

Exhibit #1 to FCC Form 422 for CenGen FCS PerceptOR Experimentation

Consulting and Engineering Next Generation Networks (CenGen) is engaged in a experimental effort (contract # MDA972-01-M-0035) to support the Defense Advanced Research Projects Agency (DARPA) in a Perception for Off Road Robots (PerceptOR) program developing prototype approaches to advance the state-of-the-art for off-road obstacle detection for robotic systems and enable higher levels of autonomous mobility needed for Army Future Combat Systems (FCS) operations. The robotic systems envisioned for FCS must be able to operate with minimal human intervention while navigating in a variety of off-road terrains and weather conditions. Perception approaches utilizing sensor data are expected to yield significant improvements in obstacle avoidance in off road or complex urban conditions. DARPA and the U.S. Army will use the PerceptOR technologies and experimental data to make determinations regarding the practical utility of ground robots and their communications requirements for FCS.

This license is being requested to support the testing of the PerceptOR technologies. The ground based PerceptOR Vehicles (i.e. ATVs), photograph below, will communication to each other and to a command center via ground based network access points. The testing of the PerceptOR systems will be performed beginning in 2001 and continue through 2002. The RF communications links are to test the PerceptOR prototype systems and are not being developed to support a fielded military system. Once PerceptOR systems reach a mature state and begin fielding to support military systems military radio systems will be utilized. This request is for testing and experimentation of PerceptOR systems using COTS radios to facilitate a more rapid turnaround and ease of integration. Existing COTS systems without power amplification will not suffice because ranges in a wooded environment are too restrictive.



Figure 1. Unmanned and manned (test) ATV.