CGMS

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UPDATE OF THE STATUS OF THE COORDINATED USE OF THE DCP BAND

In response to CGMS action/recommendation WGI 36.09

In response to Action 36.09 the CGMS Secretariat presented the CGMS coordinated response on the future use of the 401 – 403 MHz band at the SFCG-29 meeting in June 2009.

At SFCG-29 it was not possible to finally conclude on the long-term coordination of Data Collection Systems (DCS) operated by geostationary and non-geostationary MetSat and EESS systems in the band 401 – 403 MHz.

Conclusion for the remaining open coordination issue in the band 401.58 – 401.7 MHz was reached between RFSA and CNES at a dedicated meeting on 9 September 2009.

In case there are no further comments/concerns raised by members of CGMS, the coordination with a basic general partitioning of the band 401 – 403 MHz for future long-term coordinated use of DCS systems on geostationary and non-geostationary MetSat and EESS systems as contained in Annex 1 could be considered completed and presented to the next meeting of SFCG-30 in June 2010.

UPDATE OF THE STATUS OF THE COORDINATED USE OF THE DCP BAND (FOLLOW ON TO ACTION 36.09)

1 INTRODUCTION

In accordance to Action 36.09, the CGMS Secretariat presented at the SFCG-29 meeting in June 2009 the CGMS coordinated response on the future use of the 401 – 403 MHz band.

Although good progress was achieved since CGMS 36 meeting, at the time of the SFCG-29, it was still not possible to finally conclude on the long-term coordination of Data Collection Systems (DCS) operated by geostationary and non-geostationary MetSat and EESS systems in the band 401 – 403 MHz.

The remaining open element concerned the coordination of DCP GEO platforms within the territory of the Russian Federation and ARGOS LEO in the frequency band 401.58 – 401.7 MHz.

2 STATUS OF COORDINATION

For this remaining open coordination issue identified at SFCG-29 in June 2009, the Russian Federation and CNES agreed to conduct a coordination meeting on 9 September 2009 in Geneva.

At this meeting, attended by the Russian Federal Space Agency (RFSA), CNES, NOAA and EUMETSAT, a conclusion on the remaining open coordination issue in the band 401.58 – 401.7 MHz was reached between RFSA and CNES.

It was agreed between RFSA and CNES that for the long term coordinated usage of the band 401.58 - 401.7 MHz dedicated to ARGOS-LEO, DCP GEO can be operated over the territory of Russia only. However, in order to maintain the common usage of the band between LEO and GEO systems, DCP GEO should not to exceed an EIRP of 16 dBW.

Annex 1 contains the agreed updated status of coordination with a basic general partitioning of the band 401 – 403 MHz for future long-term coordinated use of DCS systems on geostationary and non-geostationary MetSat and EESS systems.

3 CONCLUSION

In case there are no further comments/concerns raised by members of CGMS, the coordination with a basic general partitioning of the band 401 – 403 MHz for future long-term coordinated use of DCS systems on geostationary and non-geostationary MetSat and EESS systems as contained in Annex 1 could be considered completed and presented to the next meeting of SFCG-30 in June 2010.

The goal at SFCG-30 could be the development of an SFCG Resolution on the long-term coordinated use of the band 401 – 403 MHz by DCS systems on geostationary and non-geostationary MetSat and Earth exploration satellite systems with a partitioning plan as contained in Annex 1.

Annex 1

Updated status of the long-term coordinated use of the band 401 – 403 MHz by DCS systems on geostationary and non-geostationary MetSat and Earth exploration satellite systems

1) For the band 401.7 - 402.435 MHz, it is concluded that overlapping frequency use as it would be the case for Beam-2 (401.690 – 402.400 MHz) between ARGOS-4 on non-geostationary MetSat systems and regional DCP and IDCS use on current geostationary MetSat systems would result in mutual harmful interference. Therefore, the band 401.7 - 402.435 MHz should remain available only for DCS using geostationary MetSat systems in cross-support between the regions. This would also avoid interference into neighbouring MetSat systems. The non-geostationary MetSat system Meteor-3M is planned to use the band 401.899 – 401.998 MHz, but will only operate over the territory of the Russian Federation, coordinated with the GEO MetSat systems Luch-M, GOMS and Electro-L. No plans exist to operate Meteor-3M outside of the Russian Federation, thus no sharing difficulties are expected.

2) The band 402.435 – 402.850 MHz should be designated for DCS using geostationary MetSat systems only. The question remains whether the band 402.435 – 402.850 MHz could be split in two sub-bands (e.g. 402.435 – 402.635 MHz and 402.635 – 402.850 MHz) in similar fashion as done for the current regional DCP bands in order to avoid interference into neighbouring MetSat systems. The concept of cross-support between the regions could in this way also be applied. Note: For the partitioning for regional DCP use and cross support among GSO MetSat operators no conclusion could be drawn as such a division would not provide the amount of spectrum which is planned for GOES-R, pending NOAA's and potentially other GSO MetSat operator's (Russia, India) support of the proposed partitioning.

3) Within the band 402.435 – 402.850 MHz which should be designated for regional DCP use on GSO MetSat systems, 100 kHz could be designated for an ARGOS-GEO component, ideally made available on a global basis by all geostationary MetSat operators. If the concept of cross-support would be applied, this 100 kHz could be positioned in the middle of both sub-bands (e.g. 402.585 – 402.685 MHz), or in one of the two sub-bands. CNES and EUMETSAT performed a test in which ARGOS platform messages were relayed via a geostationary MetSat system. ARGOS platform transmissions with an output power of 5W were properly received by Meteosat satellites, thus such scheme could be envisaged.

4) For the band 401.1 – 401.4 MHz which is currently used by FY-2 satellites and planned to be used by FYMETSAT-4 satellites CNES and CMA reached a coordination agreement as described below, allowing for the coordinated use in this band with ARGOS-4:

    a. For the bands (namely 401.1 to 401.2 MHz and 401.3 to 401.4 MHz), France plans to use low power platforms having a maximum equivalent isotropic radiated power (EIRP) of -3 dBW (typical -5 dBW) in order to minimize the interference that may be caused to the GSO FY-2 satellites and also to the future FYMETSAT-4 satellites.

b. The EIRP of ARGOS-4 platforms to be deployed within the frequency bands 401.1 - 401.2 and 401.3 - 401.4 MHz shall not exceed -3 dBW. In addition, the corresponding maximum number of ARGOS-4 active platforms to be deployed in those two frequency bands, shall not exceed 2000 within the visibility circle of FY-2 and FYMETSAT-4 satellites (1000 platforms for each 100 kHz frequency band noted before). The corresponding duty cycle (ratio of transmission duration over the repetition period) of each platform is 0.01 (on average 0.6 sec over 60 sec).

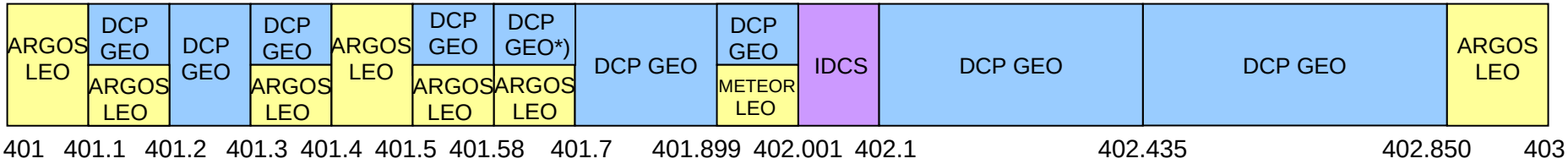
5) The remaining portions of the band 401 – 403 MHz, namely 401- 401.1 MHz, 401.4 – 401.7 MHz and 402.850 – 403 MHz, should be designated to the ARGOS LEO component (ARGOS-B and ARGOS-4). The sub-band 401.5 – 401.58 MHz will also be available for use by DCP GEO systems of the Russian Federation. Note: Both operators (CNES and SRC Planeta) agree that GOMS-M and SDRN-M (Luch-A) on one hand and the ARGOS-4 system on the other hand don't interfere with each other and therefore consider that the coordination between these networks is completed.

   For the long term coordinated usage of the band 401.58-401.7 MHz dedicated to ARGOS-LEO, DCP GEO can be operated over the territory of Russia only. However, in order to maintain the common usage of the band between LEO and GEO systems, it is recommended for DCP GEO not to exceed EIRP of 16 dBW.

   In addition, it is expected that the total number of ARGOS LEO and DCP GEO platforms won’t significantly increase in the future for the band 401.58-401.7 MHz.

The above five bullets are summarised graphically below**.**

Basic general partitioning of the band 401 – 403 MHz for future long-term coordinated use of DCS systems on geostationary and non-geostationary MetSat and EESS systems



*) In the band 401.58 – 401.7 MHz operation of DCP GEO only over the territory of the Russian Federation with a maximum EIRP of 16 dBW.