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# Broadband Maritime

## Legal and Regulatory Issues

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# Broadband Maritime – Legal and Regulatory Issues

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- Earth Stations Onboard Vessels (“ESVs”)
  - Ku-band and C-band ESV Operations
- Broadband Maritime Licensing
  - International Regulatory Regime
  - Operating Authority from National Regulators
- U.S. ESV Rules – Overview and Recent Developments
- Other Issues
  - Operations in Territorial Waters/Ports
  - Maritime Communications Applications
  - Maritime Network Security - Lawful Interception

# Maritime Mobile VSATs

Commercial



Government/Military



Leisure



# Broadband Maritime Licensing

- International Regulatory Regime - ITU-R Res. 902
  - Off-axis EIRP spectral density limits
  - Pointing Accuracy Requirement
  - Minimum antenna sizes
  - Power limits towards the horizon
  - Prior agreement within minimum distance
- Regional Decisions (e.g., Europe)
- Operating Authority from National Regulators
  - ESV Network License
  - Ship's Radio License
  - National Authorizations

# U.S. ESV Rules - Overview

- Rules Set Forth in 47 CFR §§25.221 and 25.222
  - IB Docket 02-10; original rules adopted January 2005
  - Co-primary status as an application of the FSS
  - C-band coordination rules to protect terrestrial fixed microwave links in coastal/port areas – 200 km limit
  - Ku-band coordination requirements near NASA TDRSS and radio astronomy facilities -125 km limit
  - Tracking/data logging to address interference issues
- ESV Terminal Requirements
  - 0.2° pointing accuracy; automatically shut-off at 0.5° offset; resume transmission at 0.2° or less offset
  - Power levels consistent with 2° spacing
  - No minimum antenna size

# U.S. ESV Rules – Recent Developments

- **ESV Reconsideration Decision**
  - FCC 09-63; rel. July 31, 2009
  - Permits higher power operations subject to coordination
  - Permits declared pointing accuracy greater than  $0.2^\circ$  subject to compliance with off-axis EIRP levels
  - Acknowledges the right to operate under Article 4.4 of the ITU Radio regulations, but expresses desire to enter into bilateral agreements in such circumstances
- **Petitions for Further Reconsideration**
  - Petitions filed by Boeing and ViaSat
  - Seek further operational flexibility – clarification of peak vs maximum pointing error, elimination of penalties for advanced network management techniques, etc.

# U.S. ESV Rules – Recent Developments

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- FCC's ESV Rulemaking Proceeding
  - Appropriate focus on interference avoidance
  - Attempts to accommodate advances in technologies
  - Acknowledges ITU requirements, but....
- Divergence with International Regulatory Regime?
  - U.S. rules differ from Res. 902
    - No minimum antenna size
    - Less stringent pointing accuracy requirements
    - Higher power operations
  - Article 4.4 allows operations on a non-interference basis in derogation of the ITU rules; should typically be explicit
  - Implications of U.S. ESV rules?

# Other Legal/Regulatory Issues

- Operations in Territorial Waters/Ports
  - Clearly subject to national jurisdiction; service providers and customers at risk; approach may depend on country at issue
- Maritime Communications Applications
  - Particularly sensitive in territorial waters/ports
  - Broadband access licensing; VOIP restrictions; GSM picocells vs. national providers; video content restrictions
- Maritime Network Security - Lawful Interception
  - Unlike other mobile VSATs, maritime communications have not come under significant scrutiny to date
  - May come under greater scrutiny in the future

# Broadband Maritime Services

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*Thank you!*

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