

## Description of Research Project

This Special Temporary Authorization Application is in support a customer's desire to understand how modern digital waveforms can be used to carry digital message traffic beyond line of sight without the benefit of cellular or satellite-based communications infrastructure. Communications using the High Frequency (HF) spectrum satisfies this need. For this Application, MITRE intends to showcase a digital link spanning 2500 km, with the identified site (Colorado Springs) serving as the originating node for this traffic. As part of this experiment and demonstration, MITRE will be using narrowband (3 kHz) digital waveforms to carry short messages that are crafted by an operator and modulated in accordance with the identified emission designator (J2D). The J3E emission designator is intended to support analog voice (single sideband) as a comparison waveform for the purposes of the demonstration.