

EXPANSION OF THE METEOROLOGICAL SATELLITE SERVICE FREQUENCY ALLOCATION WITHIN THE BAND 18.0 – 18.4 GHz

The next generation geostationary meteorological satellites to be launched in the time-frame 2015-2020 are expected to have bandwidth requirements in excess of 200 MHz. This is primarily due to transmission of data from high resolution sensors. A primary allocation to the geostationary meteorological satellite (space-to-Earth) service exists already in the band 18.1-18.3 GHz in No. **5.519**.

This document reports on activities which were started to obtain an expansion of the MetSat allocation in the band 18.0 – 18.4 GHz to a bandwidth of 300 MHz.

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1 INTRODUCTION

The next generation geostationary meteorological satellites to be launched in the time-frame 2015-2020 are expected to have bandwidth requirements in excess of 200 MHz. This is primarily due to transmission of data from high resolution sensors. A primary allocation to the geostationary meteorological satellite (space-to-Earth) service exists already in the band 18.1-18.3 GHz in No. **5.519**. Activities were started to obtain an expansion of the MetSat allocation in the band 18.0 – 18.4 GHz to a bandwidth of 300 MHz.

WRC-03 recognised that the bandwidth of the existing allocation for geostationary meteorological satellites in the band 18.1-18.3 GHz is insufficient to support the required data rates and that sharing between geostationary meteorological satellites and the fixed, fixed-satellite and mobile services is likely to be feasible in the band 18-18.4 GHz considering in particular that the number of earth stations deployed to support these meteorological satellites will be low (on the order of five per Region).

WRC-03 agreed to establish WRC-07 agenda item 1.2 , dealing with the planned expansion of the band.

WRC-03 resolved to invite ITU-R to conduct sharing analyses between geostationary meteorological satellites operating in the space-to-Earth direction and the fixed, fixed-satellite and mobile services in the band 18-18.4 GHz to define appropriate sharing criteria with a view to extending the current 18.1-18.3 GHz geostationary meteorological satellites allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum.

2 PREPARATORY ACTIVITIES

Compatibility studies for submission to ITU Working Party 7B as well as the appropriate CEPT preparatory groups were prepared by EUMETSAT. It is also planned to prepare contributions to SFCG with the objective to obtain support from other space agencies. Study results were forwarded to the spring meeting of ITU WP 7B.

3 DISCUSSIONS IN ITU WP 7B

With respect to WRC-07 Agenda Item 1.2, Res 746, resolves 1, Markus Dreis (EUMETSAT) chaired an Ad Hoc Group under WP7B dealing with an input from EUMETSAT with proposed modifications (Doc 7B/22) to ITU-R Recommendations SA. 1159, 1160, 1161 for

inclusion of the performance, interference and sharing criteria for direct readout systems in the MetSat (GSO) service at 18 GHz. These criteria will form the basis for the sharing studies with the other allocated services in the band 18.0 – 18.4 GHz.

The proposed criteria were supported in WP7B resulting in Preliminary Draft Revised Recommendations (PDRRs) for ITU-R Recommendations SA. 1159, 1160, 1161 which will be subject for further discussion at the next meeting of WP7B in autumn 2004.

A discussion arose on the appropriate apportionment of the interference contribution from the different services, which is relevant for the determination of the sharing criteria. As a starting point equal contribution from the space and terrestrial services was assumed, subject to further refinement, taking into account the views of the concerned services.

The acceptance of the proposals from EUMETSAT constitutes a good starting point for the sharing studies to be performed in relation to this subject.

Furthermore, the background information with regard to system parameters and link budget examples provided by EUMETSAT for next generation geostationary MetSat systems as well as the corresponding performance, interference and sharing criteria were retained in the WP7B Chairman's Report for future reference.

4 FUTURE ACTIVITIES

It is expected that ITU WP7B will finalise the Draft Revised Recommendations SA. 1159, 1160, and 1161 during the meeting in September 2004. The new recommendations will then be used for the production of sharing studies between the expanded MetSat service and services already allocated in the band.

CGMS members are invited to support the ITU activities and to participate in the production of sharing studies.