7)

A) This is a program of experimentation of radio at the 600 meter wavelength frequency. Learning about propagation, aural communication, and the effects of the solar sunspot cycle, weather, season, time of day, and radiated power. Using modern narrow band signals for both one way (beacon) and two way communications.

The modes used will be on/off keying (CW/Morse Code), slow Morse code (QRSS), low baud rate phase shift keying (PSK), and minimum shift keying (MSK).

This communication will be through a radio beacon (one way communication) or attempting to communicate with other Part-5 license holders who are authorized to use the 600 meter band (two way communication).

The applicant Stephen M. Gocala Jr. (aka KB8VAO) has been a licensed amateur radio operator for more than 20 years. The applicant has experience in construction, maintenance and operating radio communications equipment. The transmit frequency will be determined by a quartz crystal local oscillator and operated at MF through frequency mixing with a variable frequency oscillator. The transmit power will not exceed 100 Watts output.

The antenna will be an electrically short, top loaded monopole (ref: Antenna Exhibit) with variable base loading depending on the specific frequency of operation.

B) Objectives to be accomplished:

• Study and proof of effective communication using stated techniques
• Study of propagation and suitability of these bands for one and two way communication
• Study of effects of solar cycle, weather, season, time of day, radiated power upon this communication

C) This experimentation will test both aural and automatic signaling techniques and detail their effectiveness and how these techniques are influenced by sunspots cycle, weather, season, time of day, and radiated power. The results of this program will be made available to the public, free of charge and to the FCC in hope that the data maybe be used to further understand operation in this range of frequency.