

## Small Unmanned Aerial System (SUAS)

### Executive Summary

- The Army conducted the Small Unmanned Aerial System (SUAS) IOT&E from May 22 - June 16, 2006, at Fort Bliss, Texas. DOT&E approved the SUAS test plan on April 24, 2006.
- A Beyond Low-Rate Initial Production Report, published by DOT&E in late 2006, found the SUAS to be operationally effective, but not operationally suitable. Survivability with respect to enemy engagements against the aerial vehicle was not assessed in the IOT&E, but the SUAS is susceptible to visual and audible detection.

### System

- The SUAS is a rucksack-portable unmanned aerial system.
- The SUAS consists of five basic component types:
  - Three air vehicles
  - One ground control station
  - One Remote Video Terminal
  - Payload, optics, and infrared capability
  - One field Repair Kit
- The SUAS is an Acquisition Category III program. The acquisition objective is for 2,812 systems, which includes 2,464 systems for the Army and 348 systems for U.S. Special Operations Command (USSOCOM).
- Fifteen SUASs will be issued to each Brigade Combat Team.
- SUAS is a hand-launched vehicle required to operate within a 10-kilometer radius, provide 90 minutes of total flight time, and have an operational altitude of up to 500 feet above ground level.
- The air vehicle accommodates a modular payload to include a day and night electro-optic/infrared sensor.



### Mission

- Army infantry and mechanized companies will use SUAS for reconnaissance, surveillance, and target acquisition missions.
- Units will conduct tasks using the SUAS to:
  - Increase situational awareness by conducting reconnaissance and surveillance of the company and platoon battle space
  - Gather day and night imagery of open, rolling, and urban environments
  - Improve force protection by utilizing the SUAS beyond line-of-sight capabilities for real time intelligence, target acquisition, and battle damage assessment

### Activity

- After a competitive proposal competition, the Army Project Office selected the Raven B Unmanned Aerial Vehicle system in October 2005 as the SUAS.
- In December 2005, the Army validated and verified technical manuals and conducted a logistics demonstration, to include flights conducted in chemical and biological protective gear.
- From February 3 - March 17, 2006, USSOCOM successfully conducted an airborne certification customer test for both the Army and USSOCOM at Fort Bragg, North Carolina.
- In May 2006, the Joint Interoperability Test Command tested the reconnaissance, surveillance, targeting, and acquisition kit and Global Positioning System functionality with favorable results.
- The Army conducted the Small Unmanned Aerial System IOT&E from May 22 - June 16, 2006, at Fort Bliss, Texas. DOT&E approved the SUAS test plan on April 24, 2006.

### Assessment

- The SUAS is operationally effective. An infantry company equipped with SUAS benefits from enhanced situational awareness, more operational options to choose for planning and executing missions, and increased force protection. The SUAS provided a positive contribution to the commander's and unit's situational awareness and understanding.
- The SUAS sensors can recognize man-sized objects and can distinguish tracked from wheeled vehicles, but the sensors lack resolution to identify armed versus unarmed personnel or to find improvised explosive devices.
- SUAS is not operationally suitable because an SUAS-equipped unit cannot sustain itself in prolonged combat and the AV is not reliable. The primary measures for operational suitability are reliability, availability, and maintainability. The test did not dictate that the unit sustain 24-hour combat operations and

# ARMY PROGRAMS

artificially co-located the forward repair area with infantry unit. These test artificialities provided an overly optimistic estimate for operational availability.

- The SUAS is susceptible to acoustic and visual detection.

## Recommendations

- Status of Previous Recommendations. No FY05 report was submitted on SUAS.
- FY06 Recommendations. The Army should:
  1. Improve the reliability of the air vehicle. Increase the number of parts in the spares package, and re-examine

the allocation of spares between operators and depot maintenance.

2. Consistent with the mission or type unit, consider adding more aerial vehicles until the reliability of the aerial vehicles increases.
3. Exploit full potential of the SUAS by developing and refining tactics, techniques, and procedures for dismounted and mechanized infantry to fully utilize the SUAS, to include airspace de-confliction procedures.