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EXHIBIT A

Contracting Agency: AFRL/MNK

Contract No: F08630-02-C-0009

The FAST (Fuse Air to Surface Technology) Sensor Program provides the next generation fuze sensor for use with blast/fragment, penetrating, low collateral damage, and agent defeat unitary warheads. Three modes of operation are required for this device: selectable height of burst (HOB), near surface burst (NSB), and penetration based upon the true ground level at the point of identified interest (targeted location). The FAST Sensor system will deliver two distinct capabilities. The FAST system will provide a tail-mounted fuze sensor that can be form factored to work with large (MK-83, MK-84, BLU-109, BLU-113, BLU-116) and small (MK-81, MK-82, Small Diameter Bomb, etc.) weapons, which may or may not have nose-mounted guidance kits. This device must be capable of interfacing with tail-mounted fuzes (FMU-152, FMU-159, etc.) by providing a selectable HOB fire signal, near surface burst (NSB) fire signal, and real time closing velocity information (as appropriate). In addition to the tail-mount fuze sensor, the FAST system will provide a precision, nose-mounted, foliage penetration HOB fuze capability, form factored for the DSU-33B/B proximity fuze sensor, that enables INS/GPS guided weapons to realistically engage targets in heavy foliage to support the AFRL Targets Under Trees (TUT) program.

The FAST Electronics Subsystem will provide the transmit, coherent receive, and signal processing functions of the sensor. These electronics subsystem functions include the generation, modulation and upconversion of the baseband waveform, the amplification and transmission of the RF signal, the reception, attenuation, demodulation and digitization of the received RF signal, and the capability to process the digitized data to determine the correct HOB.

The FAST sensor is capable of coherently generating and receiving RF energy over a frequency range of 800 to 2500 MHz at a maximum power of 1 W (ERP). The frequency is programmable on a processing interval (PI) basis with a tuning resolution no greater than 100 KHz over the specified bandwidth.