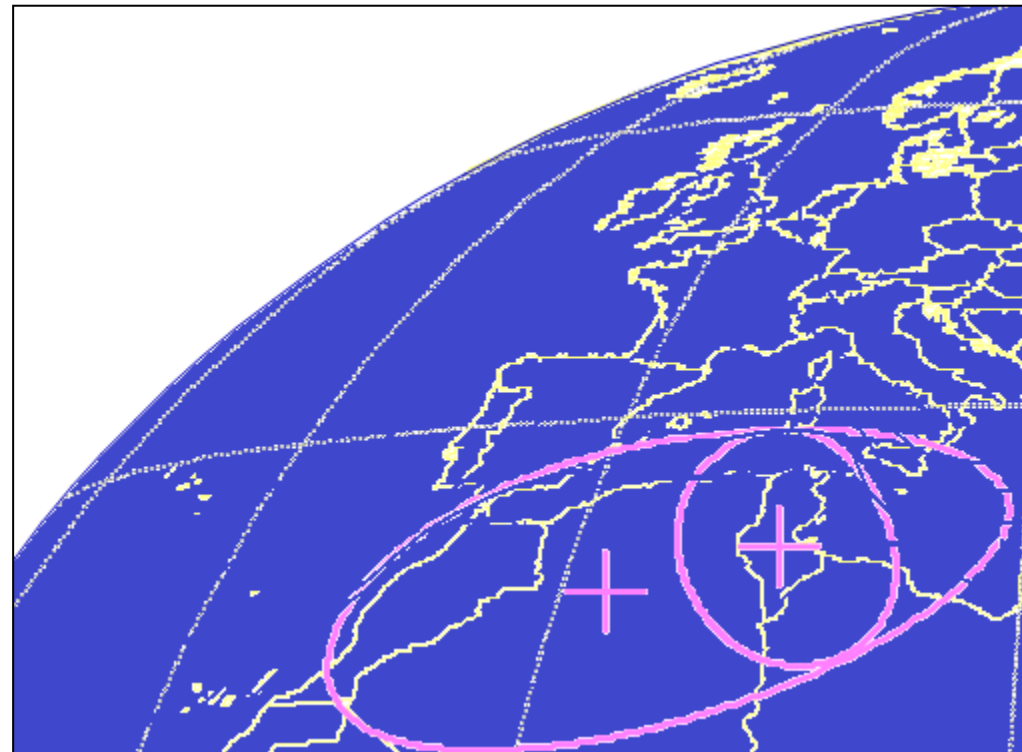
To guarantee equitable access, it is based on a reservation of capacity for future use by the ITU Member States:

- Not all Plan assignments/allotments are currently in operation, BUT will not be cancelled and are protected from harmful interference from other networks
- Standard parameters (assumptions) are required to ensure equity amongst Administrations and possible future use

Space Plans features (2)

To guarantee equitable access, the beams cover the national territory of each Administration:

- National Coverage
- National service area

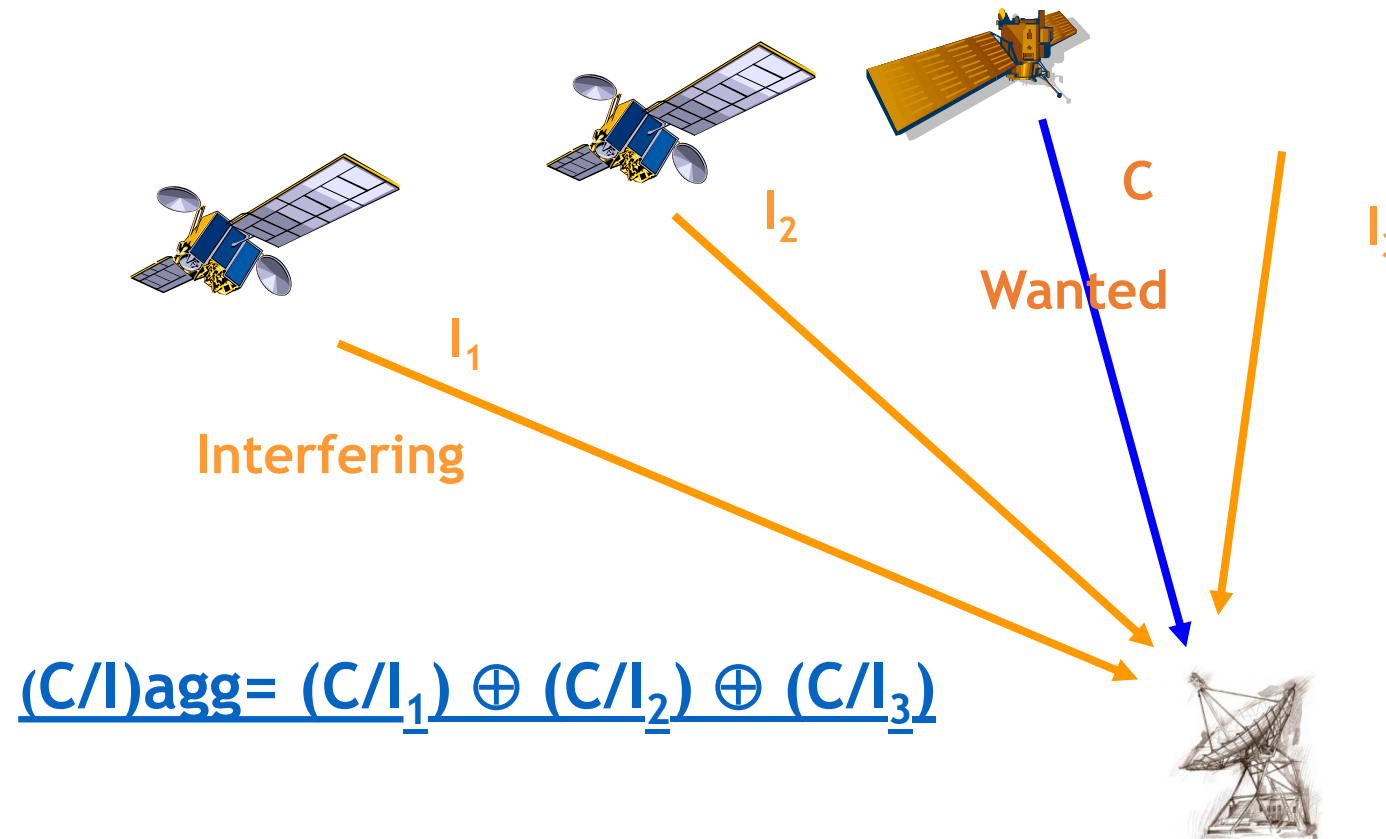


Space Plans features (3)

Protection from harmful interference is provided based on the Plan characteristics and NOT on the characteristics entered into the Master Register at notification stage. This is different for networks operating in the non-plan frequency bands.

Space Plans features (4)

To use the space resources rationally, efficiently and economically, the **Aggregate C/I** method (in addition to other criteria) is used to identify potential interference.



Space Plans

Standard parameters (main assumptions with some exceptions)

- Same amount of frequency band for each beam
- National coverage
- Elliptical beam using defined space station antenna pattern
- Defined C/N
- Same values of system noise temperature
- Similar power level
- Defined earth station antenna size and pattern

BSS Plan and FSS Plan

Some distinct features

APPENDICES 30/30A

BSS Plan

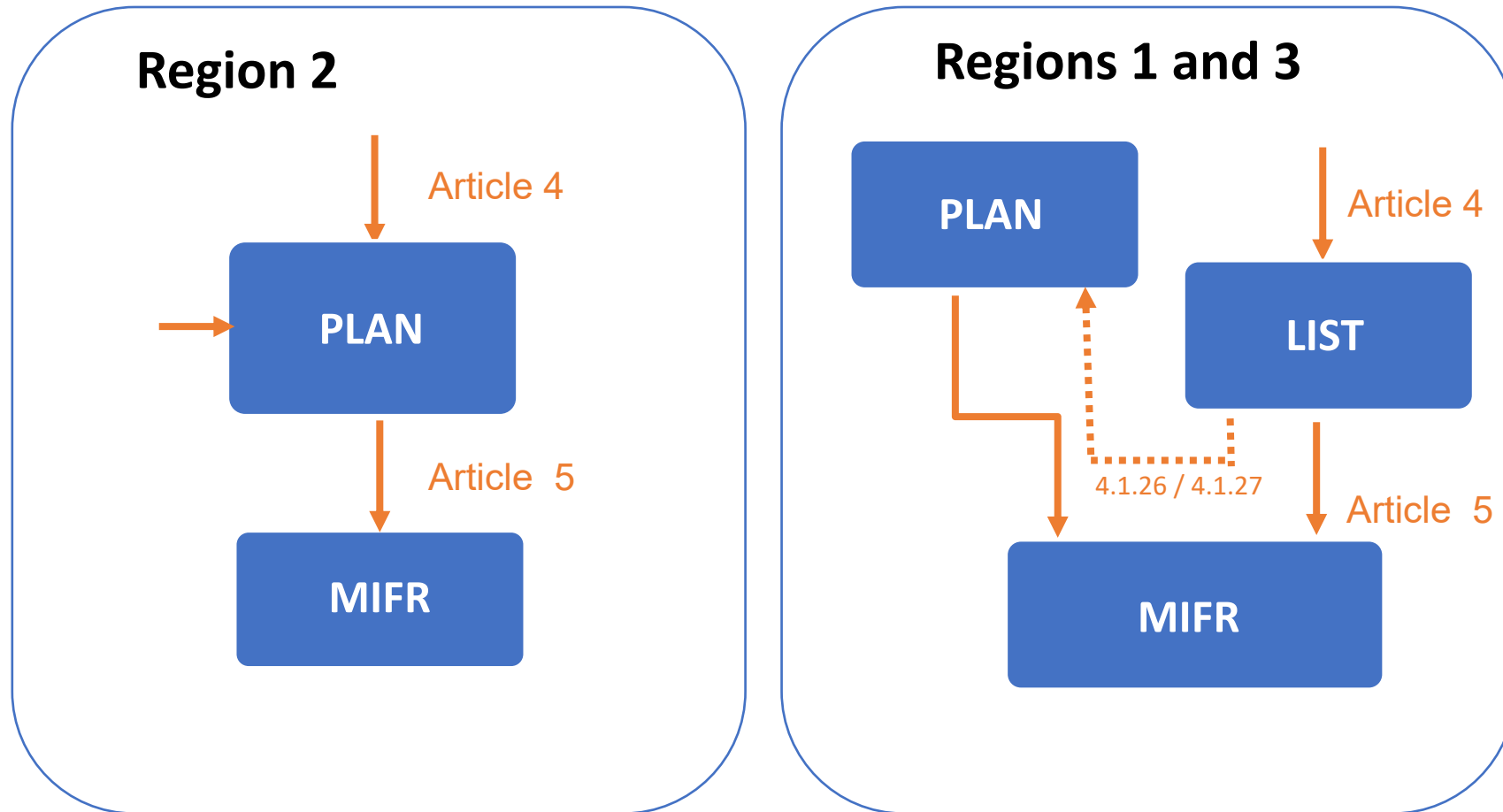
- Plans separated by Regions
- Assignments Plans
- Shared with other space services in other Regions
- Lists for R1&3 only
- Cluster concept in Region 2 Plan

APPENDIX 30B

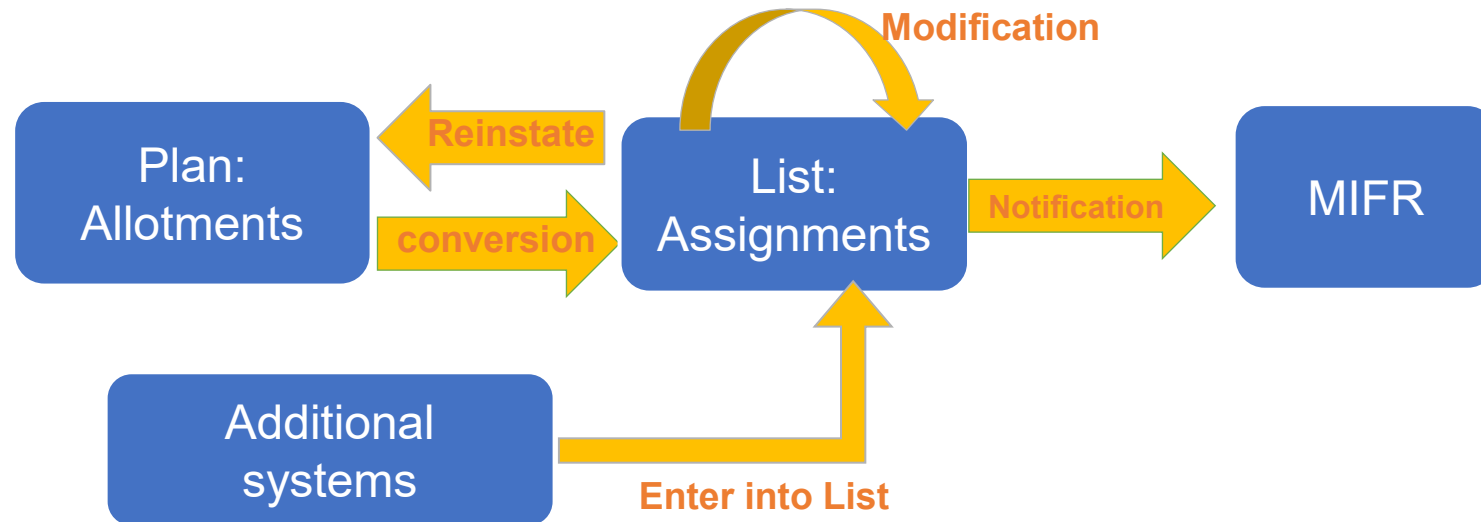
FSS Plan

- World wide
- Allotment Plans (conversion to assignments before use)
- Together with single entry criteria
- Protection based on grid points in service areas for downlinks

AP30/30A BSS Plan Procedure

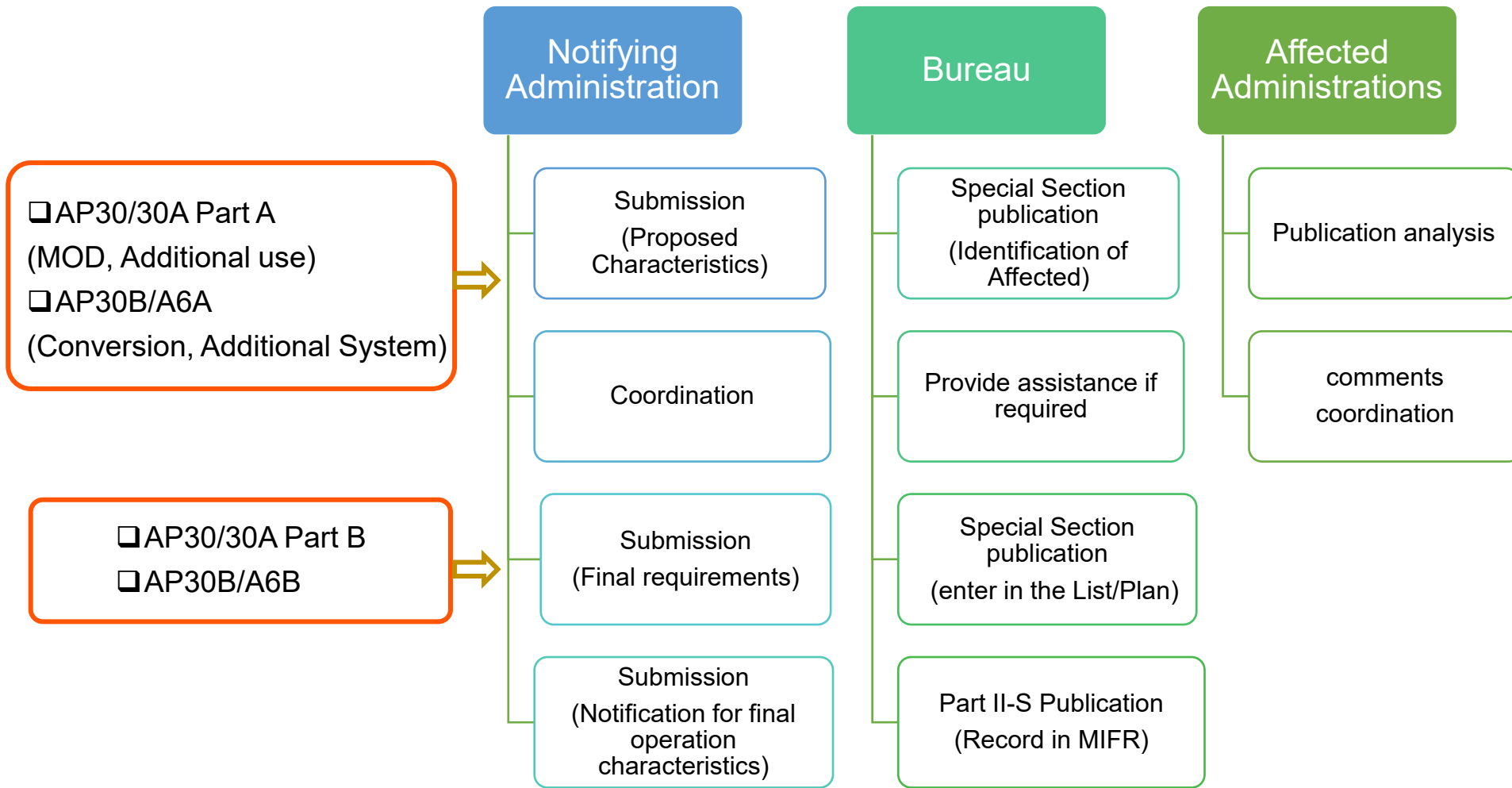


AP30B FSS Plan Procedure



Article 6 of AP30B

Article 8 of AP30B



Regulatory deadlines for Plans

APPENDICES 30/30A

8 years for completing provisions of Articles 4&5 of AP30/30A: inclusion in the Plan/List, , bringing into use (BIU)

RES 49 information within **30 days** after 8 years regulatory limit.

Confirmation of BIU within **90 days**.

4 months for comments after publication.

3 months before date of BIU for notification.

Bringing back into use within **3 years** after suspension of Region 1&3 List assignments.

15 years operation for R1&3 List.

APPENDIX 30B

8 years for completing provisions of Articles 6&8 of AP30B: inclusion in the Plan/List, , bringing into use (BIU).

RES 49 information within **30 days** after 8 years regulatory limit.

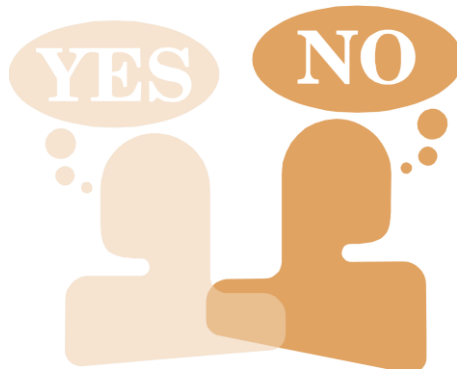
Confirmation of BIU within **90 days**.

4 months for comments after publication.

Bringing back into use within **3 years** after suspension.

Protection of assignments/allotments

Commenting to protect existing assignments/allotments



- Comments in AP30/30A for R2 :
no reply = agreement
- Comments in AP30/30A for R1/R3 and AP30B:
no reply = disagreement
- Assistance procedure exists for AP30B and AP30/30A
in R1/R3: Reply within **30 days** of BR reminder !
no reply = deemed to have given agreement

Plan and Non-Plan Procedures Comparison

	Non-Plan BSS/FSS GSO	APPENDICES 30/30A	APPENDIX 30B
Regulatory Period	7 years	8 years	8 years
Inclusion in the List	Not applicable	AP30/30A Part B	AP30B/A6B
API	Networks not subject to coordination	Not applicable	Not applicable
Notification	Yes	Yes, but not for protection	Yes, but not for protection
To be compatible with	Previously filed	Plan, List, previously filed	Allotment, List, previously filed
Identification	- Affecting and affected - Single entry criteria	- Affected only - Aggregate criteria	- Affected only - Single entry and aggregate criteria
No comment within 4 m	Assistance No.9.60	Agreement for Region 2 Assistance for Region 1& 3 under 4.1.10a	Assistance under §6.13

key points to remember

- Plans ensure equitable access and equitable use of frequency and orbital resources
- In the Radio Regulations, Appendices 30/30A/30B contain the Plan/List/MIFR processes and definitions
- Processing deadlines should be carefully tracked
- Plan and non-plan procedures have similarities and differences
- It is important to comment when your Administration is identified as potentially affected by new assignments

General information relating to Space Plan services:

<http://www.itu.int/ITU-R/go/space-plans/en>

Thank you!

ITU – Radiocommunication Bureau

Questions to brmail@itu.int

