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INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY



ICAO WRC-27 Preparatory Workshop

Agenda item 1.19

—
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Chair, ICAO FSMP

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Resolution 674 (WRC-23)

to consider possible primary allocations in all Regions to the Earth exploration-satellite service (passive) in the frequency bands 4 200-4 400 MHz and 8 400-8 500 MHz, in accordance with Resolution 674 (WRC-23)



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Requirements for agenda item

- To study and consider a new primary allocation in all Regions to the Earth exploration satellite service (EESS) (passive) in the frequency bands 4200-4400 MHz and 8400-8500 MHz
 - Upgrade of existing secondary allocation used for sea surface temperature measurements
- Primary allocation would not give protection from existing services in these frequency bands and in adjacent bands.

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Aviation systems potentially affected

- The frequency band 4 200 – 4 400 MHz is allocated globally to both:
 - Radar altimeters aeronautical radionavigation service (ARNS) on a primary basis
 - wireless avionics intra-communication (WAIC) in the aeronautical mobile (route) service (AM(R)S)*

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Additional considerations

- ICAO recognizes the benefits for weather forecasting that are provided by sea surface temperature measurements.
 - Such information allows better predictions for hurricanes and other weather patterns that civil aviation uses for safe and efficient flight
 -but any benefits to aviation do not outweigh risks of existing aviation systems being affected by potential changes in this agenda item
- Aviation has previously been asked if altimeters can be turned off at altitude to mitigate interference environment
 - Major airframers have been very clear that this is not an option (see FSMP WG/19)

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Current Status

- Studies being conducted in WP 7C
 - WP 5B has sent WP 7C the technical characteristics of RA and WAIC
 - 7C studies are currently in progress
 - Studies considering WAIC and Radio Altimeter Systems show EESS (passive) protection criteria would be exceeded
- Draft CPM Text Options Include
 - Method 1A
 - No changes to the RR and suppression of Res 674
 - Method 1B
 - Primary allocation to EESS (passive) in 4 200 – 4 400 with condition EESS shall not claim protection from incumbent services in the same band
 - Method 1C
 - Same as method 1B with the addition that EESS (passive) cannot claim protection from the land mobile service in the 4 440 – 4 800 MHz band.

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ICAO position

To ensure any changes would not impose any technical, regulatory, or operational constraints, on radio altimeters or wireless avionics intra-communications systems in the frequency band 4 200-4 400 MHz, while recognizing the benefit for civil aviation by providing sea surface temperature measurements for weather forecasting.

Thank You

