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April 1, 2011

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: WT Docket No. 10-153, *Amendment of Part 101 to Facilitate Wireless Backhaul*

Dear Ms. Dortch:

On behalf of the Fixed Wireless Communications Coalition (FWCC), pursuant to Section 1.1206(b)(2) of the Commission's Rules, I am electronically filing this notice of an oral *ex parte* communication in the above-referenced docket.

Yesterday, Ian Marshall of Aviat Networks, Larrie Sutliffe and William Roughton, Esq. of AT&T, and Mitchell Lazarus and Christine Goepp of Fletcher, Heald & Hildreth, P.L.C. met with the following Commission staff: Shabnam Javid, John Leibovitz, Wayne McKee, Tom Peters, John Schauble, Blaise Scinto, Brian Wondrack, John Wong, and Sean Yun and, by conference call, Stephen Buenzow and Charles Oliver.

A copy of our presentation handout is attached. We also discussed appropriate standards for specifying levels of availability and the issue of congested antenna sites in otherwise rural areas.

Please do not hesitate to contact me with any questions.

Respectfully submitted,

By: _____
Christine Goepp
Fixed Wireless Communications Coalition

cc: Meeting participants

Fletcher, Heald & Hildreth

The Law of Communications

Amendment of Part 101 to Facilitate Wireless Backhaul
(WT Docket No. 10-153)

Fixed Wireless Communications Coalition

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March 31, 2011

About the FWCC

- A coalition of companies, associations, and individuals interested in the Fixed Service (terrestrial fixed microwave communications)
  - Formed in 1998; speaks for the Fixed Service community
  - Active in approx. 50 FCC proceedings; also NTIA, FAA, courts
- Membership:
  - Microwave equipment manufacturers
  - Fixed microwave engineering firms
  - Licensees of fixed microwave systems (and associations)
  - Communications service providers (and associations)
  - Major end users (railroads, public utilities, petroleum and pipeline, public safety agencies, cable TV providers) and/or their associations
  - Backhaul providers, communications carriers
  - Telecommunications attorneys and engineers.

Agenda

1. Adaptive modulation
2. CARS/BAS sharing in the 7 and 13 GHz bands
3. Efficiency standards in rural areas
4. Antenna size
5. Spectrum fees.

Adaptive Modulation – 1

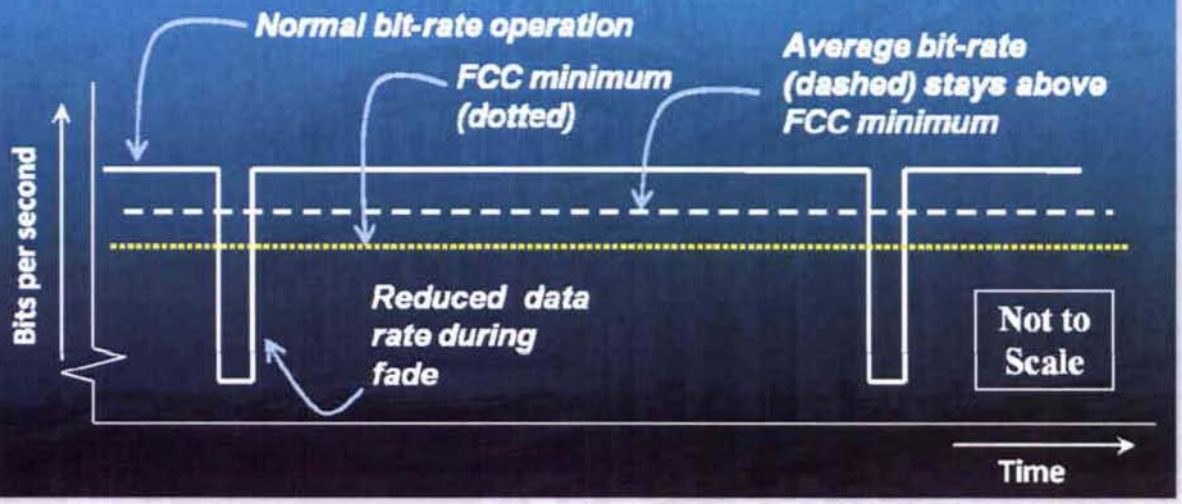
- Critical links operate at 99.999% to 99.9999% availability
- Many are subject to intermittent fades
  - Most due to rain, refraction in atmosphere
  - Less severe fades are common; designed-in fade margin covers these
  - More severe fades are rare; can interrupt link continuity
  - Automatic transmit power control provides some power increase
    - But helps only up to a point
  - Adding "one more 9" means handling increasingly severe fades.

Adaptive Modulation – 2

- If link fails during fade, data lost and system must re-synchronize
  - May be inoperative for many minutes
- Adaptive modulation: intentionally lowers data rate during fade
  - Lower data rate keeps link working despite weaker signal
  - Effect similar to raising transmitter power 16 times (+12 dB)
  - Maintains synchronization
  - May not affect traffic if fade is during off-peak period.

Adaptive Modulation – 3

- Use of adaptive modulation can still maintain FCC minimum data rate on average.



Adaptive Modulation – 4

- Adaptive modulation is urgently needed to:
  - Maintain reliability on critical links
  - Increase reliability over long distances, particularly in rural areas
  - Maximize data-carrying capability under adverse conditions
- Advantages:
  - No increased interference to other users
  - Consistent with language of rule, § 101.141(a)(3)
- Disadvantages:
  - [None].

BAS/CARS Sharing – 1

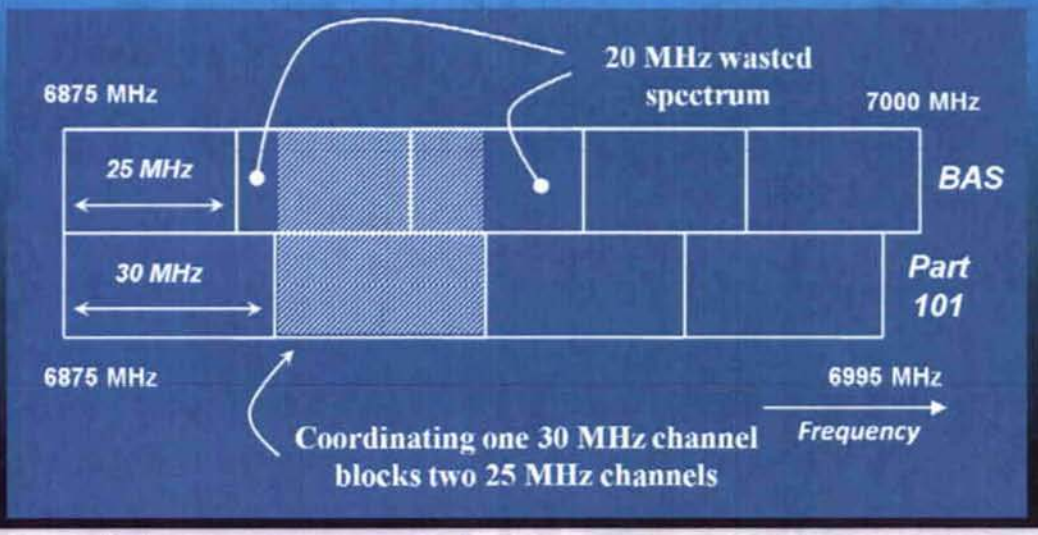
- FWCC noted coordination problems and potential spectrum inefficiency with existing band use
  - NSMA, Comsearch concur
- Fixed Service and mobile BAS (ENG) are fundamentally incompatible
  - Mobile BAS needs fast, informal frequency coordination
  - Fixed Service uses slow notify-and-response for high reliability
  - Hard to find mobile interference source.

BAS/CARS Sharing – 2

- Fixed BAS/CARS sharing with Fixed Service raises problems:
  - Incompatible channel structures
    - Different BAS and FS channel widths waste spectrum (next slide)
  - Fixed/mobile band segmentation not consistent
    - In some cities, BAS mobile occupies all available BAS spectrum
  - Informal BAS segmentation between fixed and mobile is not available
    - Varies by city; details essential to a principled sharing decision
  - Part 101 coordination should be considered for BAS fixed operations if FS sharing if authorized.

BAS/CARS Sharing – 3

- Coordinating discrepant channels wastes spectrum
  - If shared, FCC should consider revising channel plans.



BAS/CARS Sharing – 4

- Conclusion:
  - Sharing with BAS/CARS mobile segment would jeopardize high standards of reliability in the Fixed Service
  - BAS mobile/fixed informal segmentation needed (by city)
  - Sharing across discrepant bands would block large amounts (40%) of spectrum from productive use.

Rural Efficiency Standards

- Lower efficiency standards suffice in rural areas
- But rural areas can become non-rural within lifespan of installation
  - Risks locking in inefficient usage
- Proposed compromise:
  - Maintain current minimum payload capacities for all systems
  - Forbear from applying minimum traffic loading payload percentages to rural links
- Result:
  - Equipment capable of meeting minimum bit rate in future
  - Rural areas relieved of unrealistic loading requirements.

Smaller Antennas

- Advantages: lighter, cheaper, suitable for more sites
- Disadvantages:
  - Broader pattern risks more interference
  - Can coordinate fewer links in congested areas
- Compromise:
  - Leave Category A standards unchanged
  - Relax Category B standards
  - Require upgrades from Category B to A where interference occurs or is predicted for a new path
    - and set time limit for upgrades.

XO Request for Auction or Spectrum Fees

- XO Communications, LMDS licensee, asks for auction of point-to-point bands or spectrum fees
- Admits goal is to raise the cost of point-to-point service, drive traffic to LMDS
- FCC should deny the request:
  - LMDS applicants made bids with full knowledge of possible competition from point-to-point
  - LMDS not built out after 12-14 years
  - Point-to-point users should not have to pay for LMDS's miscalculated investment.

Conclusion

1. Adaptive modulation:
   - Needed for reliability; no adverse consequences
2. CARS/BAS sharing:
   - Likely to cause coordination problems; wasteful of spectrum
   - Need more information for decision
3. Rural efficiency standards:
   - Maintain current minimum payload standards
   - Relax loading requirements
4. Smaller antennas:
   - Allow where congestion not a problem
   - Require prompt upgrades to current Category A where needed
5. XO request for auction or fees should be denied.

Thank you!

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