

Space Plans and Lists

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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 RR
- To have **equitable access** to those resources

- Article 45

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

Radio Regulation

Mechanism to control interference

- Allocation
- Coordination / **Plan**
- Technical and operational limit

- Licensing
- Monitoring

Coordination and Plan

• Coordination Approach • Planning Approach

- First come, first served based on current requirement

- Efficient/
economical

- Distribution of resources based on current and future requirement

- Equitable access

Establishment of Space Plans

Several World Radio Conferences were held for Space Plans

- WARC-77 established Region 1&3 BSS Plan
- RARC-83 established Region 2 BSS and associated feederlink Plan
- WARC ORB-85 included Region 2 BSS and associated feederlink Plan into the Radio Regulations
- WARC ORB-88 established FSS Plan and Region 1 &3 BSS feederlink Plan
- WRC-97 revised Region 1&3 BSS and associated feederlink Plans
- WRC-2000 revised Region 1&3 BSS and associated feederlink Plans
- WRC-07 revised FSS Plan

Space Plans

Plan approach is used for specific space services and frequency bands

- **AP30/30A Plan**

- BSS and feeder-link
- 11.7-12.2GHz (Region 3),
11.7-12.5GHz (Region 1),
12.2-12.7GHz (Region 2),
17.3-18.1GHz (Region 1&3),
17.3-17.8GHz (Region 2),
14.5-14.8GHz (Region 1&3
except Europe)

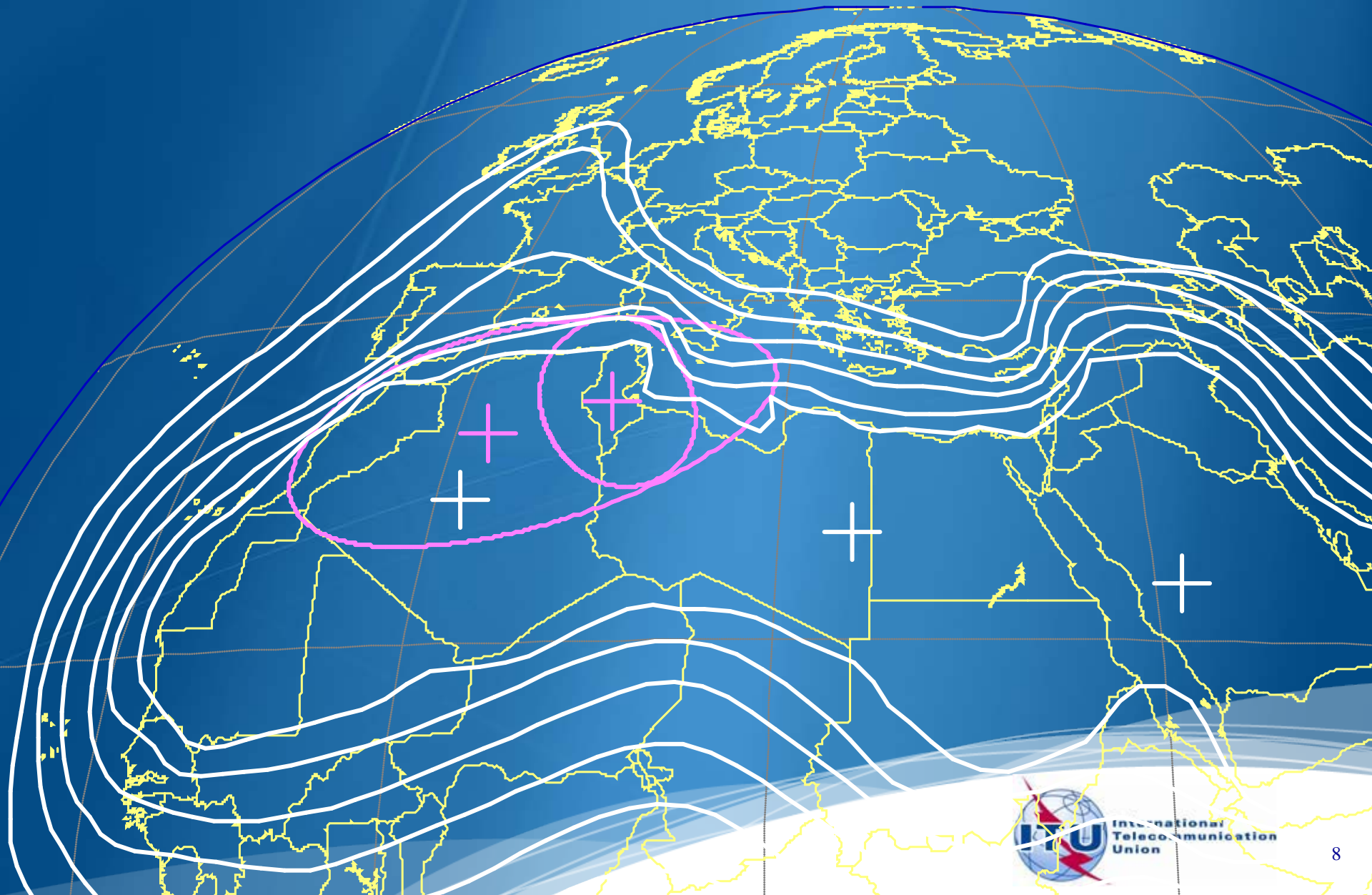
- **AP30B Plan**

- FSS
- 4.5-4.8GHz,
6.725-7.025GHz,
10.7-10.95GHz
11.2-11.45GHz,
12.75-13.25GHz

Some features of Plans Procedures

- Guarantee of equitable access
 - Beam to cover national territory
- Reservation of capacity for future use
 - In many cases Plan assignments are not in operation but will not be cancelled
 - Standard parameters (assumption) are required
- Aggregate C/I is used to maximize capacity
- Protection is given based on Plan characteristics (not characteristics in MIFR)

Beam to cover national territory

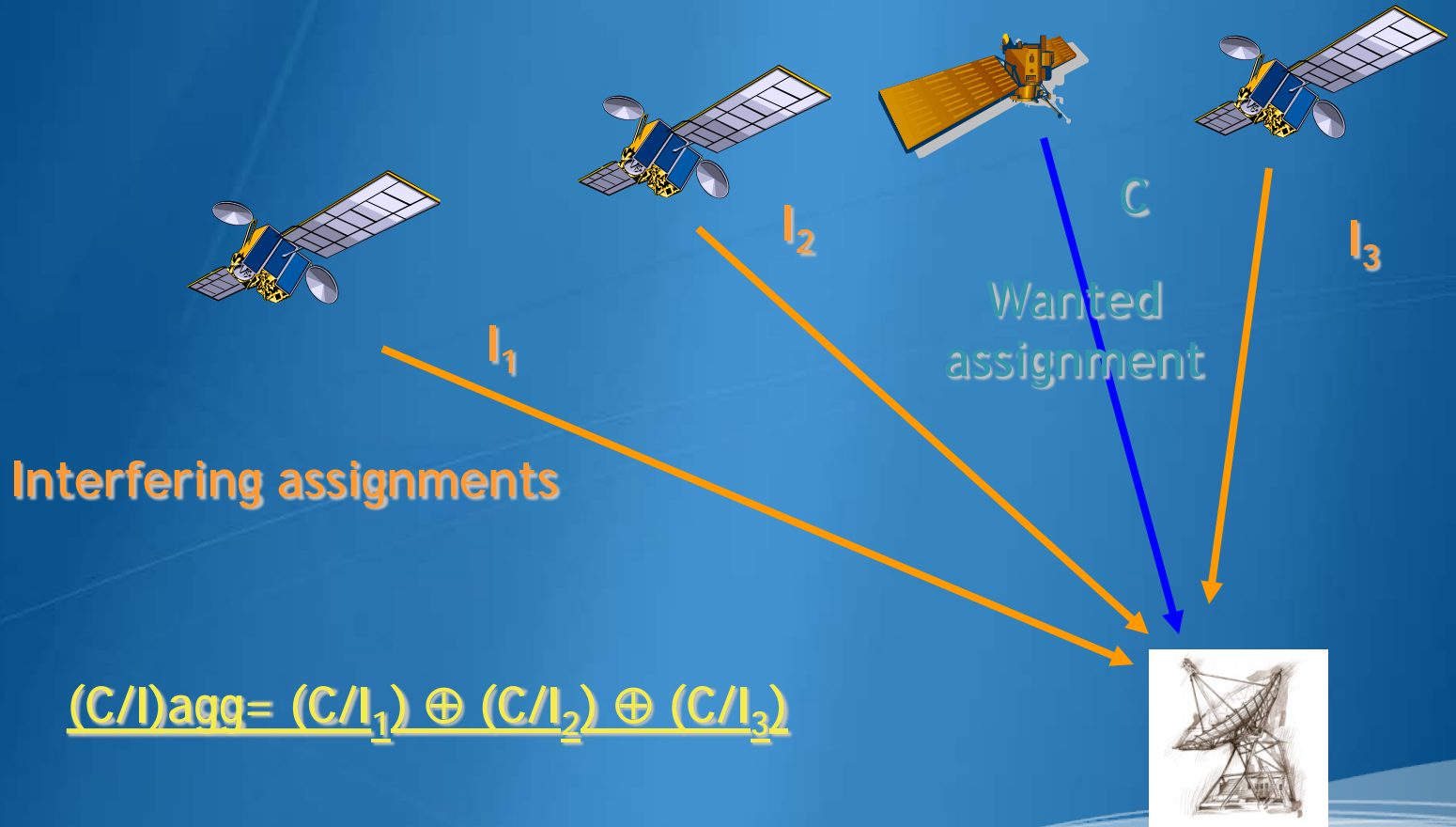


Standard parameters

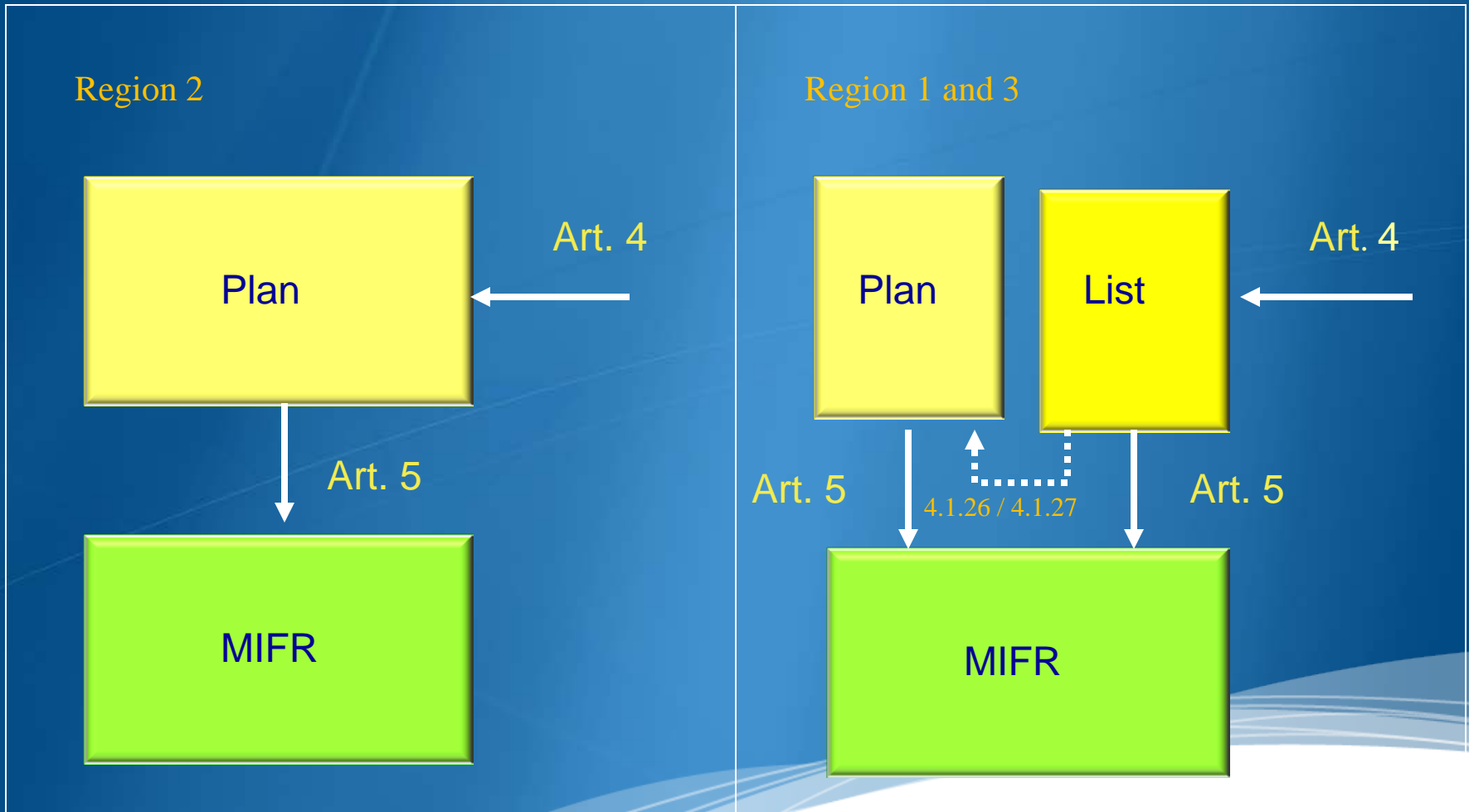
Main assumptions (with some exceptions)

- 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
- Defined Aggregate C/I

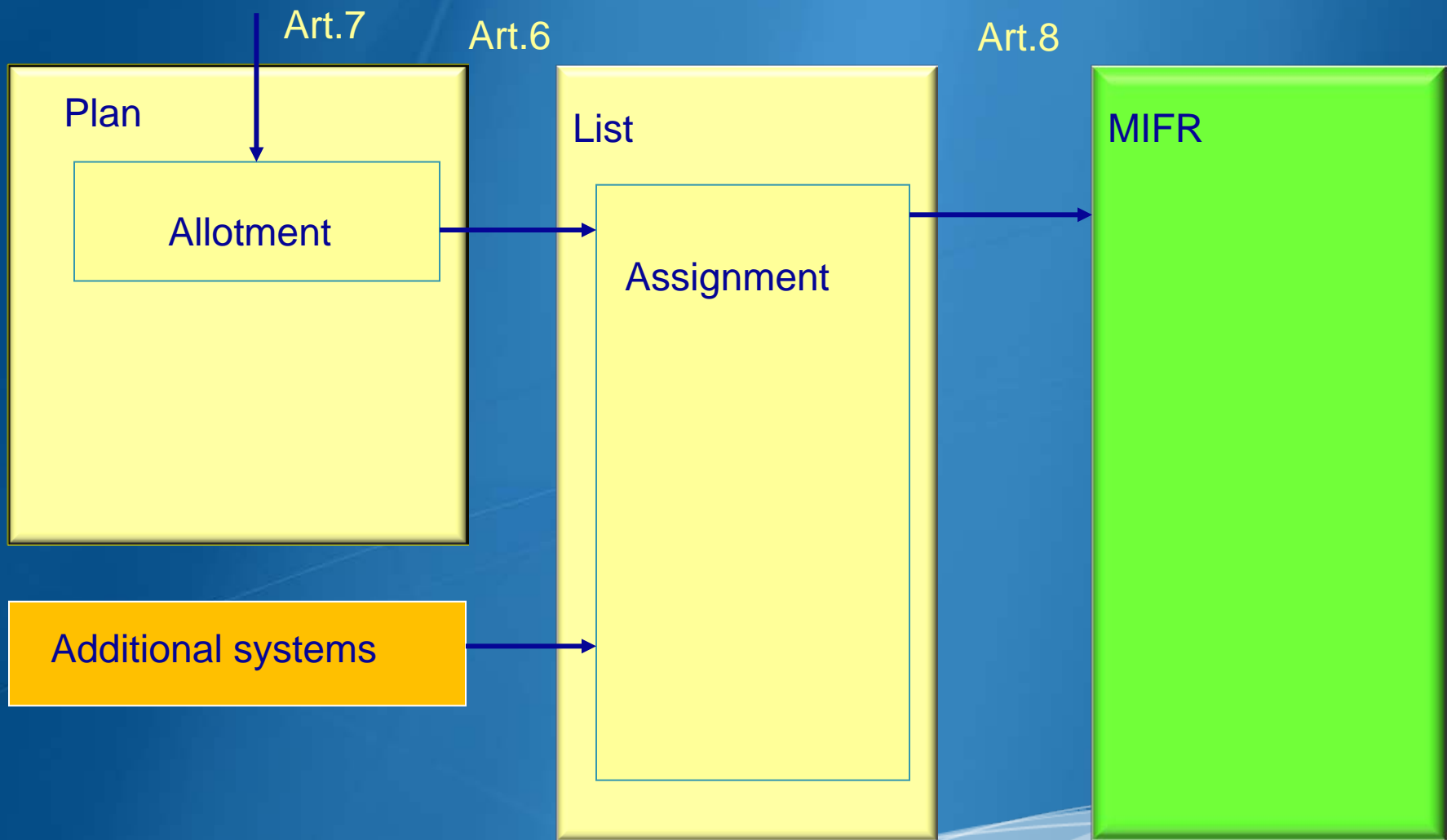
Aggregate C/I



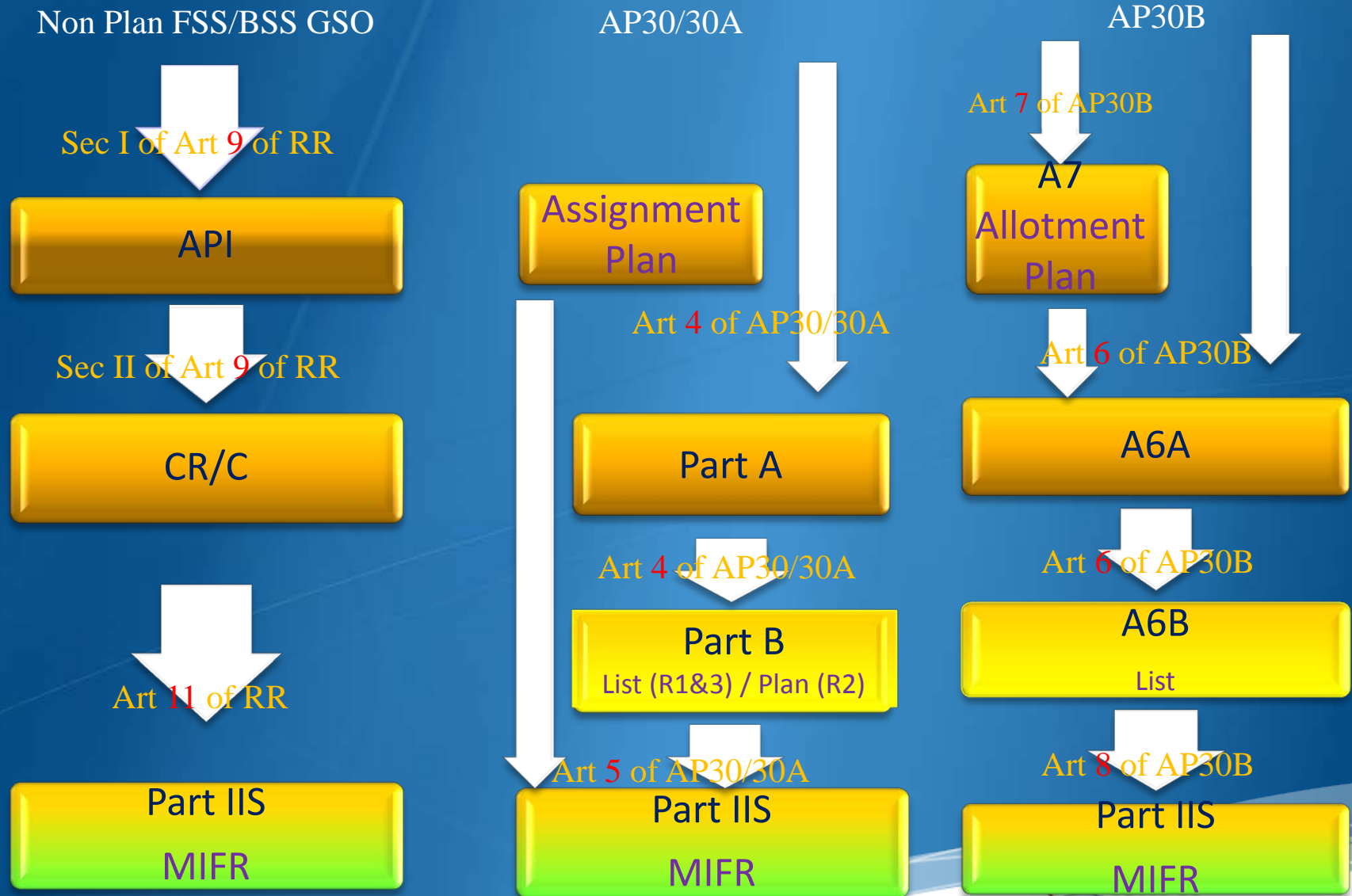
Procedure of AP30/30A



Procedures of AP30B



Comparison between Plan and Non Plan procedures



Comparison between Plan and Non Plan procedures

	-Non Plan GSO BSS/FSS	-AP30/30A	-AP30B
Regulatory Period	7 years	8 years	8 years
Res. 49	All	Not all	All since WRC-07
API	Yes	NA	NA
Inclusion in the List	NA	Part B	A6B
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.9.46	Agreement	Assistance §6.13

Regulatory deadlines for Plans

● AP30/30A

- 4 months for comments
- 8 years for bringing into use, inclusion in the Plan/List, Res.49
- not later than 3 months before DBIU for notification
- 3 years after suspension for R1&3 List assignments (Rev. WRC-12)
- 30 days for confirmation of DBIU
- 15 years for R1&3 List

● AP30B

- 4 month for comments
- 30 days after §6.13 assistance
- 8 years for bringing into use, inclusion in the List, notification, Res.49
- 3 years after suspension (Rev. WRC-12)
- 30 days for confirmation of DBIU

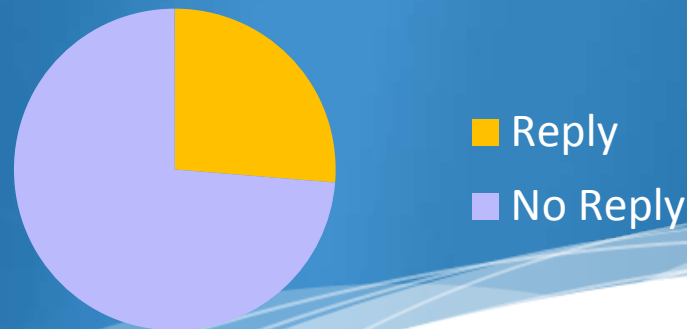
Importance of making comments

- How many administrations are responding?

- Response rate for AP30/30A after Part A Special Sections



- Response rate for AP30B after BR assistance under §6.13

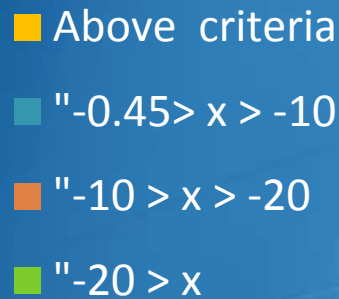


Importance of making comments

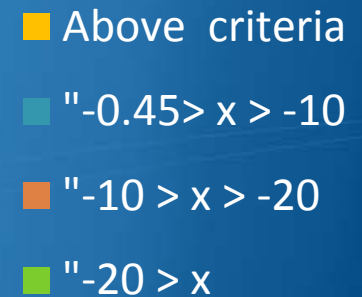
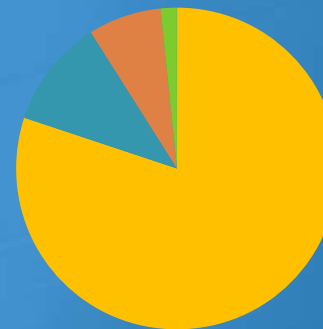
- Consequence of non-response

- Reference situation of AP30/30A Plans for R1&3

WRC-2000

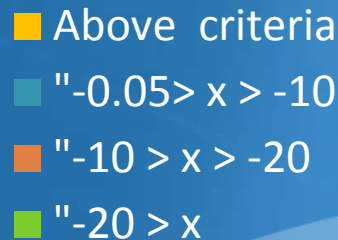
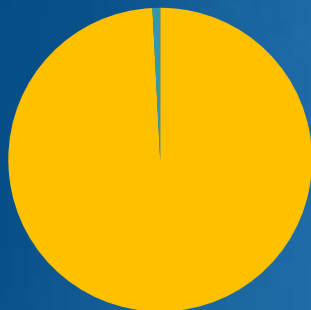


Now

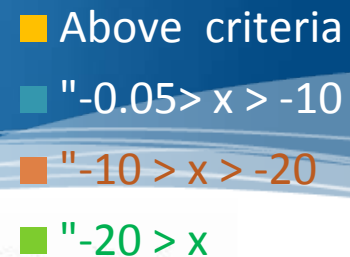
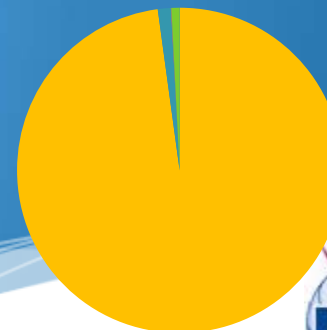


- Reference situation of AP30B Plans

WRC-07



Now



Some distinct feature of the Plans

● AP30/30A

- Plans separated by Regions
- Shared with other space services in other Regions
- Coordination Arc, Lists for R1&3
- Cluster concept in R2 Plan

● AP30B

- World wide
- Allotment (conversion to assignment)
- Together with Single entry criteria
- Protection based on grid points in service areas for down links