Space Tracking and Surveillance System (STSS)

Executive Summary
- Testing and integration of the two satellites is on track to meet a planned tandem launch in 3QFY07.
- The Space Tracking and Surveillance System (STSS) ground support facilities have undergone initial acceptance testing.

System
The STSS is a research and development system consisting of:
- Two flight test satellites in low-earth orbit
- The Missile Defense Space Experiments Center (MDSEC), Colorado Springs, Colorado
- The Low Satellite Operations Center, Redondo Beach, California

Mission
U.S. Strategic Command will use the STSS, a space-based sensor element of the Ballistic Missile Defense System (BMDS) to:
- Acquire, track, assess, and report ballistic missile and intercept events from lift-off to reentry.

- Provide a space node to support data fusion, over-the-horizon radar/sensor cueing, interceptor handover, and fire control.

Activity
- Payload 1 testing complete and integration to the space vehicle to begin in December 2005.
- Payload 2 testing to begin in December 2005 with integration to space vehicle to begin in April 2006.
- Completed satellite-to-satellite crosslink demonstration.
- System Software Integration Test series in progress.
- STSS surrogate test bed equipment in place at JNIC for use in BMDS flight tests.
- STSS interface to Command, Control, Battle Management, and Communications (C2BMC) system test-bed successfully tested.
- Completed design and implementation of the MDSEC.

Assessment
- The space segment of the program is on track to integrate the payloads into the satellites by September 2006. Although there are minor schedule risks in the program, due to slow progress of payload 2 testing, there is enough flexibility in the schedule to allow the program to complete a tandem launch in 2Q-3QFY07, as currently planned.
- The ground segment components, such as the MDSEC facilities, are on track to be ready by July 2006.
- The payload sensors will not meet one of the four specified minimum detectable target sensitivities; the Missile Defense Agency has approved a waiver to this requirement.
- Complete system effectiveness will be evaluated based on on-orbit performance during four dedicated flight tests in 2007 and 2008.

Recommendation
1. The Missile Defense Agency and the Air Force Operational Test and Evaluation Center should collaborate on the dedicated STSS flight tests in FY08. The information gleaned from this collaboration will allow both agencies to develop appropriate objectives for demonstrating operational realism during dedicated flight tests of the STSS Block 2012.