SBIRS Overview Brief
Combat Air Force
Commander's Conference
16-17 Nov 98

This Briefing is Classified

CLASSIFIED PORTIONS REMOVED
**SBIRS Mission Areas**

Missile Warning (MW): Ballistic Missile Warning to NCA, CINCs, Other Users

Missile Defense (MD): Data to Defensive Systems

Technical Intelligence (TI): Timely Info to National Decision Makers and critical support to other missions

Battlespace Characterization (BSC): Battlefield Situation Awareness, Space Surveillance, Weather

Jointly defined, affordable mission capability meets the nation’s needs for infrared space-based surveillance
Sensor Bands for SBIRS Missions

- DSP, High, and Low provide different sensor wavelengths
- Each mission area has different targets
- Different sensor wavelengths track different targets

Mission Areas
- MW - Missile Warning
- MD - Missile Defense
- TI - Technical Intelligence
- BSC - Battlespace Characterization

Synergistic Use of SBIRS Space Components and Spectral Bands
SBIRS Integrated Architecture Approach

Increment 1
Increment 2
Increment 3
Increment 4
System of Systems Engineering
Today

Integrated Architecture to Meet SBIRS Operational Requirements
SBIRS Low Component Functionality

- Bright Targets
- Fast Scan
- Large FOV
- Dim Targets
- Slew & Stare
- Small FOV
- On-board Stereo Track Fusion
- Message Relay

ICONOPS
- Cued/Tasked Acquisition
- Sensor Detects Booster
- Hand-off To Tracker
- Track Sensor Maintains Ballistic Track
- Crosslink & Form Stereo Track
- Communicate To Theater or National BMC³

SBIRS Low Component Emphasis is on Midcourse Tracking
- Expands Battlespace for Missile Defense with Precision Target Data
- Augments other SBIRS Mission Areas (MW, TI, & BSC)
**SBIRS NMD Employment Concepts**

**Radar Cued on SBIRS Low**

- SBIRS High provides initial msl warning msg
- SBIRS Low acquires and tracks from boost phase into post-boost/midcourse phase
- SBIRS Low state vector (SV) data used as initial radar search area cue
- SBIRS Low SV data fused by NMD ground to launch and guide interceptor in-flight

**Commit on SBIRS Low**

- SBIRS High provides initial msl warning msg
- SBIRS Low acquires and tracks from boost phase into post-boost/midcourse phase
- SBIRS Low initial SV data used to launch interceptor for stressing timeline engagements
- SBIRS Low SV data fused by NMD ground to guide interceptor in-flight
Strike Aircraft Explosions

DSP non-real time detections
(Mid-Air/Ground)
- F-15E CRASH DURING16
- DESERT SHIELD
- O'GRADY'S
- SHOOTDOWN
- F-117 CRASH IN
- WESTERN NEW MEXICO
- A-10 CRASH NEAR
- EAGLE COLORADO

SBIRS will provide quicker better information on location and time --used to plan combat SAR
SBIRS will have the ability to detect artillery flashes and explosions.

SUPPORTS UNDERSTANDING OF ENEMY OPERATIONAL INTENT
Summary

- SBIRS is USCINCSPACE's #1 Priority
- SBIRS Performs Critical Missile Warning and Defense Operations to Meet Current and Emerging Threats
  - Continued Missile Proliferation
  - Improving Theater Missile Performance
- It's the Next Logical Step in Technology
  - Quantum Leap Over DSP - Advanced Sensor Technology
  - DSP Not Suited to Growing Theater Missile Diversity
- Provides True Battlespace Characterization and Improved Technical Intelligence