

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of:)	
)	
Amendment of Parts 1, 2, 15, 25, 27, 74, 78, 80, 87, 90, 97, and 101 of the Commission’s Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2007) (WRC-07), Other Allocation Issues, and Related Rule Updates)	ET Docket No. 12-338 (Proceeding Terminated)
)	
Amendment of Parts 2, 15, 80, 90, 97, and 101 of the Commission’s Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2012)(WRC-12), Other Allocation Issues, and Related Rule Updates)	ET Docket No. 15-99
)	
Petition for Rulemaking of Xanadoo Company and Spectrum Five LLC to Establish Rules Permitting Blanket Licensing of Two-Way Earth Stations With End-User Uplinks in the 24.75-25.05 GHz Band)	IB Docket No. 06-123
)	
Petition for Rulemaking of James E. Whedbee to Amend Parts 2 and 97 of the Commission’s Rules to Create a Low Frequency Allocation for the Amateur Radio Service)	PRM-09ET (11/25/2009)
)	
<u>Petition for Rulemaking of ARRL to Amend Parts 2 and 97 of the Commission’s Rules to Create a New Medium-Frequency Allocation for the Amateur Radio Service</u>)	

To the Commission:

COMMENTS OF AND OMNIBUS INFORMAL REQUEST BY JAMES E. WHEDBEE

COMES NOW Petitioner, JAMES EDWIN WHEDBEE, undersigned, who pursuant to Sections 1.415 and 1.419 of the Commission's rules and regulations (47 C.F.R. §§ 1.415, 1.419) respectfully provides his comments to the WRC-12 Notice of Proposed Rulemaking in FCC-15-50 (“NPRM” hereinafter) as follows. To the extent a consensus develops as a result of these proceedings, Petitioner informally requests the Commission act favorably upon that consensus pursuant to Section 1.41 of the rules and regulations (47 C.F.R. § 1.41).

[1] CONSOLIDATED RESPONSE TO PARAGRAPHS 167 TO 177 OF THE NPRM. In general, the past dozen years' anecdotal experience with amateur radio operators employing Experimental Radio Stations suggests that little or no separation is actually required; however, given the relatively small number of those experimental stations as compared with the whole of the entire amateur radio service in the United States of America, the undersigned believes the question of actual physical separation distances between PLC and amateur radio stations requires more widespread experience that a phased approach to entry into these bands will facilitate. In part, the Petitioner recommends a phased entry of amateur radio into these new radio bands by operator license class and/or prior experimental station experience (as later described in these comments). Petitioner suggests that many of the Commission's questions in paragraphs 167-177 of the NPRM are more appropriately answered by the electrical utility companies themselves rather than an amateur radio commenter; therefore, what follows represents Petitioner's responses solely on behalf of himself, given his standing as both an amateur radio licensee and a former experimental radio station licensee employing frequencies in the subject radio bands.

Pending the receipt of those responses from the electrical utility companies, Petitioner accepts and recommends adoption of, for now, the 1985 NTIA study recommending a one-kilometer (1 km) physical separation of a 1 Watt EIRP amateur radio station on 135.7 to 137.8 kHz (2200 Meter Band) and 5 Watt EIRP amateur radio station on 472 to 479 kHz (630 Meter Band) from electrical transmission lines (not distribution lines) in which PLC emissions are employed with the recommendation that, on a case-by-case basis, if by a preponderance of the evidence an amateur radio operator can prove that a shorter separation distance can protect PLC emissions on a nearer electrical transmission line, a waiver may be granted through ULS using procedures already established by the

Commission therefor. For development of a standard physical distance separation between PLC and amateur radio stations, the Petitioner recommends that the Commission issue a Further Notice of Proposed Rulemaking holding these proceedings open on the sole question of such separation standards as amateur radio enters the subject radio bands, so that comments and experiences can be filed and rules can be changed/adopted reflecting the revised standard separation distance experience validates as best. This Further Notice of Proposed Rulemaking should be open during the phased entry (proposed below) of the amateur radio service into the 2200 Meter and 630 Meter Bands plus sixty (60) calendar days, with another thirty (30) days for reply comments at the end of that proceeding.

Furthermore, Petitioner accepts and recommends the adoption of fixed station operation only for amateur radio stations employing signals below 1.8 MHz (1,800 kHz). Therefore, on the 2200 Meter and 630 Meter Bands, the Petitioner recommends portable and mobile operations be prohibited, except for emergency transmissions. For purposes of putting the electrical utility companies on notice that an amateur radio station has constructed and will begin operating on the 2200 Meter Band and/or 630 Meter Band, Petitioner suggests that affected amateur radio licensees submit a “Completion of Construction Notification” in ULS as other services' licensees presently do for their stations. In the Completion of Construction Notification, the amateur radio licensee must attach to the notification, in ULS, a copy of the written correspondence giving all affected nearby electrical utility companies actual notice of his/her intent to operate within the subject bands. This correspondence should provide actual notice of intent to operate within the subject radio bands and will usually be addressed to the electrical utility from which the amateur radio station gets commercial electricity. Amateur radio licensees not using the 2200 Meter and 630 Meter Bands need not file the “Completion of Construction Notification” in ULS. This process is already well established for other radio services and effectively informs the Commission and interested parties of a constructed station; therefore, the same process should be prove

as effective for the amateur radio service. For the purposes of informing an amateur radio licensee's decision whether or not to operate within the 2200 Meter and 630 Meter Bands, electrical utility companies should be required to furnish a requesting amateur radio licensee with maps and other detailed information regarding its PLC-encumbered transmission lines. Whether this be done through a voluntary coordination process or should be done on a case-by-case basis, Petitioner defers to the Commission and/or consensus viewpoints.

[2] CONSOLIDATED RESPONSE TO QUESTIONS ABOUT TRANSMISSION LINE AND PLC SYSTEM MODIFICATION; PARAGRAPHS 172 AND 173 OF THE NPRM. There is no history between the amateur radio service and electrical utilities which suggests giving one or the other the ability to stand in the way of modifying their respective facilities as they see fit would be in the public interest. Petitioner, therefore, recommends that affected amateur radio licensees and electrical utilities employing PLC systems on nearby transmission lines provide at least thirty (30) calendar days' notice of proposed modifications to their respective facilities by written correspondence capable of physical reproduction (i.e., written letters via postal mail, emails reproduced by printing, etc.) with such correspondence being maintained as part of the amateur radio station's official records (i.e., kept with the station license, the Completion of Construction Notice, etc.). Electrical utility companies which fail to provide notice of proposed modification accept the presence of the amateur radio station at a distance nearer than 1 kilometer unless and until such notice is given and the necessary thirty (30) day notice period has elapsed. Amateur radio licensees may not operate with modified facilities unless and until they have furnished thirty (30) calendar days' notice of intent to operate with modified facilities. For example, and in the only real case of a modification of facilities applicable to the amateur radio service, a General Class amateur radio operator may be upgraded to Amateur Extra Class, but until he/she gives 30 days' notice of that modification to affected electrical utilities, he/she may only operate

on the 2200 Meter and 630 Meter Bands with General Class operator privileges. As before with initial operation within the subject radio bands, the amateur radio licensee would ultimately need to provide the Commission with Completion of Construction Notice in ULS attaching the written correspondence above with that ULS filing. Once notice is given, unless a party objects, the proposed modification is accepted. If an objection occurs, the parties shall negotiate, in good faith, to resolve all real differences prior to requesting the Commission to decide either by waiver of the rules or by sustaining the objection. Pending resolution of any objection following notice, both parties shall comply with all aspects of the Commission's rules and regulations regarding the subject radio bands. ULS also has a process for informal objections, so as with the Completion of Construction Notices which are "accepted" unless an objection is filed, the objections themselves can be fully handled within existing Commission regulatory infrastructure.

[3] RESPONSE TO PARAGRAPH 174 OF THE NPRM REGARDING PLC SYSTEM STANDARDS. While I agree with ARRL's position, as represented in Paragraph 174 of the NPRM, I am unwilling, within the context of these proceedings to impose further upon the electrical utilities whose PLC systems already operate under Part 15 of the Commission's rules and regulations. Accordingly, while I would completely support any Commission decision to adopt IEEE standards as regards PLC systems, it isn't this Petitioner's greatest priority within these proceedings.

[4] RESPONSE REGARDING SLANT VS. HORIZONTAL DISTANCE IN PARAGRAPH 177 OF THE NPRM. The Commission's observation that slant distance is more difficult to measure is well-taken. I support horizontal/lateral distance measurements.

[5] RESPONSE TO PROPER ANTENNA HEIGHT LIMITATIONS IN PARAGRAPH 178

OF THE NPRM. I concur with the tentative conclusion the Commission apparently reaches in suggesting that the ARRL's 200 foot limitation on antenna height aids in spectrum sharing; accordingly, I agree that a 200' antenna height should be imposed in Part 97 on the 2200 Meter and 630 Meter Bands.

[6] RESPONSE TO PARAGRAPH 179 OF THE NPRM REGARDING TRANSMITTER POWER LIMITATIONS. Given the prior proceedings regarding the 2200 Meter Band, it seems the record supports a 100 Watt PEP maximum transmitter output power. Because complicating matters may pose an obstacle to peaceful coexistence between the amateur radio service and incumbent PLC systems, I recommend the 100 Watt PEP maximum transmitter output power be adopted for both the 2200 Meter Band and the 630 Meter Band and, in either band, regardless of the antenna height and placement; however, in the 2200 Meter Band the maximum EIRP shall not exceed 1 Watt and in the 630 Meter Band the maximum EIRP be 5 Watts, except in those portions of Alaska within 800 kilometers of Russia, in which latter case, the maximum EIRP be 1 Watt.

[7] RESPONSES TO PARAGRAPH 180 OF THE NPRM.

(a) John H. Davis' Recommendations – I support Mr. Davis' recommendation for the 630 Meter and 2200 Meter Bands that automatically controlled stations be prohibited; however, his recommendation regarding software-driven modes should be rejected as an unnecessary burden upon future innovation.

(b) ARRL Bandwidth Recommendation – I disagree with the ARRL. My justification for imposing bandwidth limitations are stated below.

(i) 2200 Meter Band bandwidth limitation - Region One of the IARU has adopted a 200 Hz bandwidth limitation in the 2200 Meter Band. Region Two of the IARU, which includes the United States of America, has adopted a 200 Hz bandwidth limitation in the 2200 Meter Band. Region Three of the IARU has not adopted bandwidth-specific restrictions, however, in its bandplan for the 2200 Meter Band, it has adopted “CW/NB” with CW as 150HA1A emissions and “NB” as “narrowband,” which that region defines as an emission mode less than 2 kHz wide. Since it seems the consensus within all IARU Regions restricts emissions to either CW or 200 Hz, I recommend the adoption of a 200 Hz bandwidth limitation in the 2200 Meter Band.

(ii) 2200 Meter Band emission modes – Given the foregoing, I strongly recommend the Commission allow the following amateur radio emission modes and/or their equivalents: N0N tests, 150HA1A, and the following with a 20 dB emission envelope: J2B, J2D, F1B, F1D, G1B, and G1D. Other modes may be considered, provided however, those must have a maximum of 200 Hz bandwidth.

(iii) 630 Meter Band bandwidth limitation – Region One of the IARU has adopted a 200 Hz bandwidth limitation in 472 to 475 kHz subband with no such limit on 475 to 479 kHz, stipulating only “CW and Digital Modes.” Region Two of the IARU has adopted a 2.7 kHz bandwidth limitation in the entire band. IARU Region Three has adopted “CW/NB” with its 2 kHz bandwidth limitation. Region Two of the IARU is clearly adopting the same bandwidth as a single-sidebanded analog voice emission; accordingly, it is self-evident that it contemplates voice emissions. Region Three of the IARU has a 2000 Hz bandwidth, which is more than sufficient for Codec2 protocol digital voice emissions. Given that this digital voice emission meets IARU Region One's reference to “digital modes,” it is clear a consensus is that Codec2 protocol digital voice emissions and their equivalents

should be permitted in the 475 to 479 kHz subband. It is likewise clear that meeting the constraint of a 200 Hz bandwidth limitation in the 472 to 475 kHz subband renders the use of digital voice emissions impossible. Therefore, it is this Petitioner's recommendation that the Commission adopt a hybrid bandwidth limitation in the 630 Meter Band which is 200 Hz for the 472 to 475 kHz subband and 1300 Hz for the 475 to 479 kHz subband, allowing for digital voice emissions.

(iv) 630 Meter Band emission modes – Given the foregoing, I strongly recommend the Commission allow the following amateur radio emission modes and/or their equivalents: (*) In the 472 to 475 kHz subband: N0N test, 150HA1A, and with a 20 dB emission envelope: J2B, J2D, F1B, F1D, G1B, and G1D; (**) In the 475 to 479 kHz subband: N0N test, 150HA1A, 1K3F1E, 1K3G1E, and with a 20 dB emission envelope: J2B, J2D, F1B, F1D, G1B, and G1D.

(v) Prohibited emission modes in the subject radio bands – In both the 2200 Meter and 630 Meter Bands, this Petitioner suggests the Commission disallow analog voice emissions and image emissions which cannot be contained within a the allowed digital voice emission bandwidths.

(c) Operator Class Privileges – I agree with ARRL and the commenters in ET Docket 12-338 who suggested General, Advanced, and Amateur Extra Class operators have privileges within the 2200 Meter Band and 630 Meter Band; however, for reasons stated above, I am suggesting a phased-in approach to allowing these amateur radio licensees into these subject radio bands. This suggestion is premised on the two-fold position that more data is needed to nail down what the appropriate distance separations should exist, if any, and the most experienced radio amateurs should be first aboard these bands in order to ensure a high degree of fidelity in that data. Moreover, the phased approach to allowing amateur radio licensees into the subject bands gives VEs and VECs the opportunity to develop

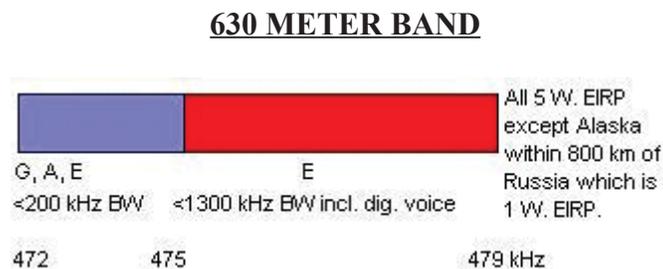
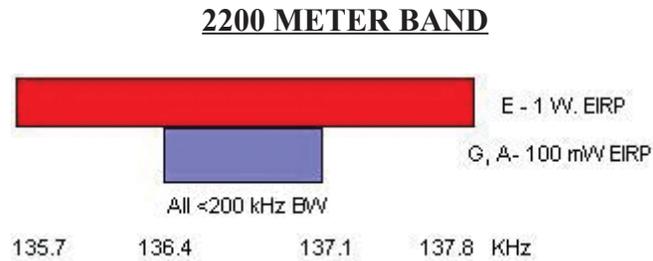
questions for the amateur radio license examinations regarding the subject radio bands. Therefore, this Petitioner recommends that amateur radio licensees be given the following privileges in the subject radio bands...

(i) 2200 Meter Band – Immediate access to the 2200 Meter Band should be given to amateur radio licensees who, during the period of 1994 to 2016 held an Experimental Radio Station License in the 2200 Meter Band. On January 1, 2017, Amateur Extra class licensees shall be given access to the entire 2200 Meter Band with 1 Watt EIRP and all allowed emission modes. On January 1, 2019, Advanced class licensees shall be given access to the 2200 Meter Band within the 136.4 to 137.1 kHz segment of the band with all allowed emission modes and a maximum EIRP of 100 milliwatts. On January 1, 2021, General class licensees shall be given access to the 2200 Meter Band within the 136.4 to 137.1 kHz segment of the band with all allowed emission modes and a maximum EIRP of 100 milliwatts.

(ii) 630 Meter Band – Except in those parts of the State of Alaska within 800 kilometers of Russia, wherein a 1 Watt EIRP limit shall be observed, immediate access to the entire 630 Meter Band should be given to amateur radio licensees holding an Amateur Extra class operator license or, during the period of 1994 to 2016 held an Experimental Radio Station License in the 630 Meter Band with all allowed emission modes and with a 5 Watts EIRP maximum power limit. On January 1, 2017, Advanced and General class operator licensees shall be given access to the 630 Meter Band within the 472 to 475 kHz subband with a maximum power of 5 Watts EIRP and all emission modes allowed within that subband.

[8] GRAPHICAL SUMMATION OF COMMENTS ABOVE. The foregoing considered,

below is a graphical representation of the amateur radio privileges within the subject radio bands upon full implementation.



It is this Petitioner's belief that the operator privileges reflected above allow amateur radio operation within each band based on the experience and qualifications of each license class of operator. Given the inherent protections this incentive-based approach to operator privileges as well as the phased in admission of the amateur radio service by operator class, PLC systems are afforded maximum protection while physical separation concerns are still being addressed and tweaked. Finally, the phased implementation permits questions and question pools in the amateur radio service to be developed for these specific bands.

[9] RESERVATION OF RIGHTS TO SUPPLEMENT/AUGMENT THESE COMMENTS.

The undersigned Petitioner reserves the right to supplement/augment these comments throughout the

comment and reply comment window. Specifically, this Petitioner shall submit proposed rules for Part 97 of the Commission's rules and regulations, consistent with the foregoing, in his Reply Comments once it is seen where the consensus viewpoints lead.

WHEREFORE, this Petitioner prays Commission action consistent with the foregoing and any consensus surrounding it.

Respectfully submitted:

A handwritten signature in black ink, appearing to read 'J. Whedbree', with a large, stylized flourish at the end.

June 27, 2015

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