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Exhibit Detailing Program of Research and Experimentation for WD2XGI  
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This program will conduct research and experimentation at 2200, 1750 and 600 meters. The program is expected to last for 60 months in length and an extension may be sought after this term has expired.

Research will be conducted on local and distant propagation with fixed and mobile receive stations. Changes in local and distant field strength will be researched between a vertical monopole and vertical series resonated loop antenna during all seasons. The effects of local vegetation surrounding the monopole antenna will be researched at various temperatures and seasons. The effects of various ground conductivity under the loop antenna will be researched at various temperatures and seasons. Many different antenna matching techniques will be tested.

Automated transmissions will take place as needed using regular Morse Code, for determining band conditions. Morse Code is to be used on all three bands. SSB is used only on 1750 and 600 meters. Communications will take place with US Experimental, foreign Amateur and foreign Experimental stations.

All station equipment is fabricated and operated by myself. The transmitter uses a crystal oven oscillator for a reference signal. Various power levels will be used depending upon band conditions, but at no time will excessive power be used that could interfere with other stations that share the bands. Effective radiated power for 2200 meters shall be up to 1w. Effective radiated power for 1750 meters shall be up to 1w. Effective radiated power for 600 meters shall be up to 100w.

The specific objectives of this license will be to compare the loop antenna to the monopole antenna in different seasons and local environmental conditions. The suitability of different modes of operation at various power output levels and various distances from the transmitter antenna along with different bands of operation and times of day or night will be researched.

This program will contribute to the advancement of the radio art by continuing research on the antennas in the various conditions stated above. Some determinations have been made over the past 5 years of operation of this station. There are many more determinations to be made over the next 5 years if the license can be modified and granted.

I have operated for 5 years now with no interference issues. I would like to continue my experiments for another 5 years with some changes to my license by adding 600 meters (500-510khz). Operations will stay clear of the NDB stations at 510khz as well as any future navigation stations.

Respectfully submitted,

Michael J. Reid

