



Meeting with FCC International Bureau

ESV Reconsideration Issues

IB Docket No. 02-10

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ESV Reconsideration Issues

- Higher Power Operations in Accordance with Coordinated Parameters of the Serving Satellite
- Aggregate Off-Axis E.I.R.P. Licensing and $10\log(N)$
- Cessation of Emissions Response Time
- Ku-Band Minimum Distance and Frequency Bands for Prior Agreement Under Resolution 902
- Permissible Receive Frequency Bands

Higher Power Operations in Accordance with Coordinated Parameters of the Serving Satellite

- Strong public interest considerations support allowing higher power ESV operations in certain circumstances
 - Transmit power limited to coordinated levels so no increased potential for harmful interference
 - Level playing field for U.S. ESV systems and vessels
- Non-2-Degree Spacing Environment
 - Higher transmit power levels are permitted as routine
 - Resolution 902 limits or coordinated levels would apply
- 2-Degree Spacing Environment
 - Permissible only if higher power levels are coordinated
 - ALSAT would not apply
- Satellite operator engineering statement under §25.220(e)

Aggregate Off-Axis E.I.R.P. Licensing and $10\log(N)$

- ESV Order clearly indicated Commission intent to license ESV operations on an aggregate off-axis e.i.r.p. basis
- Original text of §25.222 was unclear and Boeing sought clarification of the rule
- $10\log(N)$ provision inserted into §25.222 in separate Part 25 rulemaking proceeding
 - Nothing on the record in the ESV proceeding
 - Contrary to the record in the Part 25 proceeding
 - Incompatible with advanced, bandwidth-on-demand systems such as CBB Maritime
 - Adoption of $10\log(N)$ gives rise to substantive and procedural concerns
- Strong public interest considerations support adoption of an aggregate off-axis e.i.r.p. mask for ESV operations as originally contemplated by the Commission

Cessation of Emissions Response Time

- 100 millisecond cessation of emissions response time unrealistic given current technologies
 - Internal information processing time
 - Intra-system communication latency
- Alternative approach adopted by ETSI (near final)
 - Declare threshold tracking error and response time (T)
 - If tracking threshold exceeded for T seconds or more, may not resume transmissions until within tracking threshold for $2xT$ seconds
- Avoid multiple standards and disadvantaging U.S. ESV systems and vessels

Ku-Band Minimum Distance and Frequency Bands for Prior Agreement Under Resolution 902

- Resolution 902 provides that 125 km is the minimum distance for the 14.0-14.5 GHz band
 - Potential adverse implications of attempting to extend the minimum distance for Ku-band ESVs to 300 km
 - Such an extension is unnecessary because 125 km is the maximum distance for coordination in the ESV rules
- Frequency bands for prior agreement
 - Boeing recognizes the strong U.S. interest in protecting stations in the 14.0-14.2 GHz and 14.4-14.5 GHz bands
 - Potential adverse implications of attempting to extend the frequencies for prior agreement

Permissible Receive Frequency Bands

- ESV Order contemplates permitting use of available Ku-band receive frequencies
- Section 25.202(a)(8) only specifies Region 2 extended Ku-band frequencies
 - 10.95–11.2 GHz (space-to-Earth)
 - 11.45–11.7 GHz (space-to-Earth)
- 12.5-12.75 GHz is a standard receive band in Region 1 and 12.2-12.75 GHz is a standard receive band in Region 3
- The Commission should revise §25.202(a)(8) to reflect these additional receive bands