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| APTlogogreen3 | ASIA-PACIFIC TELECOMMUNITY | **Document:**  |
| **The 2nd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-2)** | **APG19-2/OUT-38 (Rev.1)** |
| 17 – 21 July 2017, Bali, Republic of Indonesia | **21 July 2017** |

Working Party 4

**preliminary views on WRC-19 agenda item 1.3**

**Agenda Item 1.3:**

*To consider possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz, in accordance with Resolution 766 (WRC-15).*

1. **Background**

Data Collection Systems (DCS) operating on geostationary and non-geostationary orbits are currently allocated to the meteorological‑satellite service (MetSat) and the Earth exploration-satellite service (EESS) (Earth‑to-space) systems in the frequency band 401-403 MHz (uplink) and 460-470 MHz (downlink). DCS are essential for monitoring and predicting climate change, monitoring ocean, and water resources, weather forecasting and assisting in protecting biodiversity, as well as improving maritime security. DCS have been operating globally under a secondary allocation and on a primary basis in some countries under RR No. **5.290**, but this use is constrained by coordination under No. **9.21**. This has led to differing limitations and protection criteria and has posed a barrier to implementation of essential DCS components on a global basis.

Resolution **766 (WRC-15)** considers the possible upgrading of the secondary allocation to the MetSat (space-to-Earth) to primary status and a primary allocation to the EESS (space-to-Earth) in the frequency band 460‑470 MHz. The frequency band 460–470 MHz is currently allocated to the MetSat service (space-to-Earth) on a secondary basis. However, it is to be noted that the MetSat service is primary in a few countries according to RR No. **5.290**. In addition, according to RR No. **5.289**, EESS applications, other than the MetSat service, may also be used in the bands 460‑470 MHz and 1690-1710 MHz for *space-to-earth* transmissions subject to not causing harmful interference to stations operating in accordance with the Table of Frequency Allocations.

An upgrade of the existing MetSat allocation and a new primary EESS allocation would allow operators of DCS to design and operate their systems with more confidence. However, regulatory measures need to be developed further to protect and also not imposing additional constrains to the existing mobile and fixed service, as well as the adjacent frequency bands.

**Recent ITU-R developments**

A Preliminary Draft New (PDN) Report ITU-R SA.[460 MHz METSAT-EESS] (Document 7B/170 [Annex 19](https://www.itu.int/md/R15-WP7B-C-0170/en) of the Chairman's Report) was developed at the WP 7B meeting in April 2017 which compiled elements related to background on WRC-19 agenda item 1.3, as well as initial technical considerations on EESS (space-to-Earth) and MetSat service (space-to-Earth) in the band 460-470 MHz and other services allocated in this band and adjacent bands, namely the Broadcasting, Fixed, Mobile, Maritime Mobile, Mobile Satellite and Radio Astronomy services.

This PDN Report provides results of studies evaluating the potential for radio frequency interference (RFI) from spacecraft operating in the MetSat service and EESS using the 460-470 MHz frequency band to incumbent systems in primary allocated services (see [Annex 19 to Doc. 7B/170](https://www.itu.int/dms_ties/itu-r/md/15/wp7b/c/R15-WP7B-C-0170%21N19%21MSW-E.docx)). In this PDN Report, for the protection of terrestrial services, pfd limit of -152dBW/m2/4kHz is currently considered. This PDN report will be finalized at the WP 7B meeting in October 2017.

# Relevant ITU-R Recommendations and Reports

* Annex 14 to Working Party 7B Chairman’s Report, April 2016: Working Document toward a Preliminary Draft New Report ITU-R SA.[460 MHZ METSAT-EESS]: Studies related to proposed change in 460-470 MHz secondary allocation for MetSat to primary and addition of primary allocation to EESS.
* Draft CPM text (Document 7B/170 [Annex 1)](https://www.itu.int/dms_ties/itu-r/md/15/wp7b/c/R15-WP7B-C-0170%21N01%21MSW-E.docx) was further developed but no ‘Methods’ to satisfy the agenda item have been developed.

**2. Documents**

***2.1 Input Documents:***

* [APG19-2-INP-11](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAI1.3%5CAI1.3%20INPut%20Documents%5CAPG19-2-INP-11_KOR-WP4.docx) (Korea), [APG19-2-INP-31](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAI1.3%5CAI1.3%20INPut%20Documents%5CAPG19-2-INP-31_AUS_WP4.docx) (Australia), [APG19-2-INP-37](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAI1.3%5CAI1.3%20INPut%20Documents%5CAPG19-2-INP-37_IRN_WP4.docx) (Iran), [APG19-2-INP-52](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAI1.3%5CAI1.3%20INPut%20Documents%5CAPG19-2-INP-52_CHN_WP4.docx) (China), [APG19-2-INP-58](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAI1.3%5CAI1.3%20INPut%20Documents%5CAPG19-2-INP-58_J_WP4.docx) (Japan).

***2.2 Information Documents:***

* [APG19-2/INF-01](http://www.aptsec.org/sites/default/files/2017/05/APG19-2-INF-01_Status_of_Preparation_of_Regional_Groups.docx) **(**Chairman, APG-19 : information from **ASMG, CEPT, ATU, RCC),** [APG19-2-INF-02](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-11072017-135928%5CAPG19-2-INF-02_ICAO.docx) (ICAO), [APG19-2-INF-03](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-11072017-135928%5C._APG19-2-INF-03_ITU_BR_Preparation.pdf) (ITU-BR), [APG19-2-INF-04](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-11072017-135928%5C._APG19-2-INF-04_CITEL_Preparation.pdf) (CITEL), [APG19-2-INF-05](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-11072017-135928%5CAPG19-2-INF-05_RCC.docx) (RCC), [APG19-2-INF-07](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-14072017-121446%5CAPG19-2-INF-07_ATU.docx) (ATU), [APG19-2-INF-14](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-14072017-121446%5C._APG19-2-INF-14_CEPT_Preparation_for_WRC-19.pdf) (CEPT).

**3. Summary of Discussion:**

**3.1 Summary of Members’ Preliminary views**

**3.1.1 Korea**

The Republic of Korea supports the ITU-R studies in accordance with Resolution **766 (WRC-15)**, while providing protection and not imposing any additional constraints on existing primary services in the frequency band 460-470 MHz and adjacent frequency bands.

**(***Editor’s note:* [APG19-2-INP-11](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAPG19-2-INP-11_KOR-WP4.docx) **)**

**3.1.2 Australia**

Australia supports in principle, an upgrade of the MetSat (space-to-Earth) service to primary status, and an additional primary allocation to the EESS (space-to-Earth) in the frequency band 460‑470 MHz, subject to sharing and compatibility studies with the fixed and mobile services in this band.

**(***Editor’s note:* [APG19-2-INP-31](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAPG19-2-INP-31_AUS_WP4.docx)**)**

**3.1.3 Iran**

The Islamic Republic of Iran may agree upgrading the secondary allocation of the meteorological-satellite service (space-to-Earth) to a primary status and adding a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz provided that:

* The protection of fixed and mobile services in the frequency band 460-470 MHz and in adjacent frequency bands is ensured.
* No additional constraints on existing fixed and mobile services in the frequency band 460-470 MHz and in the adjacent frequency bands are imposed.
* MetSat and EESS earth stations will not claim protection from stations in the fixed and mobile services.
* Priority of MetSat over EESS is retained.

**(***Editor’s note:* [APG19-2-INP-37](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAPG19-2-INP-37_IRN_WP4.docx)**)**

**3.1.4 China**

China supports the studies on this agenda item carried out in ITU-R WP 7B. China supports the possible upgrading of the secondary MetSat (space-Earth) allocation to the primary status, and the addition of a primary EESS (space-Earth) allocation in the band 460-470 MHz, if ITU-R studies show that sharing and compatibility with existing primary services is feasible.

**(***Editor’s note:* [APG19-2-INP-52](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAPG19-2-INP-52_CHN_WP4.docx)**)**

**3.1.5 Japan**

Japan is of the view that appropriate protection of existing services is necessary. Japan is also of the view that the proposed measures for the protection of the terrestrial services, currently under study in the ITU-R, should be considered carefully in order to appropriately protect the terrestrial services, but at the same time, also allow practical use of the EESS (space-to-Earth).

**(***Editor’s note:* [APG19-2-INP-58](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CAPG19-2-INP-58_J_WP4.docx)**)**

**3.2 Key points raised during the meeting**

* None

**4. APT Preliminary View(s)**

APT Members support the ITU-R studies in accordance with Resolution **766 (WRC-15)** to conduct and complete, in time for WRC-19, the necessary technical, operational and regulatory studies on the possibility to upgrade the secondary allocation of the meteorological-satellite service (space-to-Earth) to primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460‑470 MHz. provided that the appropriate measures are taken to ensure the protection of, and also not imposing additional constraints on the existing primary services in the band 460-470 MHz and also in the adjacent bands.

**5. Other Views:**

None

**6. Views from Other Organisations**

**6.1 ICAO**

**Preliminary View**

No impact on aeronautical services has been identified from WRC-19 Agenda Items 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.15, 2, 3, 5, 6, 7, 9.1 (Issue 9.1.1), 9.1 (Issue 9.1.2), 9.1 (Issue 9.1.5), 9.2 and 9.3which are therefore not addressed in this position.

*(Editor’s note:*[**APG19-2/INF-02**](http://www.apt.int/sites/default/files/2017/07/APG19-2-INF-02_ICAO.docx)*)*

**6.3 CITEL**

**Preliminary View**

* TBD.

**Issues:**

**‐** An upgrade of the MetSat and EESS allocation to primary status would provide regulatory certainty for data collection systems.

‐ Measures need to be taken to ensure protection of and that no constraints are put on, fixed and mobile services, including the use of the band for IMT.

*(Editor’s note:* [APG19-2/INF-04](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-10072017-165205%5CAPG19-2-INF-04_CITEL_Preparation.pdf))

**6.4 RCC**

**Preliminary View**

* The RCC Administrations consider that there is a need to harmonize frequency allocations used by data collection systems (DCS) in the meteorological-satellite service and the Earth exploration-satellite service.
* However upgrading the secondary allocation to the meteorological-satellite service (space-to-Earth) to a primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz are possible under the following conditions:
	+ The protection of the terrestrial services to which the frequency band 460-470 MHz is allocated on a primary basis;
	+ The proposed measures for the protection of the terrestrial services will not impose additional constraints on the existing satellite systems and the networks operated within meteorological-satellite service and the Earth exploration-satellite service;
	+ Maintaining priority of the meteorological-satellite service over the Earth exploration-satellite service.

*(Editor’s note:* [APG19-2-INF-05](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-10072017-165205%5CAPG19-2-INF-05_RCC.docx)**)**

**6.6 ATU**

**Preliminary View**

No preliminary position on this agenda item yet*.*

*(Editor’s note:* [APG19-2-INF-07](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-10072017-165205%5CAPG19-2-INF-07_ATU.docx)*)*

**6.7 CEPT**

**Preliminary View**

CEPT supports that the MetSat (space-to-Earth) allocation should be upgraded from secondary to primary status and a primary EESS (space-to-Earth) allocation should be added in the frequency band 460-470 MHz provided that:

* priority of MetSat over EESS as currently expressed in the RR is retained;
* the protection of primary services in the frequency band and in adjacent frequency bands is ensured
* the primary services in this frequency band are not constrained by an upgrade of the Metsat allocation to primary status and an addition of primary EESS allocation.

*(Editor’s note:* [APG19-2-INF-14](file:///C%3A%5CDATA%5CTel-U%5CAPG19%5CAPG19-2%20DG%20Chair%5CINF%5Capt-14072017-121446%5CAPG19-2-INF-14_CEPT_Preparation_for_WRC-19.pdf) *)*

**7. Issues for Consideration at Next APG Meeting**

* + APT Members are encouraged to participate in and contribute to the work of WP7B in October 2017 and as well as to APG19-3.

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