

## Global Broadcast System (GBS)

### Executive Summary

- The Air Force is transitioning the Global Broadcast Service (GBS) system Satellite Broadcast Manager (SBM) subsystem from Navy sites to Defense Information System Agency (DISA) Defense Enterprise Computing Center (DECC) sites and integrating them into an enterprise architecture for long-term sustainment.
- The Air Force established a Global Broadcast Service Operations Center (GBSOC) at Schriever AFB, Colorado, to manage GBS operations and provide help desk support to users with technical issues.
- The Air Force's 17th Test Squadron conducted a Force Development Evaluation (FDE) from July 15, 2013, through August 29, 2013, that was not concluded. The Test Squadron Commander paused the test because real-world operations in the Central Command Area of Responsibility preempted planned testing.
- The test squadron conducted the remainder of the FDE from September 20 – 24, 2013.
- The FDE results will inform an Air Force Space Command decision to accept the GBS DECC SBM for operation in early FY14.
- Although analysis of the operational testing data is ongoing, developmental testing (DT) and preliminary analysis of operational testing suggest that:
  - GBS does not properly transmit unmanned aerial vehicle video to users.
  - The procedures for properly restoring GBS operations after transitioning from the primary DECC SBM to the alternate DECC SBM are incomplete.
  - GBSOC procedures are immature.
  - GBS broadcast support organizational roles and responsibilities need to be better defined.
  - Tier II help desk support needs to be sustained at the current levels. The around-the-clock Tier II help desk that provided technical support during the operational test is not on contract past the 2013 calendar year to support operations.
- The GBS Program Manager is updating the GBS system to satisfy National Security Agency (NSA) security requirements. The Air Force Operational Test and Evaluation Center is planning to conduct an FOT&E in 1QFY15 to evaluate the operational effectiveness and suitability of the updated architecture.

### System

- The GBS system is a satellite-based broadcast system providing near worldwide, high-capacity, one-way transmission of operational military data.
- The GBS system consists of three segments:
  - The space segment includes GBS transponders on Wideband Global Satellites, Ultra High Frequency Follow-On



**DECC - Defense Enterprise Computing Center**  
**GBSOC - Global Broadcast Service Operations Center**

- satellites, and an additional government-leased satellite capability to meet operational demand.
- The broadcast segment includes:
  - SBMs that manage the flow of selected information to the orbiting satellites for broadcast to the appropriate theaters of operation. The SBMs are being relocated from Navy sites to DISA DECCs. They interface through DoD Teleport sites for the Wideband Global and commercial satellites and fixed Primary Injection Points for Ultra High Frequency Follow-On satellites.
  - Theater Injection Point antennas that are mobile and provide support for all satellites. They also provide the Combatant Commanders an in-theater uplink capability that broadcasts information products to regional forces.
- The receive segment consists of ground- and sea-based mobile terminals that process and provide the appropriate information to the end users within selected areas of operation.
- The program manager is updating the broadcast and receive segments to satisfy NSA security requirements.

# AIR FORCE PROGRAMS

## Mission

- Operational forces worldwide use GBS to provide a continuous high-speed and high-volume flow of data, audio, imagery, and video at multiple classification levels for sustained operations.
- Combatant Commanders use the GBS capability to provide theater-specific intelligence and battlespace weather

information, thereby increasing the joint operations mission data available to regional military forces.

## Major Contractor

Lockheed Martin Corporation Information Systems and Global Solutions – Gaithersburg, Maryland

## Activity

- The Air Force is transitioning the GBS SBMs from Navy sites to DISA DECCs. The Air Force is integrating the SBMs into an enterprise architecture to meet the long-term sustainment strategy directed in the Deputy Secretary of Defense's Program Directive Memorandum IV.
- The Air Force established a GBSOC at Schriever AFB, Colorado, to manage GBS operations and provide help desk support to users with technical issues.
- The Air Force Program Office conducted government DT from September 24, 2012, through October 12, 2012. Due to poor DT results, the Air Force made fixes to the system and conducted a limited-scope developmental regression test from March 18 – 29, 2013, to demonstrate the program manager had fixed the performance problems and the system was ready for operational test.
- The Air Force's 17th Test Squadron conducted an FDE from July 16, 2013, through August 29, 2013, that was not concluded. The Test Squadron Commander paused the test because real-world operations in the Central Command Area of Responsibility preempted planned testing.
- The test squadron conducted the remainder of the FDE from September 20 – 24, 2013, once Central Command assets were once again available. The 17th Test Squadron conducted the FDE in accordance with the DOT&E-approved Test and Evaluation Master Plan and test plan.
- The FDE results will inform an Air Force Space Command decision to accept the GBS DECC SBM for operation in early FY14.
- The GBS Program Manager is updating the GBS system to satisfy NSA security requirements. The Air Force Operational Test and Evaluation Center is planning to conduct an FOT&E in 1QFY15 to evaluate the operational effectiveness and suitability of the updated architecture.

## Assessment

- The program manager conducted DT from September through October 2012. The DT demonstrated the GBS did not meet the operational requirement for product reception rate and product integrity rate. The DT also showed that GBSOC

- procedures were immature and not able to adequately support operational users.
- The Air Force's developmental regression test demonstrated improved product reception rate and product integrity rate; however, the test was limited in scope, lacked operational realism, and was inadequately resourced. The Central Command Area of Responsibility broadcast was not tested.
- The lack of operational realism in the DT regression test prevented the GBSOC from adequately refining and exercising their help desk procedures prior to operational test.
- During the DT, the ability to transition GBS operations from the primary DECC SBM to the alternate DECC SBM and back to the primary SBM did not meet requirements. The program manager took corrective actions, but chose not to retest this capability during the DT regression test to meet schedule and cost constraints.
- Although analysis of the operational testing data is ongoing, DT and preliminary analysis of operational testing suggest that:
  - GBS does not properly transmit unmanned aerial vehicle video to users.
  - The procedures for properly restoring GBS operations after transitioning from the primary DECC SBM to the alternate DECC SBM and back to the primary SBM are incomplete.
  - GBSOC procedures are incomplete and immature.
  - GBS broadcast support organizational roles and responsibilities need to be better defined.
  - Tier II help desk support needs to be sustained at the current levels. The around-the-clock Tier II help desk that provided technical support during the operational test is not on contract past the 2013 calendar year for operations.

## Recommendations

- Status of Previous Recommendations. The Air Force addressed all previous recommendations.
- FY13 Recommendation.
  1. The Air Force should correct the deficiencies identified in the FDE and verify they are corrected in the FY15 FOT&E or other operational test events.