

### **Reply to Correspondence Ref 52931**

There is **one new location, Lovell, Maine** 44° 09' 03.8" N, 70° 54' 19"W location which was chosen due to its availability and suitability for experiments due to rural character and low background electrical noise.

There is **one new frequency band 1.72-1.8 MHz**

This request is for additional frequencies in the MF band from 1.72-1.8 MHz. This band is needed to expand on previous work done under experimental licenses to demonstrate the viability of LF/MF for data transmission utilizing new techniques.

Experiments to date on LF and lower MF frequencies have demonstrated viable 24 hour path over 100 miles. The higher frequencies will allow for higher data rate and wider bandwidth transmissions. Previous work on the 1.72-1.8MHz band under an experimental license issued to Kestrel Engineering involving the efficiency of different audio codecs has opened up new approaches to the transmission of data and digital audio. The logical extension of this work are the use of variable bit-rate streams with error correction which can adjust and compensate for varying propagation and noise conditions. The request for a five year grant will allow for testing under varying solar cycle conditions.