

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Parts 1, 2, 15, 74,	)	
78, 87, 90, and 97 of the Commission's	)	
Rules Regarding Implementation of	)	ET Docket No. 12-338
the Final Acts of the World	)	PRM09ET
Radiocommunication Conference (Geneva,	)	
2007) (WRC-07), Other Allocation Issues,	)	
And Related Rules Updates	)	

**COMMENTS**

To the Commission:

COMES NOW the undersigned JAMES EDWIN WHEDBEE commenting in favor of creating a new Amateur Service Band at 135.7 kiloHertz to 137.8 kiloHertz, and responding to particular points raised by the Commission in its Notice of Proposed Rulemaking ("NPRM") therefor.

**Part One - Standing**

1. The undersigned is an amateur radio operator and station licensee. The undersigned filed a Petition for Rulemaking received by the Commission on November 25, 2009 requesting the Commission allocate 135.7 kHz-137.8 kHz to the Amateur Radio Service (Exhibit: Petition for Rulemaking). On July 22, 2010, Ira Keltz, Deputy Chief of the Office of Engineering and Technology agreed to assign the above-referenced Petition for Rulemaking a rulemaking number in connection with these proceedings in an e-mail (E-Mail Exhibit: E-

mail of Ira Keltz to James E. Whedbee). For these reasons, the undersigned has standing in these proceedings.

### **Part Two - Petition for Rulemaking**

2. The Petition for Rulemaking suggests the Commission allocate 135.7-137.8 kHz (“subject LF frequencies) to the Amateur Radio Service with a maximum E.I.R.P. of 1 Watt, employing a wide variety of emissions with bandwidths lower than 100 Hz. The Petition further suggests the LF allocation be available to radio amateurs in operator classes of General or higher; however, that Petition isn’t specific as to whom shall have which privileges. The Petition for Rulemaking was general and broad so as to allow full development of a record for establishment of the best ‘fit’ of privileges, power levels, and operator classes under circumstances in which the band is shared with PLC services under Part 15.

### **Part Three - Comments Specifically Addressing Concerns of the Commission**

3. Paragraph 15 of the NPRM mentions the Commission allowing experimental station licensing of radio amateurs on the subject LF frequencies. The undersigned commenter is the licensee of such a station, WE2XTU. WE2XTU

was not specifically intended for development of such records by the Commission, rather instead it was intended for the development of antennas which use the velocity factor to decrease antenna size while increasing efficiency. Just the same, WE2XTU is unique in that it authorizes a greater E.I.R.P. than the proposed allocation in this NPRM; accordingly, while this data is strictly qualitative, it should be noted that while WE2XTU is transmitting on LF frequencies, including the subject LF frequencies of this NPRM, no interference has occurred to Kansas City Power & Light - our local power utility. Worth noting, however, is that WE2XTU suffers interference from the power lines in the area during periods of high wind loading on the power lines.

4. Paragraph 16 of the NPRM asks if 135.7-137.8 kHz should be allocated to the amateur radio service on a secondary basis and restricted in accordance with RR 5.67A? This commenter responds in the affirmative. Canadian radio amateurs already operate on our northern border without interference to PLC operations; accordingly, empirical evidence exists that the allocation can satisfactorily be accomplished.
  
5. Paragraph 17 of the NPRM asks for specific technical rules which would assure peaceful co-existence between PLC operators and radio amateurs. In addition to the exhibited operating privileges chart by operator class and frequency (Exhibit: Table of Operator Privileges by Frequency), the undersigned concurs

with UTC's proposed quasi-coordination process, if UTC is still interested. If not, the undersigned suggests that - similar to the registration of links in the 3650-3700 MHz service - radio amateurs be required to register LF stations in ULS prior to operation so that PLC operators are informed as to which radio amateurs are operating on the subject LF frequencies. The exhibited Table of Operator Privileges by Frequency assigns upper and lower guard bands, lower power and bandwidths for lower-class operators, and completely prohibits entry-level radio operators with only a Technician Class license from operating on the subject LF frequencies. A need exists, however, for training General Class and, to a lesser extent, grandfathered Advanced Class radio operators in LF operations at lower power levels, thus, a limited range of frequencies in the middle of the band is proposed for them. What other nations do is discussed in the preceding paragraph, based on the undersigned's limited knowledge of those other nations' handling of LF allocations. From a spectrum-sharing standpoint, the amateur radio service is entitled to this allocation as well as the WRC-12 allocation at 472-479 kHz under international law; however, the amateur radio service has an unparalleled record of being able to share frequencies with even the most adverse radio services, including Part 15 users with no legal entitlement to operate on frequencies internationally allocated to those uses. Accordingly, the record of the amateur radio service stands on its own.

6. Paragraph 18 of the NPRM asks, inter alia, what benefits the proposed LF allocation have for the amateur radio community? The amateur radio community originally began its life in the LF spectrum and was booted out to higher frequencies. Our return to that spectrum, to date, has been limited to experimental licenses. The allocation poses unique opportunities to experiment and develop the radio art in ground wave propagation using digital techniques which weren't originally available when radio amateurs occupied this spectrum historically. Undoubtedly, the LF spectrum shall admit to longer range communications using digital techniques which permit below-the-noise-level communication. This application has unique emergency management and national security implications which radio amateurs are renowned for perfecting. Radio amateurs, including the undersigned, are also developers of the state of the art in antennas. Antennas at these frequency ranges are long; however, it is possible through the use of velocity factor manipulation to create shorter antennas with higher efficiencies than equivalent antennas at higher frequencies because those can be buried and employ ground wave propagation. This paragraph of the NPRM also concerns itself with the impact to PLC operations. To be honest, the undersigned has every reason to believe there will be near-zero impact to utility operators. The Commission's hesitation to adopt the allocation in ET Docket 02-98 was predicated upon a hypothetical, but unproven, concern about amateur radio interference. The record of the radio amateur service belies such hypothetical concerns, and contrary to any suspicions on the parts of power utilities, radio amateurs are

likely the first source of resolution of problems with PLC systems should a difficulty arise - regardless of source. The cost to utilities will be near zero because of the self-regulatory nature of the amateur radio service.

7. Paragraph 19 of the NPRM asks about quasi-coordination of radio amateur operations with PLC system operations. Yes, the undersigned believes this holds significant merit in that it establishes a relationship between the utility operators of PLC systems and radio amateurs, and their mutual interests shall benefit from their interacting. My Table of Operator Privileges by Frequency responds to the Commission's query about facilitating amateur radio use of the subject LF frequencies. In particular amateur radio operator class privileges I propose are as follows...

#### EXTRA CLASS

135.7-137.8 kHz: 1 Watt EIRP; 100 Hz maximum bandwidth.

#### ADVANCED CLASS

136.5-137.0 kHz: 100 milliWatt EIRP; 100 Hz maximum bandwidth.

#### GENERAL CLASS

136.5-137.0 kHz: 100 milliWatt EIRP; 50 Hz maximum bandwidth.

#### TECHNICIAN CLASS

None.

#### NOVICE CLASS

None.

GUARD BANDS: 135.7-135.75 and 137.75-137.8 kHz are guard bands intended to protect against spurious emissions from encroaching onto non-amateur frequencies.

#### Part Four - General Comments

8. In general, the NPRM is long overdue in suggesting LF allocation to the radio amateur service.
  
9. The experimental licenses issued in the subject LF frequencies have not been terminated due to interference; accordingly, the Commission has empirical proof that the amateur radio service can co-exist with PLC systems.

WHEREFORE, the foregoing considered, the undersigned strongly and affirmatively recommends the Commission allocate 135.7-137.8 kHz to the amateur radio service on a secondary basis with the accompanying restrictions in RR 5.67A, together with the privileges and limitations identified hereinabove and/or exhibited herewith.

Respectfully Submitted:



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