FLETCHER, HEALD & HILDRETH, PLC
Telecommunications Law & Regulation

FCC DEVELOPMENTS

MAY 2009 – MAY 2010

CORF MEETING
MAY 18, 2010

Paul J. Feldman, Esq.
Fletcher, Heald & Hildreth, P.L.C.

Phone: 703-812-0403
feldman@fhhlaw.com
www.fhhlaw.com
www.commlawblog.com

Serving the Telecommunications Industry since 1936

I. BROADBAND OVER POWERLINE

In October of 2006, an FCC Order modified certain Broadband-Over-Powerline ("BPL") technical rules. Among other things:

-FCC prohibited BPL operation on *73.0-74.6 MHz* within 65 *km* of the VLA

-BPL operators must consult with RAS prior to operation within 4 km of the VLBA sites, on frequencies from *1.7-80 MHz*.

On appeal Court required FCC to review and re-justify certain technical criteria or change elements of the rules.

-Challenged rules remain in effect in the meantime.

-On remand, the FCC must either re-justify or change the 40 dB/decade extrapolation factor -- Question *whether BPL acts like a point source*.

I. BROADBAND OVER POWERLINE (CONT'D)

FCC's July 2009 *Further Notice* sought comments on:

-use of "slant range" measurement vs. horizontal.

-alternative factor of 30 dB/decade, or others (ARRL wants 20 dB).

-Suggestions as to other correction factors and procedures.

FCC has not acted yet.

II. 76-77 GHZ

A. Toyota Petition -- Vehicular Radar

August 2009 -- Toyota seeks revision to Section 15.253 of the FCC's rules to *increase emission limits/transmission power* at 76-77 GHz. Rationale:

- FCC's limits are significantly more conservative than those of other countries and the ITU standard. Suggest *55 dBm peak EIRP* -- 7 dB increase in the *forward direction*, 10 dB increase to the *side and rear*.

Also seek relaxation of the present requirement to dim radars when vehicles are not in motion.

- Previous FCC Order suggests that interference risk to RAS is minimal

NRAO files Comments opposing Petition:

-*2004 CEPT/ECC Report* shows that "regulatory measures" needed for co-existence with RAS

No FCC action yet.

II. 76-77 GHZ (CONT'D)

B. Tank Level Probing Radars

January 2010 --- FCC proposes to modify rules to allow tank level probing radar (TLPR) devices to operate in the 77-81 GHz frequency band on unlicensed basis.

-TLPR devices used in *closed storage tanks* made of *metal and concrete* at *fixed locations* at petroleum, chemical and industrial sites.

Emission levels inside the tanks would be greater than current Part 15,

Emission levels outside of the tank required to comply with Part 15

(500 μV/m as measured at 3 meters)

-Proposed transmitter limit of +43 dBm peak EIRP and +23 dBm average EIRP

-Under Part 15 rules, TLPRs would have to remedy interference to RAS allocations.

II. 76-77 GHZ (CONT'D)

B. Tank Level Probing Radars (cont'd)

-FCC *believes not harmful to RAS*:

-Emission limits 39 dB below that authorized for 77 GHz vehicular radar

-attenuation from tanks and antennas pointed down

-FCC *also granted temporary waivers* to manufacturers to market the devices, subject to proposed rules,

-requirement to *keep a list* of the tank locations.

-CORF chose not to file comments

II. 76-77 GHZ (CONT'D)

C. Fixed Airport Vehicle Tracking Radars

Jan. 2010 -- FCC seeks comments on Era Systems Petition to modify rules to allow 76-77 GHz fixed radars at airports to track runway vehicles

-attempt to bootstrap onto Toyota Petition on Vehicular Radars

- Era asserts similar expansions of eligibility to fixed use already *approved In Europe* by ETSI, CEPT, the UK and Denmark.

-Era seeks power and technical parameters to comply with the *present/future Section 15.253* (rule for 77 GHz veh. radar)

- limited to "FAA recognized" airports, with professional installation

-Pfd reaching public roads could not exceed *-57 dBW/m2* (subject to revision in RM)

No FCC action yet (but no opposition)

III. 26 GHZ LEVEL PROBING RADARS (CONT'D)

Ohmart/VEGA Waiver Request to allow 24.6-27 GHz fixed level probing radars (under rules for vehicular radars)

-Some but not all of these LPRs would be inside of tanks.

-Conditions specifically designed to protect EESS:

-no emissions below 24 GHz

-averaging time of 0.1 millisecond

-maintain a reasonable separation distance between installations and identified EESS facilities

Propose compliance with Part 15 average power limits, but exceed peak power

CORF review -- no objection

IV. VEHICLE MOUNTED EARTH STATIONS

August 2009 -- FCC adopts rules for domestic U.S. licensing of VMEs.

-Part 25 FSS

-primary allocation: 11.7-12.2 GHz (s-E) and 14.0-14.5 GHz (E-s)

also 10.95-11.2 GHz and 11.45-11.7 GHz (s-E)

(accept interference from FSS)

-VMEs -- on motorized vehicles primarily on land, trans/receive w *GSO FSS*

-largely *derived* from previous rules on *earth stations on ships* ("ESVs")

IV. VEHICLE MOUNTED EARTH STATIONS (CONT'D)

A. Coordination with RAS

RAS at *14.47-14.5 GHz* is secondary, but FCC requires VME licensees proposing to operate in that band within certain distances of RAS facilities to coordinate with NSF prior to beginning operations.

Coordination Zones: modified version of US FN 203 -- 50 kms @VLBA sites, 160 kms @ others:

IV. VEHICLE MOUNTED EARTH STATIONS (CONT'D)

A. Coordination with RAS (cont'd)

Observatory	Radius (km) of Coordination Zone
Arecibo Observatory, Arecibo PR	Island of Puerto Rico
Green Bank WV	160
VLA, Socorro NM	160
Pisgah Astronomical Research Institute, Rosman NC	160
U of Michigan Radio Astronomy Observatory, Stinchfield Woods MI	160
VLBA stations	50 (except 160 for Owens Valley)

IV. VEHICLE MOUNTED EARTH STATIONS (CONT'D)

A. Coordination with RAS (cont'd)

-VMEs *required to utilize GPS-related* or other similar technology to ensure *automatic compliance* with geographic limits.

For future major RAS facilities:

-*NTIA notifies FCC* prior to operation

-*FCC issues a notice* requiring each VME operator in the 14.47-14.5 GHz band to cease operations w/in relevant geo zone until completion of NSF coordination agreement.

IV. VEHICLE MOUNTED EARTH STATIONS (CONT'D)

B. Interference Remedies and Data Collection

-VME operators must collect, retain and make available *logs of operational data*.

-must retain data for one year, and make available to a coordinator, NTIA, or the FCC w/in 24 hours.

-Operators must provide a 24/7 point of contact with authority and ability to cease all VME operations, as necessary.

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM

March 2010 -- FCC released 350 page National Broadband Plan.

-Plan is a broad and multi-faceted proposal with the goal of facilitating the provision of universal, affordable, high-speed broadband service throughout the U.S.

-*Execution* of the Plan will require the FCC to go through *60 separate rulemaking proceedings*, and will also require action by other federal agencies (including the NTIA and the NSF), as well as by Congress.

- Importance to CORF: major part of the Plan are proposals designed to radically enhance the provision of *mobile wireless* broadband services, by allocating additional 500 megahertz to wireless broadband and increasing the "flexible" use of *bands allocated to other services*.

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

A. Relevant Elements of the Plan

1. FCC make 500 megahertz newly available for broadband use w/in ten years

-300 megahertz between *225 MHz and 3.7 GHz* should be made newly available for mobile BBand use within five years.

-FCC/NTIA "roadmap" to identify spectrum, *by 10/1/2010*

-Obvious spectrum targets:

-TV

- terrestrial deployment of 2.4 GHz MSS

-"relocation" of Federal spectrum users -- 1.7 GHz DOD and?

Will FCC recognize that natural allocations cannot be "relocated"?

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

A. Relevant Elements of the Plan (cont'd)

2. FCC and NTIA to Create Methods for *Ongoing* Measurement of Spectrum Utilization.

-"scientific, statistically" valid methods

-Between 225 MHz and 3.7 GHz

-U.K used fleet of trucks to take 4 million measurements

(July 2009 CORF Comments on Spectrum Inventory: *Passive use is "use" to be inventoried*)

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

A. Relevant Elements of the Plan (cont'd)

3. Incent development and deployment of Cognitive Radio

-modeled on *TV "white spaces"* devices

-*additional research* to be funded by *NSF*

4. Ask Congress for Authority to Impose Spectrum Fees

-market tool to *push spectrum use* towards "higher value"

-*start with low fees* and then raise over time

-recognize that *govt./public safety* use cannot be disrupted, but no mention of science

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

B. FCC NOI on "Innovative" Uses of the Spectrum

August 2009 -- FCC seeks Comments on:

1. ways of making spectrum available for *"flexible" uses*:

   -"*underlays*" (e.g. spread spectrum) and

   -"*overlays*" (shared secondary allocation)

2. *balancing rights* of incumbents and new users, and *measuring* interference

3. *defining "efficient use"* of the spectrum (technical and economic)

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

B. FCC NOI on "Innovative" Uses of the Spectrum (cont'd)

CORF Filed Reply Comments:

-Passive use is *innovative*

-CORF supports *quantifiable measurement* of interference

-Passive use is "*use*" of the spectrum

-Passive use is *technologically efficient and valuable* use

-*Sharing* spectrum is *difficult* with passive use

V. THE NATIONAL BROADBAND PLAN AND THE SEARCH FOR SPECTRUM (CONT'D)

C. Action Plan

-meet w FCC staff

-meet w FCC commissioners

-participate in relevant FCC proceedings

FLETCHER, HEALD & HILDRETH, PLC

Telecommunications Law & Regulation

QUESTIONS?

THANKS!

Paul Feldman
feldman@fhhlaw.com
703-812-0403