

Registration for additional capacity in the Broadcasting-satellite service (BSS) and Fixed-satellite service (FSS) Planned services in Appendices 30/30A/30B

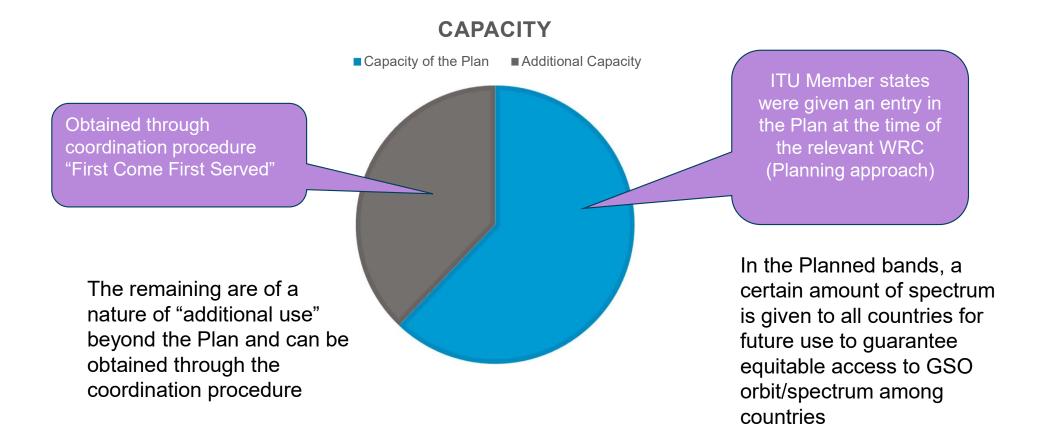
2-6 December 2024, Geneva, Switzerland

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Capacity in the Plans and additional capacity





Relevant provisions to follow for additional capacity

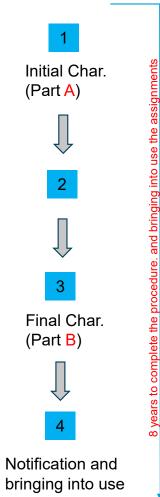
For BSS and its Feeder-link

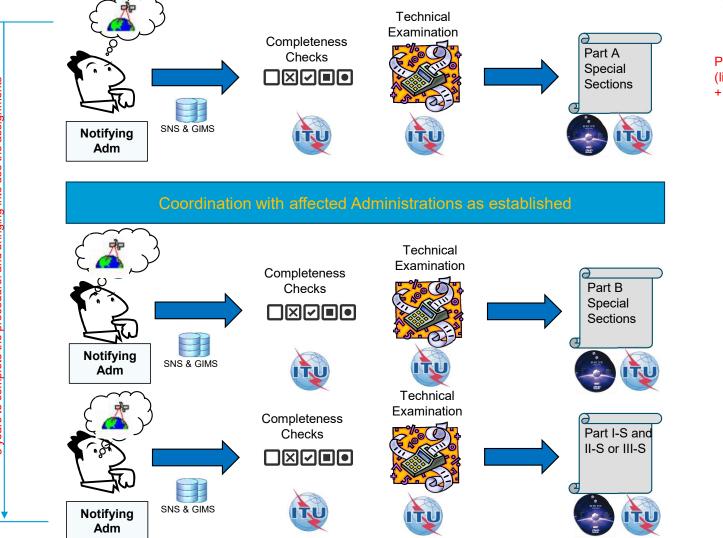
- Article 4 of Appendices 30/30A (Mod to R2 Plan and Additional use in the R1/3 Lists)
- Article 5 of Appendices 30/30A (Notification and bringing into use)

For FSS

- Article 6 of Appendix 30B (Intro. of Additional System)
- Article 8 of Appendix 30B (Notification and bringing into use)

Overview of these procedures





> Publication of identification info (list of affected Administrations) + BR Notes

Inclusion of assignments into the List (R1&3 AP30/30A and 30B) or enter the Mod assignment in the R2 Plan AP30/30A

Assignments recorded in the Master Register or returned to the notifying administration

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Part A Submissions and completeness checks

On the Part of the Notifying Administration:

- The notifying Administration shall submit to the BR data in accordance with RR Appendix 4
- Prepare SNS database and GIMS database in MS Access mdb files
- Check compliance with any applicable hard-limits
- Take into account BR's comment on previous submissions
- Take into account future deployment of special applications (e.g. 30B ESIM)
- BR Validation software to validate before submission
- e-Submission System



Part A Submissions and completeness checks

On the Part of the BR:

- Publish "As received" in e-Submission
- Conduct completeness checks and communicate with Notifying Administration (30D for reply) in terms of:
 - Data consistency with AP4, coherence between these data, and that between the SNS and GIMS files
 - Propose changes to facilitate follow-up examinations
 - Propose other changes in case of possible omissions
 - A few particularities for AP30/30A and AP30B (see next page)
- Once the completeness stage is completed, we will have:
 - The formal date of receipt
 - Stable databases for technical examination (SNS+GIMS)



Part A Submissions and completeness checks

A few differences between AP30/30A and AP30B in BR's checks on completeness of Part A :

Items	AP30/30A	AP30B
Hard limits	BR will remind Notifying Administration if it finds excess of hard limits	Hard limits are examined under § 6.3, a step after completeness checks under § 6.2, therefore, BR does not check hard limits in completeness Recommendation: Run BR-SIS Validation, GIBC/PFD/EIRP GSO and GIBC/AP30B/Annex 3 PFD before submission
Grouping*	Different orbital locations possible, if overall separation of not more that 0.4 degrees. In addition, for R1&3, max number = 3 or 5, depending on when the grouping was established	No upper limit for number of networks, only possible for networks at the same orbital locations
Test Points /Grid points	For analysis of assignments belonging to the same Plans, for example, analysis under § 4.1.1 a) and b) or 4.2.3 c) of AP30, it is done only at test points.	Grid points will be generated to evaluate single-entry carrier-to-interference (SE C/I) "everywhere" within the SA in the DL. Reference values of the grid points are interpolated from those on the test-points. Not well distributed TPs may cause problems in that process. So another layer of reason for the BR to ask Notifying Adm at the completeness stage to make TPs evenly distributed across the service area.
Plan's service Region	Regional, BR will request the alignment of gain contours with service area which are Regional	It is possible to submit global service area and global coverage area.

*In the interference calculation to entries (allotments or assignments) that are part of the group, only the interference contribution from entries that are not part of the same group are to be considered. On the other hand, for the interference calculation from entries belonging to a group into entries that are not part of the same group, only the worst interference contribution from that group is to be taken into consideration.



Part A Technical Exam and Publication

The Bureau examines the notice in respect of two main aspects:

- Hard limits, if exceeded, the exceeding assignments will receive unfavourable finding (not the whole notice !)
- Identifications of potentially affected Administration's assignments and allotments

After that, the Part A Special Section is published:

- Characteristics of the Part A notice
- Identification information
- "BR Notes" to explain the purpose, method or any other point that BR deems important



Example of Identification Tables in a Part A Special Section (AP30/E)

Administrations et/ou réseaux à satellite affectés / Affected administrations and/or satellite networks / Administraciones y/o redes de satélite afectadas و الشبكات الساتلية المتأثرة/الإدارات و / Эзтронутые администрации и/или спутниковые сети أو الشبكات الساتلية المتأثرة/الإدارات و

	A1f1 Notif. adm.	A1f3 Inter. sat. org.	App.30 Art.4, Provision 闭子30 Art.4, 附录30第4条,第	ууч. г. га) а 4. г. г. b (4.1.1 а) 段和 4.1.1 b 4.1.1 а) и 4.1.1 b) –	b) - Annex 1, §1) - Anexo 1, §1)段 – 附件1, 第1段 Дополнение 1, п.		BR46 Max. PFD excess	Exam Results w.r.t.
Identified	CHN		CHNA_100	100550045	62 E	0.459	1.42	Tech.
	G		INTELSAT KUEXT 60E	96552015	60 E	7.160	6.74	
ADM	HOL		NSS-BSS 57E	110552013	57 E	26.237	29.44	Criteria
			NSS-BSS-G2 57E	114552023	57 E	23.050	29.44	
			NSS-BSS-G3 57E	120552006	57 E	21.252	29.43	
	KAZ		KAZSAT-BSS-30-58.5E	117552004	58.5 E	0.962	19.87	
	MCO		MCO-BSS-52E	105552009	52 E	3.097	6.39	
			MCO-BSS-52EB	116552029	52 E	1.708	6.69	
	PNG		PACIFISAT BSS-61E	110552023	61 E	3.202	4.13	
			PACIFISAT BSSA-61E	112552006	61 E	0.683	4.10	
	RUS		RST-2A	108552012	56 E	21.285	38.59	
	UAE		EMARSAT-1	106552004	52.5 E	10.557	10.05	
			UAE27400	100550209	52.5 E	0.457	0.54	
			YAHSAT-BSS2-60E	110552028	60 E	6.320	6.58	
			YAHSAT-BSS-52.5E	109552030	52.5 E	12.360	10.12	

Identified assignments at network level

Example of Identification Tables in a Part A Special Section (AP30/E)

	A1f1 Notif. adm. / BR5 Geographical area										
	App.30 Art.4, §4.1.1 d) - Annexe 1, §4 Identifying App.30 Art.4, §4.1.1 d) - Annex 1, §4										
	Provision Ap.30 Art.4, §4.1.1 d) - Anexo 1, §4										
	附录30第4条, 第4.1.1 d)段 – 附件1, 第4段 Пр. 30 Ст. 4, п. 4.1.1 d) – Дополнение 1, п. 4										
	الفقرة 1.1.4 د) من المادة 4 من التذييل 30 - الفقرة 4 من الملحق 1										
AUS,	CHN,	CPV,	DNK/FRO,	G,	INS, I	RL, KOR,	KRE,	NOR,	PLW,	POR/MDR	

Identified ADM under §§4.1.1 d) or 4.2.3 d) in whose territory the power flux-density values exceeds the prescribed limit



Example of Identification Tables in a Part A Special Section (AP30B/A6A)

Administrations et/ou réseaux à satellite affectés / Affected administrations and/or satellite networks / Administraciones y/o redes de satélite afectadas و الشبكات الساتلية المتأثرة/الإدارات و / Узтронутые администрации и/или спутниковые сети أو الشبكات الساتلية المتأثرة/الإدارات و /

A1f1	A1f3	BR80	A1a Sat. Network /	BR6a	A4a1	BR79 1	Max. C/I degr	BR82 Max. PFD excess		
Notif. adm.	Inter. sat. org.	Status of identified network	Plan beam identification	ld. no.	Orbital long.	§2.1a	§2.1b	§2.1c	§2.2a	§2.2b
			App.30B, Art.6, § App.30B, Art.6, § Ap.30B, Art.6, § 内30B, Art.6, § 附表30B, 第6条, 1 Пр. 30B, CT. 6, п. 6.5 6، الفقرة – 5.6 الملحق 4	6.5 - Annex 4 6.5 - Anexo 4 痔6.5段- 附件4 – Дополнение 4	i.					
6/4 GHz										
ATG		Allotment	ATG00000	90558014	77.7 W	3.501	0.659		5.134	5.641
В		Allotment	B 00003	90558025	69.45 W	11.559	9.533	6.507	22.871	16.41
		List	B-SAT-3R	112559043	65 W		1.894	1.169	N/A	N/A
		List	B-SAT-3R-1	114559017	65 W	2.477	9.763	3.788	3.013	3.957
BAH		Allotment	BAH00000	90558026	74.3 W	19.973	11.146	12.101	23.762	19.073
CHL		Allotment	CHL00000	90558048	74.9 W	4.968	8.904	4.023	21.775	11.852
CLM		Allotment	CLM00000	90558051	70.9 W	26.256	18.642	18.645	30.288	29.794
DMA		Allotment	DMA00000	90558067	70 W	19.592	11.94	12.046	24.997	21.787
E		Pending	HISPASAT-1-74W	120559018	74 W	21.42	23.215	18.623	25.095	24.011
		Pending	HISPASAT-2-79W	123559018	79 W	1.405	9.413	5.949	3.012	3.996
		Pending	HISPASAT-78A	118559018	74 W	20.357	22.86	14.924	25.095	24.011
HND		Allotment	HND00000	90558099	76.2 W	8.566	4.155	2.45	14.993	8.692
SUR		Allotment	SUR00000	90558193	77 W	5.614	2.108	0.242	9.511	6.633
TRD		Allotment	TRD00000	90558201	73.4 W	25.764	15.927	17.654	28.132	27.853
VEN		Pending	VENESAT-2-30B-B	121559026	78 W	0.863	8.623	0.674	4.677	4.454
12-13/10-11 G	Iz									
ATG		Allotment	ATG00000	90558014	77.7 W	6.202			7.229	14.602
В		Allotment	B 00003	90558025	69.45 W	2.996	5.178	0.838	25.265	23.8
BAH		Allotment	BAH00000	90558026	74.3 W	12.793	7.908	6.138	26.156	24.58
CHL		Allotment	CHL00000	90558048	74.9 W	1.634	9.494	4.197	24.17	21.915

Status of Identified network, important info in coordination and Part B submission



Explanation as to how to understand if in the identification table, the allotment and/or assignments of the Notifying Adm

Special Section AP30/E Part A - BR Notes

Radiocommunication Bureau Notes

1. Note relating to the identification of a notifying administration's own assignments

Where a notifying administration is acting on its own behalf, and not on behalf of a group of named administrations, it should be understood that whenever its own assignments are identified as being potentially affected in AP30/E/, AP30A/E/ and AP30-30A/E/ Special Sections under § 4.1.1 *a*), 4.1.1 *b*), 4.1.1 *e*), 4.2.3 *c*) or 4.2.3 *e*) of Appendix **30** and 4.1.1 *a*), 4.1.1 *b*) or 4.2.2 *c*) of Appendix **30A**, this identification is provided only for information. Responsibility for co-ordination between such assignments and the proposed assignments is an internal matter for the notifying administration.

2. Note relating to application of the grouping concept to a network with assignments internally grouped and not externally grouped with networks in a Plan/List

Application of the grouping concept in Regions 1 and 3 to a network with assignments only internally grouped is explained in Articles 11 and 9A of Appendices **30** and **30A** respectively. Based on this concept, when calculating interference to assignments that are part of a group, only the interference contributions from assignments that are not part of the same group are included. Moreover, when calculating interference from assignments belonging to a group into assignments that are not part of the same group is used.

3. Note relating to the application of § 4.1.1 e), 4.2.3 e) and 4.2.3 f) of Appendix 30

Explanation as to how the exam is conducted

is/are listed.

The attention of administrations is drawn to the fact that, in its compatibility analysis, the Bureau has considered the applicable limits prescribed in sections 3 and 6 of Annex 1 to Appendix **30** and the corresponding service area of the subject FSS or non-planned band BSS assignments as submitted by the responsible administrations. This implies that if a submitted service area covers both land and sea, the corresponding FSS or non-planned band BSS assignments are protected anywhere on land and at sea within their respective service area communicated to the Bureau by the responsible administrations. This fact may be taken into account in the evaluation of eventual interference during the coordination process between the concerned administrations.



Special Section AP30B/A6A - BR Notes

Radiocommunication Bureau Notes

Explanation as to how to understand if in the identification table, the allotment and/or assignments of the NotAdm is/are listed.

1. Note relating to the identification of a notifying administration's own assignments

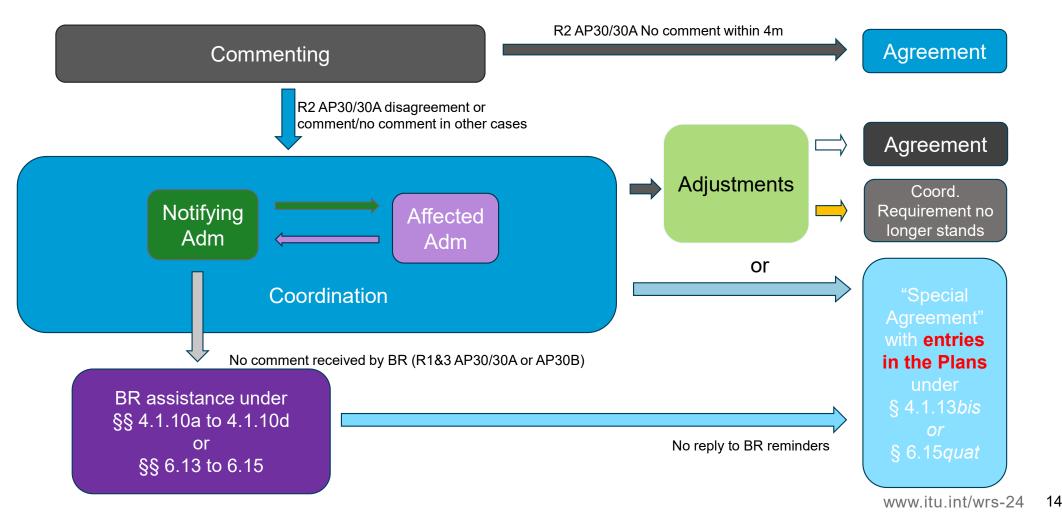
Where a notifying administration is acting on its own behalf, and not on behalf of a group of named administrations, it should be understood that whenever its own allotments and/or assignments are identified as being potentially affected in AP30B/A6A/ Special Sections under § 6.5 of Appendix **30B** this identification is provided only for information. Responsibility for co-ordination between such assignments and the proposed assignments is an internal matter for the notifying administration.

2. Note relating to application of the grouping concept to a network grouped with (a) network(s) not in the List

Application of the grouping concept in Appendix **30B** is explained in Rules of Procedure relating to § 6.5 of Article 6 of Appendix **30B**. Under this concept, when calculating interference to assignments that are part of a group, only the interference contributions from allotments/assignments that are not part of the same group are included. Moreover, when calculating interference from assignments belonging to a group into allotments/assignments that are not part of the same group is used.



Coordination and Agreement Seeking





Special Agreement

- Notifying administration provides a firm, objective, measurable and enforceable commitment to respect the PFD limit(s) as laid out in relevant provisions;
- When this special agreement is concluded, assignment/allotment of Affected Administration continue to be protected.
- Notifying administration shall begin to observe the limit no later than:
 - 1. The date of bringing into use of the AP30/30A R1&3 Plan assignment / AP30B national allotment and
 - The date of receipt of the telefax under §§ 5.1.6*bis*/5.1.10*bis* or §8.10*bis* + 12 months,

whichever comes late.



Part B Submissions and completeness checks

On the part of the Notifying Administration:

- Submission shall be done within the 8-year regulatory limit
- Submission to the BR (SNS+GIMS), data in accordance with RR Appendix 4.
- Before that, run self-exam, especially on hard limits and vis-à-vis entries for which such provisions as § 6.25 or § 4.1.18 or § 4.2.21A cannot be applied.
- For hard limits of AP30B, if exceeded, the whole notice will be returned.
 Possible loss of network !



Submission of a single notice for Part B and Notif.

Administrations can submit Part B and Notification as two separate submissions.

In addition, a single notice to represent both Part B and Notification is also accepted, but:

- AP30/30A: submission of Part B data (Art. 4) only, Notification (Art. 5) notice will be generated by BR
- AP30B: Notification data (Art. 8), Part B (Art. 6) notice will be generated by BR
- Cost recovery: Part B + Notification
- Mindful of the correct category in the e-Submission System



Part B Submissions and completeness checks

On the part of the BR:

- Publish "As received" in e-Submission
- Conduct completeness checks and communicate with Notifying Administration (30D for reply) in terms of:
 - Data consistency with AP4, (pay attention to BR reminding text if it proposes changes that could increase interference)
 - Propose changes to facilitate follow-up examinations
 - Propose other changes in case of possible omissions
- Once the completeness stage is completed, we will have:
 - The formal date of receipt
 - Stable databases for technical examination



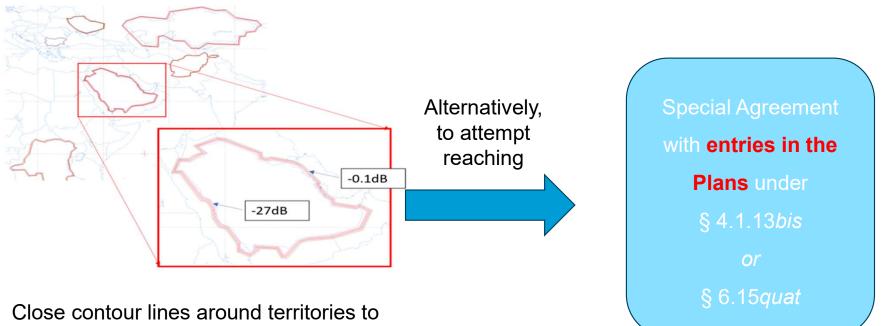
Part B Submissions and completeness checks

A few differences between AP30/30A and AP30B in BR's checks on completeness of Part B :

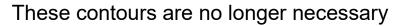
Items	AP30/30A	AP30B
Hard limits	BR will remind Notifying Administration if it finds excess of hard limits	Hard limits are examined under § 6.19 b), a step after completeness checks under § 6.18, therefore similar to Part A, BR does not check hard limits in completeness. Recommendation: Run BR-SIS Validation, GIBC/PFD/EIRP GSO and GIBC/AP30B/Annex 3 PFD before submission. This is even more important given the return of a whole notice in case a hard limit is exceeded!
Service area and coverage area	Regional. BR will request the alignment of gain contours with service area which are Regional. BR may propose to modify the service area in some situations, e.g. due to the location of the test points.	At Part B stage, the service area can only be a set of territories of administrations from which explicit agreements have been obtained. BR may propose to remove the portion of the service area where the C/N is very low.
Test points	Test points should be evenly distributed to represent the service area. If the number is found to be few, BR may propose adding them to the downlink service area.	Test points should be evenly distributed to represent the service area. If the number is found to be few, BR may propose adding them, even to the uplink area. But with a warning that the interference should be re-evaluated.



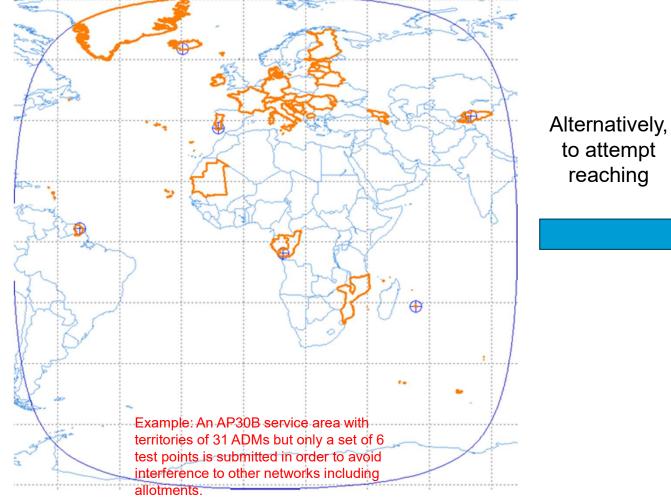
"Unrealistic" contours and special agreements

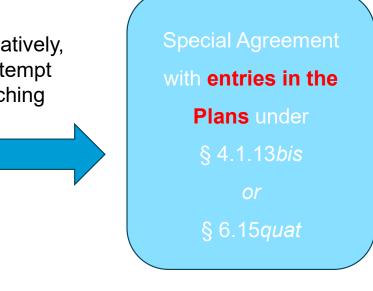


by-pass coordination requirement with entries in the Plans. It seems difficult to bringing into use the assignments with these characteristics



Few test points in uplink service area and special agreements





The notifying ADM can place additional test points that could affect the Plan entries in respect of which the special agreements have been reached, thereby increasing the number of test points and improving the representation of the service area by the set of test points.

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N/RS



"Provisional entry" into the List/Plan

- For R1/3 AP30/30A and AP30B and for still affected assignments without agreement, it is possible to "insist" and request for "provisional entry" into the List. For R2 AP30/30A, it is also possible to request provisional entry of the assignment in R2 Plan. The coordination can be continued after the 8-year regulatory period.
- The provisions § 4.1.18, § 4.2.21A and § 6.25 cannot be applied in respect of entries in the Plans.
- Notifying Administration shall file a commitment in case that harmful/unacceptable interference is caused to the incumbent assignment.



Part B Technical Exam and Publication

In order to ensure compatibility, the BR uses the final characteristics in checking:

- Compliance with hard limits
- For AP30/30A, analysis changes as a result of seeking agreement.
- Missing Agreements
 - Any still affected administrations without an agreement?
 - Provisional entry into the List possible? (For AP30B and R1/3 AP30/30A)
 - Examination of the "more interference" arising from the change of characteristics from Part A, is caused to existing networks before receipt of this Part B



Part B Technical Exam and Publication

In a Part B Special Section, such agreement status may be found:

· · · · · · · · · · · · · · · · · · ·					
A6 Agreements	A30#4.1.1B	Х	BUL IS	SR S	
A6 Agreements	30B#6.21B2 2	X	RUS	VTN	
3	30B#6.21B3_2	Х	RUS	VTN	
	30B#6.21N 2	0	LAO		
	30B#6.6	0	TON		

TABLE 11C.2

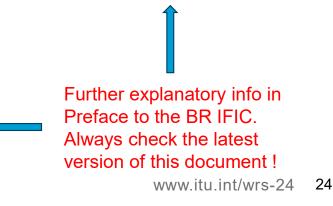
Symbols in "agree_st" column of the "tr_provn" and "tr_aff_ntw" tables

Symbol	Description
Ι	Administrations are identified as potentially affected
N	Agreement is not required
0	The required agreement has been obtained
R	Agreement is required
Т	Administrations in respect to which Resolution 126 (WRC-23) applied
V	Implicit agreement has been obtained ¹
X	Agreement has not been obtained ²

¹ Only applicable for cases where § 6.15 of Article 6 of Appendix **30B** or § 4.1.10 d) of Article 4 of Appendices **30** or **30A** is applied.

 2 Only applicable for provisionally entry into the List under 4.1.18 or the Region 2 Plan under 4.2.21A of Article 4 of Appendix **30/30A**, or the List under 6.25 of Article 6 of Appendix **30B**

Symbol	Description (if any)
A30#4.1.1B	
30B#6.21B2_2	Appendix 30B, Article 6, § 6.21 b), Annex 4 of Appendix 30B or Appendix 1 to Attachment 1 to Res170, downlink single entry C/I, 10- 11GHz
30B#6.21B3_2	Appendix 30B, Article 6, § 6.21 b), Annex 4 of Appendix 30B or Appendix 1 to Attachment 1 to Res170, overall aggregate C/I, 12-13/10-11GHz
30B#6.21N_2	Appendix 30B, Article 6, § 6.21 c), Footnote 7bis, Annex 4 of Appendix 30B or Appendix 1 to Attachment 1 to Res170, 12-13/10-11 GHz
30B#6.6	Appendix 30B, Article 6, § 6.6





Special Section AP30/E Part B - BR Notes

Radiocommunication Bureau Notes

- 1. Based on the request received by the Radiocommunication Bureau under § 4.1.12 of Article 4 of Appendix **30** to the Radio Regulations, this Special Section is published in accordance with § 4.1.15 of Article 4 of Appendix **30**.
- 2. The frequency assignments of the subject satellite network submitted under § 4.1.3 of Appendix 30 were published in the following Special Section(s):

- AP30/E/762 (Part A) annexed to BR IFIC No. 2851 of 08.08.2017

- 3. In application of the criteria of Annex 1 to Appendix **30**, taking into account the final characteristics provided by the notifying Administration as published in this Special Section, the Bureau has reviewed the list of administrations whose agreements are required for completion of the Article 4 procedure for the subject network. The results of these examinations indicate that the services of 3 administration(s) whose agreement was not reached under § 4.1.12, are identified as affected. The notifying Administration has therefore requested for the application of § 4.1.18. In addition, there is no administration whose services are newly identified as affected as a result of these modifications to the initial submission, in accordance with § 4.1.11. Check of missing agreement
- 4. In view of the above, the Bureau, pursuant to § 4.1.15 of Appendix 30, concludes that the Article 4 procedure for the subject satellite network has been successfully completed. In accordance with § 4.1.18 and 4.1.18bis of the same Appendix, the subject assignments are therefore provisionally included in the List and the Reference Situation of the Regions 1 and 3 Plan and List and of other Article 4 submissions, which are still at the stage of application of that Article, has been updated except for those assignments which are the basis for the disagreement.

Entry and provisional entry into the List



Special Section AP30B/A6B - BR Notes

Radiocommunication Bureau Notes

1. Based on the request received by the Radiocommunication Bureau under §6.17 and §6.25 of Article 6 of Appendix **30B** to the Radio Regulations, the Special Section is published in accordance with §6.24 of Article 6 of Appendix **30B**.

2. The frequency assignments of the subject satellite network submitted under §6.1 of Appendix 30B were published in the following Special Section:

Special Section AP30B/A6A/449 annexed to BR IFIC No. 2832 of 08.11.2016

Check of missing agreement

3. Taking into account the final characteristics and agreements with other administration(s) provided by the notifying administration as published in this Special Section, the Bureau has examined the submission under § 6.19, 6.21 and 6.22 of Appendix **30B**. The agreements of those administrations whose territories are included in the service areas of the subject network are obtained. The results of examination under § 6.21 of Appendix **30B** indicate that assignments of other administration(s) that did not communicate an agreement are identified as affected. Therefore, the Bureau returns the subject submission pursuant to §6.24 of Appendix **30B**.

4. As the notifying Administration requested the application of §6.25 of Appendix **30B** and provided the commitment required in §6.26 of that Appendix, the assignments of the subject network are provisionally included in the List in accordance with §6.25 of Appendix **30B**. Accordingly, the Reference Situation of allotments in the Plan, the assignments in the List and the assignments of other Article 6 submissions, which are still at the stage of application of that Article, has been updated, except for those assignments which are the basis for the unfavourable finding under §6.21 of Appendix **30B**.

Entry and provisional entry into the List



Notification and bringing into use, Res.49 and Res.40

- Notification with data in accordance with AP4 shall be submitted within the 8year regulatory limit, and other regulatory provisions governing time limits (e.g. § 5.1.3 of AP30/30A and § 8.1 of AP30B) in the Appendices apply. (A dedicated session in this WRS on <u>Notification of Planned Services</u>)
- Submission of date of bringing into use, which shall be within the 8-year regulatory period, unless an extension is granted.
- Res.49 shall be submitted within the 8-year plus 30 days limit.
- Res.40 shall be submitted together with the confirmation of bringing into use.
- Find detailed information in relevant sessions of this Seminar.



Thank you !