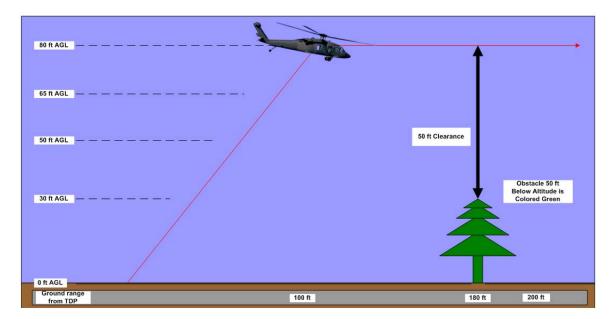


**Exhibit A: Antenna Sketch** 

Antenna Mounted on Aircraft



Flight Profile

## Exhibit B: Statement in Response to Question 4

The Helicopter Autonomous Landing System (HALS) DVE (Degraded Visual Environment) ONS (Operational Needs Statement) program is to demonstrate in flight a radar system that allows a helicopter pilot to safely execute approach, hover, and landing maneuvers in degraded visual environment conditions such as that caused by blowing dust ("brownout").

The HALS is a millimeter wave (MMW) pulsed radar with a narrow  $1^{\circ}$  beamwidth that is scanned over a  $30^{\circ}$  by  $30^{\circ}$  field of view twice per second. During the scan pulses are

transmitted at a 70 kHz rate, and the return from each is processed by computer to extract the amplitude and the range to the ground. The computer accumulates all of the range and amplitude data over the field of view and displays a three-dimensional representation of the ground to the pilot on a cockpit display.

The HALS is being developed in at the facilities of Sierra Nevada Corporation in Reno, NV. The HALS will be installed on military helicopters at Ft. Eustis, VA for a series of ground and flight evaluations at Ft. Eustis and vicinity; Redstone Arsenal, Huntsville, AL and vicinity; Charlottesville, VA and vicinity; Yuma Proving Grounds, AZ and vicinity; High Altitude Test Center, Gunnison, CO and vicinity; and various other test sites in the CONUS as well as enroute between these test sites.

The government contracting office is:

U.S. Army Program Executive Office (PEO) Aviation

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