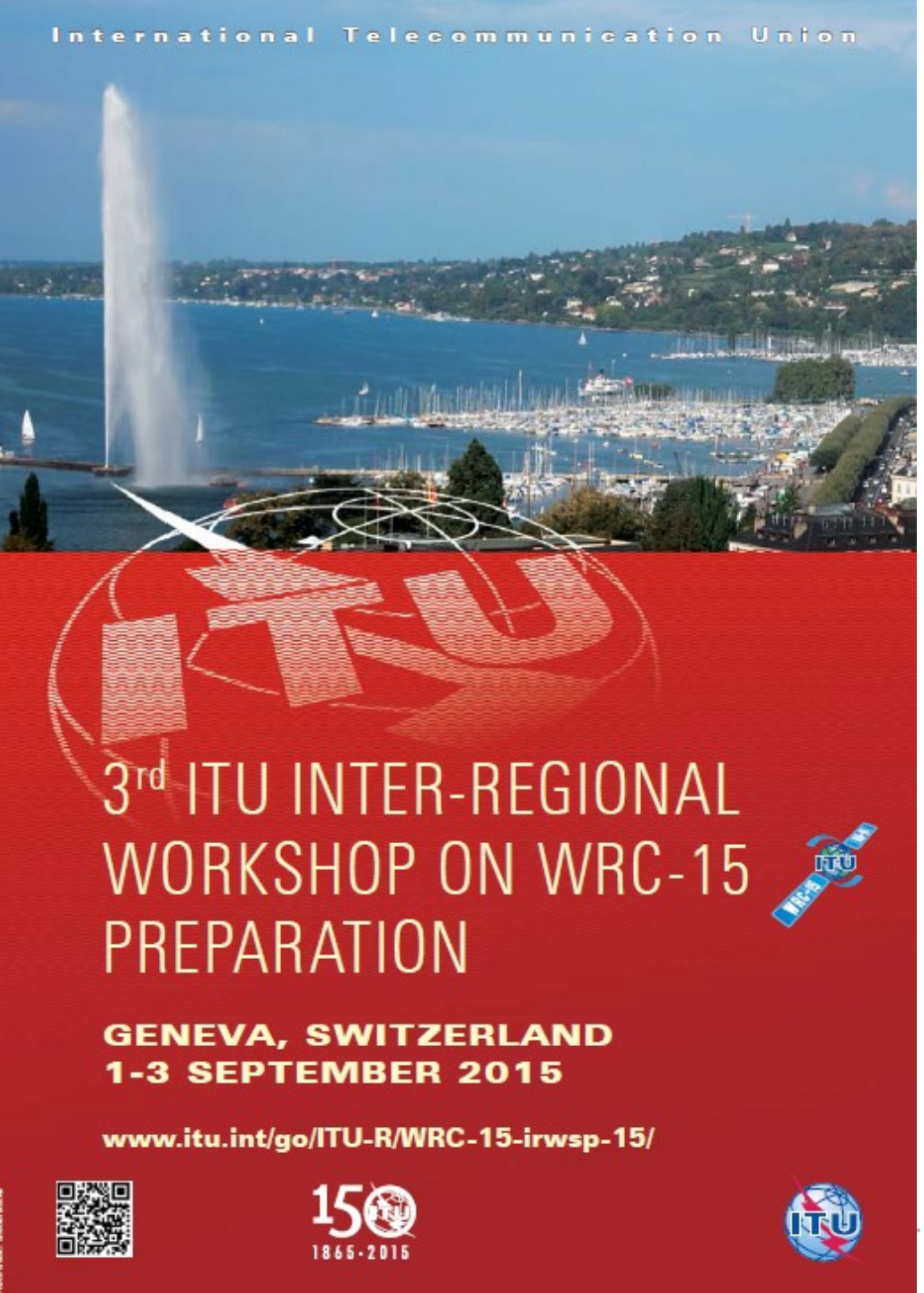

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3rd ITU INTER-REGIONAL WORKSHOP ON WRC-15 PREPARATION (Geneva, 1 – 3 September 2015)

Panel Session 6 WRC-15 Agenda items 1.9.2, 1.10 and 9.1(9.1.1)

Xiaoyang GAO

Mobile-satellite service

- **A.I. 1.9.2:** the possibility of allocating the bands 7 375-7 750 MHz and 8 025-8 400 MHz to the maritime-mobile satellite service, together with additional regulatory measures
- **A.I. 1.10:** spectrum requirements and possible additional spectrum allocations for the mobile-satellite service within the frequency range from 22 GHz to 26 GHz
- **A.I. 9.1, issue 9.1.1 – Res. 205 (Rev.WRC-12):** Protection of the systems operating in the mobile-satellite service in the band 406-406.1MHz

Agenda Item 1.9.2

1. CPM Methods and Regulatory & Procedural Considerations to satisfy the agenda item:

a) Only possibilities for **GSO satellite networks** for the primary MMSS allocation are analyzed.

b) 3 Methods are proposed:

Method A: No change: no allocation to the MMSS in the 7/8 GHz band

Method B: Allocation of the bands 7 375-7 750 MHz (s-E) & 8 025-8 400 MHz (E-s) to GSO MMSS:

- Apply existing pfd limits in RR Art. **21** Table **21-4** for the 7 375-7 750 MHz band in MMSS downlink
- Coordination under RR Nos. **9.7** and **9.21** for MMSS satellite networks

Coordination of MMSS earth stations:

- Option A: RR Nos. **9.21** & **9.17**, **9.17A**, **9.18**
- Option B: **WRC Resolution** to stipulate the implementation of exclusion zones around FS, EESS and SRS (deep space) earth stations

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Method C: Allocation of the band 7 375-7 750 MHz to GSO MMSS (space-to-Earth):

- MMSS does not claim protection from, nor constrain the use or development of incumbent terrestrial services. RR No. **5.43A** does not apply.
- Sharing with space services under RR Art.**9**
- **No allocation to the MMSS in the 8 025-8 400 MHz** (Earth-to-space) band

Agenda Item 1.9.2

2. Regional Group Considerations:

PACP

Oppose the allocation of MMSS in the band **8 025-8 400** MHz

No Change to the frequency allocations in this frequency range

ASMG

Position:

Does not support the allocation to the MMSS in the frequency bands 7 375-7 750 MHz and 8 025-8 400MHz.

Support **NOC**

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AFCP:

Method A (NOC)

Position:

Oppose the allocation of the frequency bands 7 375-7 750 MHz and 8 025-8 400 MHz to the maritime mobile-satellite service since the ITU-R studies have shown that compatibility of the MMSS with other space services is not possible without imposing additional constraints on them.

Agenda Item 1.9.2

Preliminary Position:

Method C:

- **Oppose** the allocation of MMSS in the band **8 025-8 400** MHz
- **Support** the allocation of MMSS in the band **7 375-7 750** MHz

IAP:

Method A (NOC)

3. Matrix of Regional Group Considerations:

Method	APT (PACP)	ASMG (Position)	ATU (AFCP)	CEPT (Pre. Position)	CITEL (IAP)	RCC (Position)
Method A	Oppose uplink allocation	NOC	NOC		NOC	NOC
Method B						
Method C				Support		

- **It is assumed that SUP of Res. 758 (WRC-12) is agreed by all Regional Groups**

Agenda Item 1.10

1. CPM Methods and Regulatory & Procedural Considerations to satisfy the agenda item:

Method A: No change: no allocation to MSS within 22-26 GHz band

Method B1: To **allocate** the frequency bands **23.15-23.4** GHz (space-to-Earth) and **25.25-25.5** GHz (Earth-to-space) to the GSO MSS under the following conditions:

- Application of **pfd limits** for MSS transmitting space stations in the frequency band 23.15-23.4 GHz
- Application of **e.i.r.p. density limits** for MSS space stations in the band 23.15-23.4 GHz to protect non-GSO space station links
- Coordination of MSS with ISS (space station links between non-GSO and GSO) in accordance with RR No. **9.7** in the frequency bands 23.15-23.4 GHz (space-to-Earth) and 25.25-25.5 GHz (Earth-to-space)
- Coordination of MSS transmitting earth stations with FS and MS receiving stations under RR No. **9.17** in the frequency band 25.25-25.5 GHz

Method B2: To **allocate** the frequency bands **23.15-23.4** GHz (space-to-Earth) and **24.25-24.5** GHz (Earth-to-space) to the GSO MSS on the following conditions:

- Application of **pfd limits** for MSS transmitting space stations in the frequency band 23.15-23.4 GHz
- Application of **e.i.r.p. density limits** for MSS space stations in the band 23.15-23.4 GHz to protect non-GSO space station links
- Coordination of MSS with ISS (space station links between non-GSO and GSO) in accordance with RR No. **9.7** in the frequency band 23.15-23.4 GHz (space-to-Earth)
- Coordination of MSS transmitting earth stations with FS and MS receiving stations under RR No. **9.17** in the frequency band 24.25-24.5 GHz

Agenda Item 1.10

Method C1↓ Option C1a: To **allocate** the frequency band **24.25-24.55** GHz for the MSS (space-to-Earth) with the following conditions:

– MSS allocation shall be limited only to **geostationary systems**

– Application of **pfd limits** for MSS transmitting space stations in the frequency band 24.25-24.55 GHz

– Coordination of **MSS space stations** under RR No. **9.7**

Method C1↓ Option C1b: To **allocate** the frequency band **22.65-22.95** GHz for the MSS (space-to-Earth) with the following conditions:

– MSS allocation shall be limited only to **geostationary systems**

– Application of **pfd limits** for transmitting space stations in the frequency band 22.65-22.95 GHz

– Coordination of MSS stations with the **ISS** in accordance with RR No. **9.7** in the frequency band 22.65-22.95 GHz (space-to-Earth)

– **Constraint** on MSS (s-E) e.i.r.p. density to protect ISS

Agenda Item 1.10

Method C2↑ Option C2a: To **allocate** the frequency band **24.25-24.55** GHz for the MSS (Earth-to-space) with the following conditions:

– MSS allocation shall be limited only to **geostationary systems**

– Coordination of **MSS space stations** under RR No. **9.7**

– Apply RR No. **9.17** to ensure protection of the terrestrial services

Method C2↑ Option C2b: To **allocate** the frequency band **25.25-25.5** GHz for the MSS (Earth-to-space) with the following conditions:

– MSS allocation shall be limited only to **geostationary systems**

– Coordination with the **ISS** under RR No. **9.7**

– Apply RR No. **9.17** to ensure protection of the terrestrial services

2. Regional Group Considerations:

PACP

It would be **very difficult, if not impossible, to ensure the protection of various incumbent services** in the frequency range 22 – 26 GHz from the impact of interference from new allocation to MSS due to the mobility of MSS earth stations.

The **spectrum requirements** for MSS in the 22-26 GHz band also **need to be further studied**.

Method A is supported.

Position:

NOC

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AFCP

Method A (NOC)

Position

Support additional allocation of 250 MHz for MSS in each direction:

- space-to-Earth: 23.15-23.55 GHz or 24.25-24.55 GHz
- Earth-to-space: 25.25-25.5 GHz or 24.25-24.55 GHz

Agenda Item 1.10

Preliminary Position:

Method A:

Does not support MSS allocations under this Agenda Item because studies have shown incompatibly with some existing services in certain cases (e.g. in the frequency bands 22.65-22.95 GHz, 23.15-23.4 GHz, 25.25-25.5 GHz) while they have not been completed in other cases (e.g. in the frequency band 24.25-24.55 GHz).

IAP:

Method A (NOC)

3. Matrix of Regional Group Considerations:

Method		APT (PACP)	ASMG (Position)	ATU (AFCP)	CEPT (Pre. Position)	CITEL (IAP)	RCC (Position)
Method A		NOC	NOC	NOC	NOC	NOC	
Method B1							
Method B2							
Method C1 ↓	Option C1a						24.25-24.55 or 23.15-23.55 GHz
	Option C1b						
Method C2 ↑	Option C2a						24.25-24.55 or 25.25-25.50 GHz
	Option C2b						

- **It is assumed that SUP of Res. 234 (WRC-12) is agreed by all Regional Groups**

Agenda Item 9.1, issue 9.1.1

All Regional Groups support:

1. Regulatory and procedural considerations in the CPM Report to WRC-15 to protect the MSS systems in the 406-406.1 MHz band;
2. Modification to Resolution **205 (Rev.WRC-12)** with a view of having an adequate protection of the MSS in the frequency band 406-406.1 MHz in order to detect and successfully process 406 MHz distress signals, taking into account the current and future deployment of services in adjacent frequency bands.