

EXHIBIT 5 IN SUPPORT OF LICENSE FOR KWGH-LP, KENSETT.  
IOWA, ELK CREEK LUTHERAN CHURCH BNPL-20131028ABT

The technical facilities of KWGH-LP have been constructed as specified in the construction permit. The antenna used is a 2 bay 1 wavelength Spaced circularly polarized antenna manufactured by PSI. The antenna Model is PSIFML-2 and has a manufacturers stated gain of unity and is Mounted with its radiation center 33 meters above ground level on a Rohn 25G tower at the location specified in the permit. The antenna is fed with 180 feet of Andrew LDF4-50 heliax cable with has a stated loss Of .652 db per 100 feet or a total loss of 1.17db. With this combination A power of 37 watts into the line will produce an effective radiated power of 28 watts as specified in the permit. This power is produced using a Broadcast Electronics FX-50 transmitter operating conservatively at 37 watts. In the transmitter manual, the manufacturer specifies an efficiency of 83% at 30 watts output and 75% at 50 watts output. It would be expected that at 37 watts the efficiency would be 79%. The transmitter was set for the parameters that would produce 37 watts with an efficiency factor of 79% and operated into a dummy load with a Bird 43 wattmeter and a 50 watt slug which covers the frequency of 97.1 as authorized. The Bird meter agrees within 1 watt of the calculated indirect power using Collector current, voltage and efficiency. When operated into the antenna The Bird wattmeter and the transmitter digital readout agree with the Indirect calculation for 37 watts into the coaxial line.