# Report on Meteorological Satellite Activities

### Potential Sharing of 1675-1680 MHz in the USA

1. Sharing of the 1675-1680 MHz band, used for radiosondes and meteorological satellite downlinks, has been under consideration in the USA for several years. The commercial sector proponents of the proposal plan to combine the spectrum with the currently shared frequency band of 1670-1675 MHz to create 10 MHz of bandwidth to be used for broadband wireless downlinks (tower to mobile) operations. Discussions are still ongoing and US regulators have made no decisions on sharing at this point.

## Sharing of the Frequency Band 1695-1710 MHz with Commercial Broadband (AWS-3) in the USA

1. In early 2015 the frequency band 1695-1710 MHz was auctioned for use for commercial broadband wireless operations within the USA. Under the service rules the commercial broadband wireless licensees hold a primary allocation, with a total of 17 NOAA meteorological satellite earth stations and numerous other US government meteorological satellite earth stations protected through the use of protection zones (commercial operations effectively secondary to the protected earth stations). Commercial broadband wireless licensees who plan to build out within a protection zone must coordinate with the meteorological satellite earth station operator within the zone to ensure protection of the meteorological satellite earth stations. NOAA is currently working with the licensees to finalize the analysis methodology and assumptions for evaluating compatibility of a proposed build-out within the protection zones. Meteorological earth stations outside of the established protection zones are not protected from interference. It is expected that coordination for operations within the protection zones will commence within the next year. Detailed build-out plans and timelines have not been provided to NOAA.

NOAA is deploying a radio frequency interference monitoring system (RFIMS) at each of its protected earth stations. The RFIMS will monitor earth station operational status and the RF environment to detect, identify and classify interference. The RFIMS is to provide earth station operators real-time monitoring for interference and also provide a real-time data feed to commercial operators. The data feed is intended to be used by commercial operators to manage their network in a manner that will prevent interference.

## Upgrade of the Meteorological Satellite Service Allocation in the Frequency Band 460-470 MHz

1. WRC-19 Agenda Item 1.3 was proposed by both CITEL (originating from the USA) and CEPT. The agenda item calls for WRC-19 to consider the upgrade on the meteorological satellite allocation in 460-470 MHz from secondary to primary status, with the use of a power flux density (PFD) limit to ensure protection of incumbent services with primary allocations in the frequency band. Studies that are necessary to complete this agenda item are currently underway in the ITU-R.

## WRC-19 Agenda Item 1.7

1. WRC-19 Agenda Item 1.7 calls for the study of the spectrum needs for telemetry, tracking and command in the space operation service for non-GSO satellites with short duration missions, to assess the suitability of existing allocations to the space operation service (SOS) and, if necessary, to consider new allocations, in accordance with Resolution 659 (WRC-15). Under this agenda item the frequency band 400.15-403 MHz is under consideration for new allocations to the SOS. Studies that are necessary to complete this agenda item are currently underway in the ITU-R. There are concerns about interference between the SOS and existing and planned radiosonde and meteorological satellite operations.

## References

[1] Comment Sought to Update the Record on Ligado’s Request that the Commission Initiate a Rulemaking to Allocate the 1675-1680 MHz Band for Terrestrial Mobile Use Shared with Federal Use: <https://apps.fcc.gov/edocs_public/attachmatch/DA-16-443A1.pdf>

[2] AWS-3 Notice of Proposed Rulemaking and Order on Reconsideration: <https://apps.fcc.gov/edocs_public/attachmatch/FCC-13-102A1.pdf>

[3] AWS-3 Report and Order: <https://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0401/FCC-14-31A1.pdf>

[4] Coordination Procedures in the 1695-1710 MHz and 1755-1780 MHz Bands: <https://apps.fcc.gov/edocs_public/attachmatch/DA-14-1023A1.pdf>

[5] RFIMS Info Sheet: <https://www.nesdis.noaa.gov/OSGS/assets/rfimsinfosheet.pdf>

[6] ISART 2016 RFIMS Presentation: <https://www.its.bldrdoc.gov/media/66363/grippandoisart2016.pdf>

## Recommended Text

Pressure continues to be placed on frequency bands sued for meteorological satellite operations. Both the 400.15-403 MHz and 1675-1710 MHz frequency ranges are being considered for sharing and 1675-1710 MHz will be shared with other radio services. The meeting encouraged SG-RFC to review references 5 and 6 [expand] for more details on sharing details under consideration.

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