

FORM 442: GOVERNMENT PROJECT DESCRIPTION

NIITEK INC. APPLICATION FOR EXPERIMENTAL LICENSE 0641-EX-PL-2012

NIITEK seeks an experimental license to test and develop ground penetrating radar equipment (“GPR”), which utilizes the ultra-wideband (“UWB”) bandwidth. The GPR is a critical component of NIITEK’s landmine detection system (the “Landmine Detection System”). The GPR is uniquely capable of recognizing, detecting and precisely locating a multitude of buried explosive devices, including anti-personnel and anti-tank mines and improvised explosive devices (“IEDs”). The Landmine Detection System, including the GPR, has been procured by the United States Army for immediate use in overseas combat in the Middle East as a means to ensure the safety of U.S. forces pursuant to Contract Number W909MY-12-D-0010. Accordingly, expeditious grant of NIITEK’s Experimental License application is in the public interest and a matter of national security.

This experimental license request is being made in conjunction with NIITEK’s concurrent request for an experimental license to perform development and production testing of certain radio components that operate with the GPR as part of the Landmine Detection System (File No.0639-EX-PL-2012, filed December 13, 2012).

NIITEK previously applied for and was granted an STA (Call Sign WG9XCU and filed number 0805-EX-ST-2012), which was granted earlier this year and runs through 5/29/2013. NIITEK seeks this experimental license in order to test further developments to the GPR and the Landmine Detection System. As discussed in more detail below, NIITEK seeks the experimental license for the limited purpose of development and production testing of the GPR device at three specific locations in Virginia, United States. Actual operational use of the device will be performed by the U.S. Army outside the United States.

NIITEK develops and fields best-in-class vehicle-mounted mine and buried threat detection systems. Currently, our Husky Mounted Detection System (HMDS) is deployed in theater, saving soldiers’ and marines’ lives. The system has successfully detected countless threats in theater, resulting in transition to full-rate production. Army personnel have described HMDS as a “leap forward in technology in the road clearance mission.” Vehicles follow NIITEK’s Husky mounted detection systems on roads that otherwise would be impassible. NIITEK currently is engaged with its government customers to improve and extend the capabilities of its industry leading GPR technology. The company has several development projects underway to extend the existing technology to improve its detection capabilities, increase its interoperability with other systems, and extend its use beyond the current route clearance missions to other critical buried explosive hazards missions within the US Army and US Marine Corps.

NIITEK is developing two next generation GPR technologies. Specifically, NIITEK is currently working to advance its base GPR technology to significantly increase detection performance as well as interoperability characteristics with other military systems. The 4th generation

technology will begin testing and evaluation in 2013 with potential implementation within a two year time frame. NIITEK also intends to build the first prototype of its 5th Generation technology in 2013 with an implementation horizon of four to five years. NIITEK's development of the next generations of successful GPR detection technologies includes extensive testing at government ranges, as well as at NIITEK facilities. This testing enables NIITEK to make iterative changes to the detailed design required to achieve the final performance levels desired.

In addition to these new GPR technologies, Niitek is developing a small robotic detection system called R-VISOR, based upon NIITEK's GPR technology. R-VISOR is designed to be mounted onto the US Army's and USMC's robotic platforms, and is designed and intended to remove the soldier from harm's way in the detection and inspection process for buried explosive hazards. Also, NIITEK is bringing its game changing GPR technology to the handheld market in response demand to improve upon the current handheld systems utilized by the US Army and USMC. Specifically, Niitek is developing a handheld system called HDS to replace the current AN/PSS 14 used by the US Army and Marine Corps. The system will be designed to be lightweight and provide superior detection capabilities to threat areas where R-VISOR could not mitigate

NIITEK's core mission is to protect our soldiers and marines before their first step. It is critical that NIITEK has the ability to operate and test our current and future systems at our facilities to protect our Military and provide for Humanitarian Demining in the years ahead. There are three aspects of NIITEK's testing operations for which the requested experimental license would apply.

First, NIITEK would operate the GPR during two phases of testing and development at its facilities located in Dulles, Virginia (the "Dulles facility"). During the development and laboratory testing phase, the GPR would be operated inside NIITEK's sensor development laboratory. Shielding would be used around the GPR to ensure that radiation levels outside of the lab are attenuated below the FCC requirements as defined in 47 CFR §15.509. During the system integration testing phase, the GPR would be operated in NIITEK's system lab to confirm proper integration with other components of the Landmine Detection System. During this phase, the GPR parameters are not typically measured. Thus, the GPR can be operated with enclosures placed around and over the panels for shielding. NIITEK may also perform system testing in the surrounding parking lot of the Dulles facility. Such testing would only involve surface laid objects, and, thus, would not require full power operation. Consequently, system testing in the surrounding parking lot would involve lower transmitted power, or a cover placed over the antenna, to attenuate the signal within FCC parameters.

Second, NIITEK would mount the GPR on vehicles for testing on the property surrounding the Dulles facility. During such testing, the GPR antenna would either be in a reduced power mode, or will be covered by an attenuation cover, to ensure that all emissions are below the Part 15 parameters. During testing, the antenna would be intentionally operated about 10 inches above the ground with the center line or focus of the beam directed into the ground. A "background subtraction process" would occur roughly once an hour lasting roughly 10 seconds during which

time the GPR antenna would be approximately 1.2 meters above the ground, and directed at about a 65 degree angle to the ground.

Third, NIITEK would perform production testing of the GPR at one of two Charlottesville, Virginia facilities (the “Charlottesville facilities”) to ensure proper operational use. Testing would occur inside the production facilities, and involve both GPR performance tests and system tests. Performance testing to measure the performance parameters of the GPR would occur in a room with shielding on the walls and ceiling at a reasonable distance to allow for proper operation of the GPR while ensuring that all emissions are below the Part 15 parameters. System integration testing would be performed in a second room accommodated with either an enclosure around the radar to attenuate the transmitted spectrum or through a reduction in transmitted power to ensure the transmitted spectrum is below the FCC limits.