Great River Energy (GRE) respectfully requests an experimental license from the FCC to install TETRA equipment at three locations in Minnesota. These three locations currently are licensed to Great River Energy as 25 kHz FB8 channels and GRE is requesting the FCC grant the use of these channels for TETRA operation.

The scope of this test project is to install three TETRA base stations connected to GRE's Energy Control Center (ECC) in Elk River, Minnesota. The three base stations are located at the following locations:

Site	Latitude	Longitude	ASR	Call Sign	Freq	Ant. Height	MAX ERP
Elk River, MN	45-20-38.9 N	093-34-01.9 W	1030397	WPRJ461	451.075	91.44 m	204 watts
Milaca, MN	45-45-52.9 N	093-39-05.9 W	1204024	WPQF581	451.225	51.5 m	204 watts
Grand Rapids, MN	47-07-57.4 N	093-39-27.2 W	1253368	WPRR957	451.250	109.7 m	210 watts

Power levels from the radios are as follows:

- Base Transmitter Stations – Output Power: 75 Watts – Effective Radiated Power : 140 Watts
- Mobile Radios – Output Power: 10 Watts – Effective Radiated Power : 10 Watts
- Portable Radios – Output Power: 3 Watts – Effective Radiated Power: 3 Watts

Radio equipment used in the test will be PowerTrunk BSR75 (base station)[1], PowerTrunk MDT-400 (mobile)[2], and PowerTrunk HTT-500 (portable)[3]. Base station antennas will be the omnidirectional Kathrein Model 720 880. GRE intends to install the base stations at 140 Watts effective radiated power (ERP) but would like the flexibility to increase ERP to the maximum allowed on the existing authorizations, shown in the table above.

The Elk River and Milaca sites are adjacent base stations which will allow for the testing of the TETRA site handoff functionality. These two sites are located in disparate terrain from the third site which will allow for propagation testing in flat, rolling hills with few trees and in rugged hilly, forested terrain.

It is intended to have approximately 12 mobile and portable radios testing these three base station sites. However, if additional manufacturers wish to test their TETRA terminals (subscribers) with this network, it is the intent of this test to allow for that provision as well meaning that the number of terminals could increase slightly.

The major functionality that is intended as part of this test is as follows:

- Coverage (objective drive testing)
- Adjacent channel Interference/Emission Mask Exceptions
- Site Handoff

[1] FCC ID: WT7PTRNKTBSR75450
[2] FCC ID: WT7PTRKTMDT400450
[3] FCC ID: WT7PTRKTHTT500410

- Interoperability of multiple manufacturer's terminals
- Other TETRA Functionality as stated in the TETRA standards
- Subjective user testing

An experimental license is needed for this pilot because GRE intends to compare the equipment certified in the US, listed above, with TETRA equipment available in other nations. There are slight differences in the two types of equipment and GRE seeks to contrast the two. Therefore the experimental license requests 6 base station units total, three certified by the FCC and the same three using worldwide TETRA specifications.

GRE would like installation of equipment shall commence on August 1, 2011 if possible and will be completed and equipment to be removed by January 1, 2012. It is not the intent for this project to be a TETRA deployment at the completion of this test.

GRE is licensed for the requested channels under Part 90 of the FCC Rules, under the call signs listed. Each authorization permits use of several exclusive UHF channels and GRE intends to make one channel at each site temporarily available for the TETRA pilot. Once the pilot is complete, the channels will be returned to normal, production operation using the equipment authorized. Because the pilot is intended to last less than one year, the construction status of the channels will not be impacted.

Great River Energy thanks the FCC for their consideration of this matter.