

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) ET Docket No. 15-99
Radiocommunications Conference (Geneva, 2012)
WRC- 12), Other Allocation Issues and Related)
Rule Updates)

To the Commission:

Comments from Steven B. Johnston
Operator of Amateur Station WD8DAS
And Experimental Radio Station WH2XHY

I strongly support the proposed rulemaking to establish a band 472 – 479 kHz on a secondary basis for amateur radio stations.

Since ITU World Radio Conference 2012 designated the band 472 – 479 kHz (630-meters) as an authorized allocation for amateur radio stations, there has been much speculation about the potential service that could be provided in this band by amateur stations in the United States. There have also been concerns raised about potential interference from the stations to the Power Line Carrier (PLC) systems that now operate in this band.

In response to WRC12 at least 25 other countries have established amateur radio allocations in this band, and my research indicates that the amateur operations resulting from these rule changes seems to have been effective and trouble-free.

In the United States, many amateur operators have obtained Experimental Radio Service licenses to test both the potential service that this band would offer, and any interference risk. My research indicates that the operation of these experimental stations has been free of any complaint of interference from PLC operators.

A year ago I was granted Experimental Station WH2XHY for experiments in the 472-497 kHz band. My 630-meter band station was built and operated to answer the following questions:

- A. What communications capability can an amateur radio operator expect if he or she were to operate a practical residential station in the 472 – 479 kHz band?
- B. What issues might be troublesome in the operation of such a station?

My hypothesis was that a practical station built using a relatively simple antenna and transmitter could

achieve reliable, regional communications in this band without interference issues. This conjecture was based on three factors:

- (1) My personal observations of system performance during 30 years of experience as a broadcast engineer operating and maintaining standard AM broadcast stations in the band 530 –1710 kHz. I hold FCC General RadioTelephone Operator License PG-19-12457.
- (2) My historical research into the operations of marine radiotelegraph and radiotelephone ship and shore stations. I hold FCC RadioTelegraph Operator License T000000001.
- (3) My personal experience as an amateur radio operator 38 years. I hold an FCC Amateur Extra license with the callsign WD8DAS.

The results of my experiments so far indicate that a typical ham on a suburban lot can operate effectively on 630-meters under the 5-watt EIRP power restrictions described in the proposed rulemaking. With this sort of station an amateur operating radiotelegraph mode (CW) will produce reliable statewide coverage during the day, and regional, several-state-wide coverage at night. Reliable continental coverage would be possible using more elaborate, negative signal-to-noise ratio digital modulation techniques.

My experience so far would also indicate that interference to PLC operators is unlikely, especially if the 5 watt EIRP power restriction is adopted. My research has failed to turn up a single interference complaint received by any of the experimental stations working in the 472 – 479 kHz band.

As no interference has so far been found, we do not have any objective basis for a recommendation of a minimum separation limit between a 630-meter station and a PLC-equipped power line. My subjective judgment is that requiring greater than 1 kilometer separation is excessive. This conclusion is based on my extensive experience with the reverse scenario: radiated noise from power lines to amateur and broadcast receivers. I feel a separation limit of 0.25 kilometer would be more appropriate with the low field intensities produced by the low radiated power levels proposed for the amateur stations on this band.

I strongly support the proposed rulemaking to establish an authorization for the band 472 – 479 kHz on a secondary basis for amateur radio stations. Thank you for this opportunity to comment on this important issue.

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