

**Exhibit E-12**

The specified transmitter power output produces the authorized effective radiated power. This exhibit provides the calculations utilized to determine the transmitter power output to utilize.

The authorized effective radiated power of the proposed facility is 0.250 kW. The antenna utilized is a Shively Labs model 6812-3, which has a power gain of 1.52. This results in a necessary antenna input power of 164.5 Watts in order to achieve the authorized effective radiated power.

The transmission line utilized is 341 feet of Andrew LDF5-50A. This is 7/8" diameter semi-flexible coaxial cable. For this length of transmission line, the manufacturer specifies a fractional efficiency of 0.7374 at the frequency of operation. The requisite power at the input to the transmission line is therefore 223.1 Watts.

A Polyphaser lightning suppressor is utilized to protect the equipment from strikes. The manufacturer of this suppressor specifies an insertion loss of 0.1 dB at the frequency of operation. Taking this value into account, the necessary power at the input to the Polyphaser is therefore 228.3 Watts.

The final component in the transmit path is a jumper between the translator transmitter and the lightning protector. This jumper is 3 feet in length and is comprised of Andrew 1/2" super flexible coaxial cable. Andrew specifies that the fractional efficiency for this component is 0.9851 at the frequency of operation. The power at the input of this jumper is therefore 231.7 Watts, which rounds to 232 Watts.

It is therefore respectfully submitted that it has been demonstrated that the transmitter power output of 232 Watts or 0.232 kW achieves the authorized effective radiated power of 0.250 kW.