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

In the Matter of	)	
	)	
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 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	)	
	)	
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	)	
	)	

To the Commission:

Reply Comments of Nickolaus E. Leggett, Amateur Radio Operator (N3NL), GROL Licensee, Inventor, and Analyst in Response to Comments of James Edwin Whedbee

I am a certified electronics technician and an Extra Class amateur radio operator (call sign N3NL). I also hold an FCC General Radiotelephone Operator License with a Ship Radar

Endorsement. I am an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935). I have a Master of Arts degree in Political Science from the Johns Hopkins University.

I am one of the original petitioners for the establishment of the Low Power FM (LPFM) radio broadcasting service (RM-9208 July 7, 1997 subsequently included in MM Docket 99-25). I am also one of the petitioners in the docket to establish a low power radio service on the AM broadcast band (RM-11287). I have filed a total of over 200 formal comments with the FCC over the years since the 1970s. I have filed comments with other Federal agencies as well including the USPTO, FAA, FERC, EPA, and the TSA.

Response to James Whedbee

I agree with Mr. Whedbee's comments that we all need each other and that we should be working together. This observation can be applied to American politics and policy that is far too fragmented at this time in history. Certainly if we are to prevail as a Nation in future intense and long-duration emergency situations; we need to pull together.

In addition, the Commission stated in Paragraph 44 that they decline to address Mr. Whedbee's request for amateur radio operations in frequencies below 9 kHz. The Commission's reasons for this are procedural. However, it should be noted that the frequency range below 9 kHz is another very valuable spectrum for experimental amateur radio work.

This frequency range below 9 kHz is very interesting because of its propagation aspects including the use of the Earth's atmosphere as a resonant chamber for extremely long wave radio waves. In addition, the transmitter technology can be much different than higher frequency radio equipment. One can generate the basic signal using an alternator operating at a high RPM just as it was done historically. Experimenters could use motors from various power tools to drive the

transmitter's alternator. The output from the alternator can be keyed to generate the signal. Other innovative technologies such as large arrays of piezoelectric crystals can be excited to generate a signal below 9 kHz. A third option would be to use an audio oscillator feeding an audio amplifier. The output from the audio amplifier would be an electromagnetic wave at a frequency below 9 kHz. The notion of using audio equipment in order to create a transmission is quite interesting and offers the potential for new inventions.

A major challenge of the frequencies below 9 kHz is that the antennas are very short stubs in relation to the transmitted wavelength. As a result of this, the antennas are truly awful. However, as the Part 15 experimenters on 160 – 190 kHz have shown, you can actually communicate using awful antennas.

The below-9 kHz frequency range serves to stimulate out-of-the-box thinking which will increase the number of communications inventions developed by amateur radio operators.

It would be very useful if Mr. Whedbee would write a new and independent petition asking for amateur radio operation below 9 kHz. The Commission should be open to his suggestions about this. I would also be willing to write a petition on this subject as well. Amateur radio and invention benefits greatly if a very wide range of frequency bands are made available to amateur radio experimenters and inventors. These frequency bands should range from extremely low frequency up through portions of the radio spectrum all the way through the millimeter waves to even higher frequency ranges.

Thank you to Mr. Whedbee for his proposals for amateur radio use of frequencies below 9 kHz.

Respectfully Submitted,

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May 10, 2015

In response to Commission rules, I have sent a paper copy of these reply comments to Mr. Whedbee at the address below.

Mr. James Edwin Whedbee
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