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DEPARTMENT OF THE AIR FORCE
AIR FORCE OPERATIONAL TEST AND EVALUATION CENTER
KIRTLAND AIR FORCE BASE NEW MEXICO

28 Jan 14

Colonel James K. Eck
AFOTEC/CV
1251 Wyoming Blvd SE
Kirtland AFB NM 87117-5535

Mr. John Greenwald, Jr.
[REDACTED]
[REDACTED]

Dear Mr. Greenwald

Your Freedom of Information Act (FOIA) request (Case number 2014-01406-F, dated 5 Nov 13) was referred to the Air Force Operational Test and Evaluation Center by the Defense Technical Information Center.

This request has been processed in accordance with the provisions of Department of Defense (DoD) Regulation 5400.7-R, "DoD Freedom of Information Act Program."

Portions of the requested document are denied under Title 5, U.S. Code (U.S.C.), Section 552(b)(5) covering "*privileged interagency or intra-agency memoranda or letters*" and Title 5, U.S.C., Section 552(b)(6) covering "*information that, if disclosed, on individuals who are not general officers or members of the senior executive service, would invade another individual's personal privacy.*" Specifically, inter-agency information involving the deliberative process on inter-agency and predecisional comments in the operational assessment and the names and phone numbers of individuals below the rank of General were redacted. Administratively, security markings were lined out.

A total of 20 pages are released as follows:

Report	Pages Release in Full	Pages Partially Redacted
DSP/ALERT Ground Consolidation (SBIRS Inc 1): 1998 Operational Assessment (OA)	7	13

You may appeal this decision in writing to the Secretary of the Air Force. Your appeal should be postmarked no later than 60 calendar days from the date of this letter. Attach a copy of this denial letter to your appeal and give your reasons for appealing. Address your letter to:

Secretary of the Air Force
Through: AFOTEC/A6 (FOIA)
1251 Wyoming Blvd. S.E., Building 20130, Room 233
Kirtland AFB, NM 87117-5535

Sincerely,



JAMES K. ECK, Colonel, USAF
Vice Commander

2 Attachments:

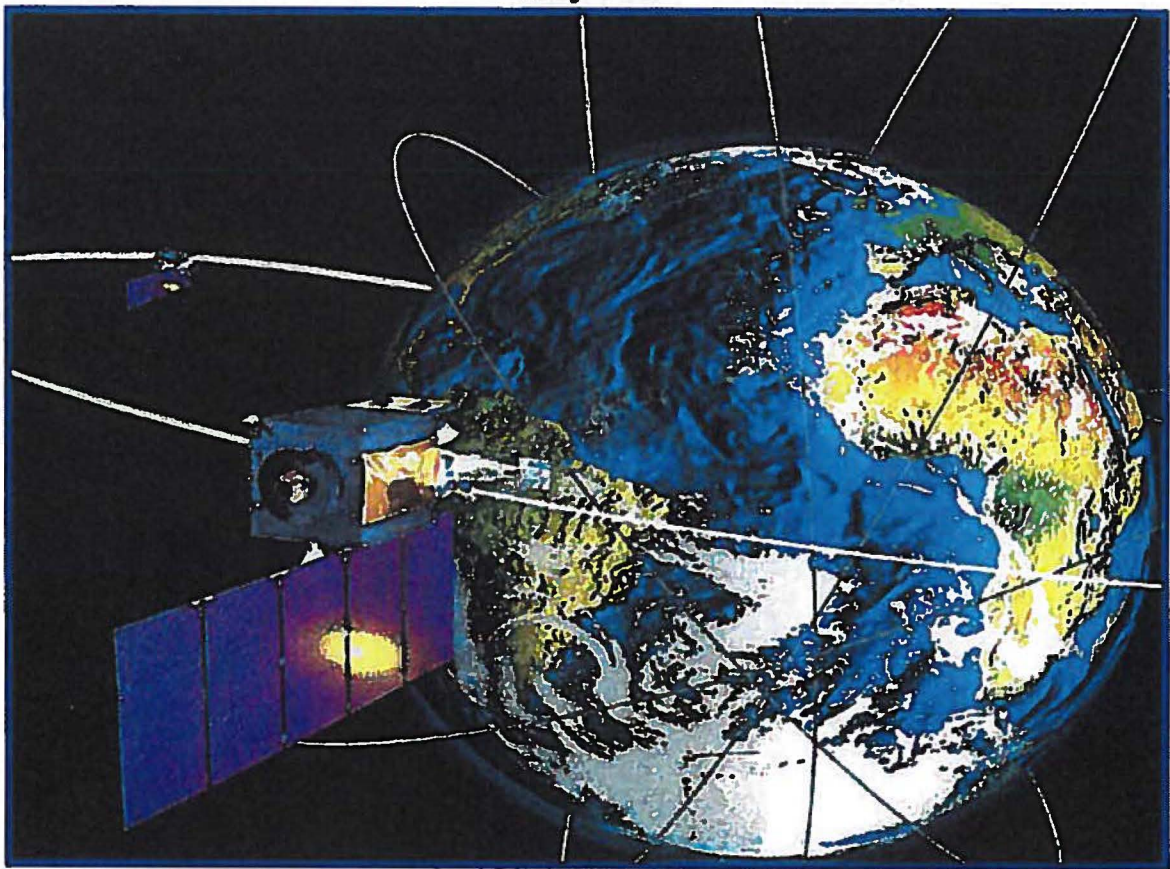
1. DSP/ALERT Ground Consolidation (SBIRS Inc 1): 1998 OA
2. Summary of FOIA Exemptions



1998 OPERATIONAL ASSESSMENT

DSP/ALERT Ground Consolidation (Space Based Infrared Systems (SBIRS) Increment 1)

July 1998



Distribution authorized to DoD components only; critical technology (July 1998). Refer other requests for this document to HQ AFOTEC/HO, 8500 Gibson Blvd SE, Kirtland Air Force Base, New Mexico 87117-5558.

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Air Force Operational Test and Evaluation Center (AFOTEC)
Kirtland Air Force Base, New Mexico

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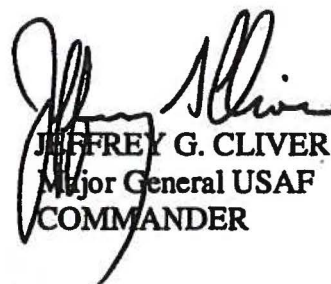
FROM THE COMMANDER

I am pleased to report on this Operational Assessment (OA) of the Defense Support Program (DSP) and Attack and Launch Early Reporting to Theater (ALERT) Ground Consolidation. This assessment identifies problems potentially impacting a successful Initial Operational Test

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these concerns and track these issues to resolution. The team will reassess the issues and re-engage external agencies on a quarterly basis using an established process called the Quarterly Status Review (QSR).

The Ground Consolidation constitutes only the first in a series of four incremental deliveries of the Space Based Infrared System (SBIRS), one of the first programs to use streamlined acquisition. This OA lays the foundation for future evaluations spanning the next decade.



JEFFREY G. CLIVER
Major General USAF
COMMANDER

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SYSTEM DESCRIPTION

The Space Based Infrared System (SBIRS) will be a consolidated, flexible system meeting United States infrared space surveillance needs through the next several decades. An integrated "system of systems," SBIRS consists of multiple satellite constellations and an evolving ground element. SBIRS will consolidate, enhance, and replace Defense Support Program (DSP) and Attack and Launch Early Reporting to Theater (ALERT) systems over the next 10 years.

The baseline SBIRS architecture includes satellites in Geosynchronous Earth Orbit (GEO) and Low Earth Orbit (LEO); sensors on host satellites in Highly Elliptical Orbits (HEO); and appropriate ground system resources. The ground system architecture includes a Continental United States (CONUS) based Mission Control Station (MCS), a backup MCS, a survivable MCS, several overseas Relay Ground Stations (RGS), Multi-Mission Mobile Processors (M3Ps), and associated communications links. SBIRS will meet missile defense, missile warning, technical intelligence, and battlespace characterization mission requirements identified in the ALERT, DSP, and SBIRS Operational Requirements Documents (ORDs).

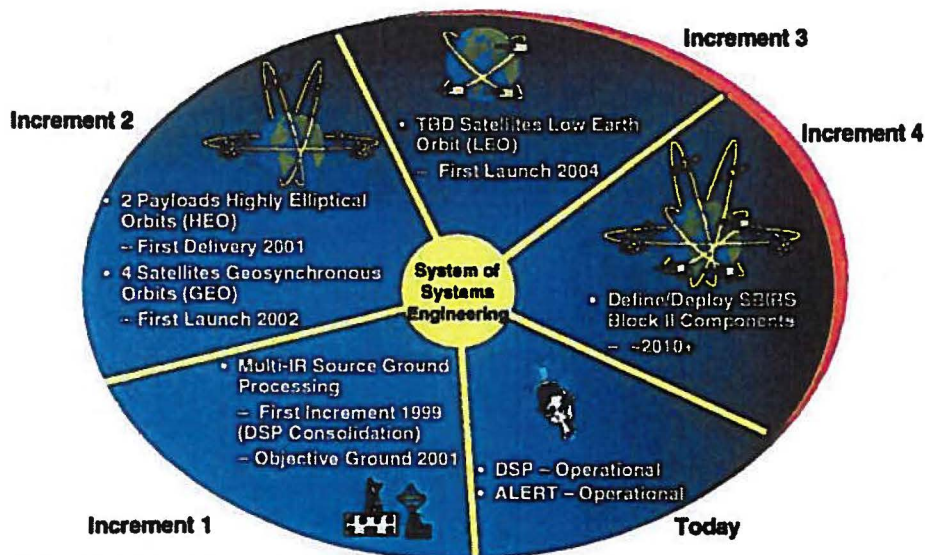
SBIRS Increment 1 consolidates DSP and ALERT missions within a single CONUS

ground station. Scheduled to be operational on 1 October 1999, the SBIRS Increment 1 consolidated ground system provides peacetime, enduring, and survivable mission capable threads. The non-survivable, peacetime thread consists of the MCS, an RGS facility in the European theater, and an RGS facility in the Pacific theater. The Increment 1 survivable thread consists of the survivable MCS (SMCS), and a survivable relay ground station (SRGS) located outside the CONUS. The Mobile Ground Stations (MGS) deployed under the existing DSP architecture provide required enduring capabilities. MGS assets will continue operation throughout the life span of all remaining DSP satellites.

The SBIRS High component (Increment 2) includes the deployment of four SBIRS GEO satellites, two SBIRS HEO sensors on host satellites, and evolution of the ground architecture.

The SBIRS Low component (Increment 3) deploys a constellation of LEO satellites and evolves the ground system architecture to accommodate new capabilities.

The SBIRS Increment 4 consists of the integration, and optimization of the existing architecture with the addition of next generation SBIRS satellites (Block II).



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EXECUTIVE SUMMARY

An Operational Assessment (OA) of the Space Based Infrared System (SBIRS) was conducted from 6 Apr 98 through 29 May 98 as directed by Office of the Secretary of Defense, Director, Operational Test and Evaluation (OSD/DOT&E). Specifically, AFOTEC reviewed the DSP and ALERT Ground Consolidation Program (SBIRS Increment 1) for program maturity and progress, assessing the potential for continued development and timely entrance into Initial Operational Test and Evaluation (IOT&E), scheduled to begin in Apr 99.

AFOTEC approached Increment 1 OA efforts using four traditional assessment areas. Area 1 identifies and assesses major issues affecting potential operational effectiveness and

suitability. Area 2 identifies programmatic voids that would adversely impact the ability of the system to meet operational requirements. Area 3 assesses program documentation and testability of user requirements. Finally, Area 4 assesses the ability of the program to support operational testing.

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within each area and Table Exec-2 summarizes all area findings.

The AFOTEC team is engaging the user, acquirer, and developer and will track these issues to final resolution.

1998 SBIRS Operational Assessment Summary Findings

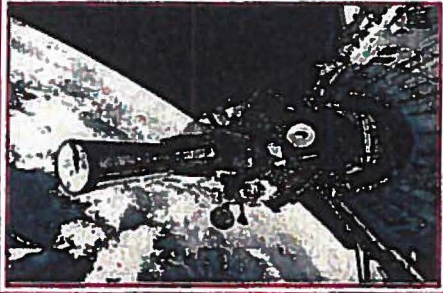
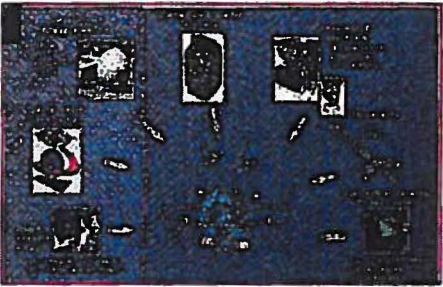
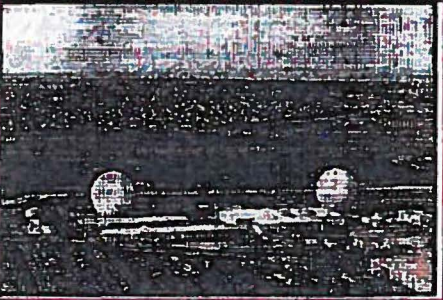

Table Exec-1. Executive level findings summary.

	Significant Findings	Insight
Area 1	(b)(5)	
Area 2		
Area 3		
Area 4		

Table Exec-2. Summary of all findings.

Assessment Rating	Area 1	Area 2	Area 3	Area 4	TOTALS
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SBIRS INCR 1 REPORT

<p><u>Executive Summary</u></p> <p>Page IV</p>		<p>This report documents findings of the 1998 SBIRS Operational Assessment conducted at the request of the Office of the Secretary of Defense, Director, Operational Test and Evaluation (OSD/DOT&E) on the DSP and ALERT Ground Consolidation (SBIRS Increment 1). The Operational Assessment of SBIRS was conducted from 6 Apr 98 through 29 May 98.</p>
<p><u>Purpose and Background</u></p> <p>Page 1</p>		<p>AFOTEC reviewed the DSP and ALERT Ground Consolidation (SBIRS Increment 1) program for program maturity and progress, assessing potential for continued development and timely entrance into Initial Operational Test and Evaluation (IOT&E) in April 1999.</p>
<p><u>Area Summaries (AREA 1, 2, 3, 4)</u></p> <p>Page 3</p>		<p>(b)(5)</p>
<p><u>Conclusions and Recommendations</u></p> <p>Page 13</p>		<p>(b)(5)</p>

NOTE: Appendices are on CD-ROM and can be reviewed via hyperlinks embedded within the area write-ups.

SBIRS INCR 1 REPORT

Appendices	Description
A: <u>Acronyms and Terms</u>	A comprehensive explanation of the DSP/ALERT Ground Consolidation system (SBIRS Increment 1) related acronyms and terms.
B: <u>Report Documentation Page</u>	Form describes report for purpose of AFOTEC's historical archiving.
C: <u>Area 1 Measures of Performance</u>	A detailed review of all findings for Area 1, providing specific information regarding potential impacts to operational effectiveness and suitability.
D: <u>Area 2 Detailed Results</u>	A detailed review of all programmatic voids impacting the system's ability to meet operational requirements.
E: <u>Area 3 Detailed Results</u>	A detailed review of program documentation maturity and testability of user requirements.
F: <u>Area 4 Detailed Results</u>	A comprehensive assessment of the potential ability for the DSP/ALERT Ground Consolidation system (SBIRS Increment 1) to support operational testing in 1999.
G: <u>Distribution List</u>	Organizations authorized to receive and review a copy of this report
H: <u>OA Test Plan</u>	The complete OA Test Plan

PURPOSE AND BACKGROUND

OA Purpose

AFOTEC reviewed the DSP and ALERT Ground Consolidation (SBIRS Increment 1) program for maturity and progress towards Initial Operational Capability (IOC), assessing potential for continued development and timely entrance into Initial Operational Test and Evaluation in 1999. This assessment was conducted from 6 Apr 98 through 29 May 98.



Figure PB-1. Mission Control Station at Buckley Air National Guard Base, Aurora, CO.

OA Background

Operational testing of this new "system of systems" is critical for assessing operational effectiveness and suitability. To maximize the benefit of operational testing, AFOTEC adopted an incremental test and evaluation approach, providing early insight, and comprehensive feedback to the acquisition community. This operational assessment serves as the baseline assessment of the SBIRS program.

OA Structure

AFOTEC approached Increment 1 OA efforts using four traditional assessment areas.

Area 1. Identifies and assesses major issues affecting potential operational effectiveness and suitability.

Area 2. Identifies any programmatic voids adversely impacting the ability of the system to meet operational requirements.

Area 3. Assesses program documentation and testability of user requirements.

Area 4. Assesses the ability of the program to support operational testing.

OA Description

Test approach and methodologies are documented in the OA Test Plan located in Appendix H.

Assessment Ratings

To facilitate the appropriate level of management support for program deficiencies; AFOTEC assigned four distinct ratings to the OA findings. These ratings are "Significant Concerns," "Issues Requiring Additional Attention," "No Issues," and "Superior Areas." AFOTEC uses the Quarterly Status Review (QSR) process to monitor issues during the SBIRS acquisition.

Significant Concerns

A Significant Concern is an issue requiring management attention, warranting special action plans, affecting readiness to enter IOT&E, or any other issues potentially impacting system effectiveness or suitability during IOT&E. Each Significant Concern is a distinct issue requiring direct management attention. Issues not resolved in a timely manner may delay the decision to enter IOT&E and negatively impact declaration of IOC.

Issues Requiring Additional Attention

Issues Requiring Additional Attention are areas deserving increased AFOTEC scrutiny, but do not warrant special action plans or reporting. Issues Requiring Additional Attention that are not adequately addressed

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may be elevated to a higher level of scrutiny within the QSR process.

No Issues

No Issues are assessment items indicating acceptable maturity and development for this program phase, or having potentially no impact to IOT&E.

Superior Areas

A superior area identifies outstanding actions or sustained levels of excellence exceeding AFOTEC's expectations during this assessment.

OA Limitations

The OA was conducted at the Contractor's Development Facility. As such, the system was not in an operational configuration. Not all operational scenarios were available; therefore, some measures of performance were not assessed as a result. For specific limitations see Appendix C.

Year 2000 compliance. Testing was conducted in a limited, defined environment. Refer to Area 2, sub-area 10 of this report for a more detailed description of test parameters. Validation of the products Year 2000 compliance is specifically limited to the test environment. The Air Force makes no claim, representation, or guarantee concerning Y2K issues beyond the scope of this test. The test addresses only Air Force areas of concern, and no inferences should be made or implied beyond those statements and findings contained herein. For example, aspects of the Year 2000 problem might occur in other applications, which could result in the inaccurate processing, and or exchange of date/time data. Recipients of this test data are advised the report results may not be used as the basis for any claim against the Air Force or the United States as the result of any claim or error or omission in testing or reporting.

Further, such test results do not absolve the product manufacturer of responsibility for any Year 2000 liability under contract or law.

Test Team Location and Dates

An integrated AFOTEC Test Team conducted the 1998 SBIRS Increment 1 Operational Assessment. Specifically, Det 4 AFOTEC/OL-SG at Buckley ANGB, Co and HQ AFOTEC/TSW/SA/IN at Kirtland AFB, NM, participated in the test. The inclusive dates of this assessment were 6 Apr 98 through 29 May 98.

Classification Statement

The information contained within the body of this report is **UNCLASSIFIED**. Detailed Area assessments are included in separate appendices and are unclassified. All information can be accessed via CD-ROM. Classified assessment information is contained in Annex 1. Annex 1 is available upon request by contacting the following:

Increment 1 Test Director

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Det 4 AFOTEC/OL-SG
18302 E. Crested Butte Ave (stop 69)
Buckley ANGB, CO 80011

(b)(6)

Increment 1 Test Manager

(b)(6)

HQ AFOTEC/TSW
8500 Gibson Blvd. SE
Kirtland AFB, NM 8113-5558

(b)(6)

AREA SUMMARIES

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AREA 1. Operational Effectiveness and Suitability

Area 1 focused on identifying and assessing major issues affecting potential system operational effectiveness and suitability. This area consisted of four Critical Operational Issues (COIs) and three Supporting Assessments (SAs).

Methodology

The test team assessed system performance using available developmental test/operational test (DT/OT) scenarios and contractor functional thread demonstrations. A preliminary suitability assessment was performed through collection of system failure data. The evaluation methodologies and limitations are detailed in their respective write-ups in Appendix C.

CO/SA Results

Table 1-1 summarizes Area 1 results. Although these findings indicate the most severe rating for a particular sub-area, multiple or less severe assessments may co-exist within a sub-area.

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No Issues. No issues were noted under COI-6. The dependability parameters were not calculated due to non-operational configuration, lack of a formal maintenance data collection system, and the inability to make accurate software failure determinations. Therefore, no dependability projections were made for COI 6. For details see Appendix C.

Impacts of Findings

Issues Requiring Additional Attention may potentially be elevated to a Significant Concern and monitored during the course of SBIRS acquisition through the QSR process. Failure to resolve identified issues may delay IOT&E and negatively impact declaration of IOC.

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AREA 2. Programmatic Voids

The Area 2 assessment identifies programmatic voids that may affect the ability of the system to meet operational requirements. A review of 10 sub-areas was performed using current program information.

Methodology

User requirements were used to establish criteria for each sub-area. The evaluation methodologies and findings are detailed in Appendix D.

Sub-Area Results

Table 2-1 summarizes the results for 10 sub-area assessments. Although these findings indicate the most severe rating for a particular sub-area, multiple or less severe assessments may co-exist within a sub-area.

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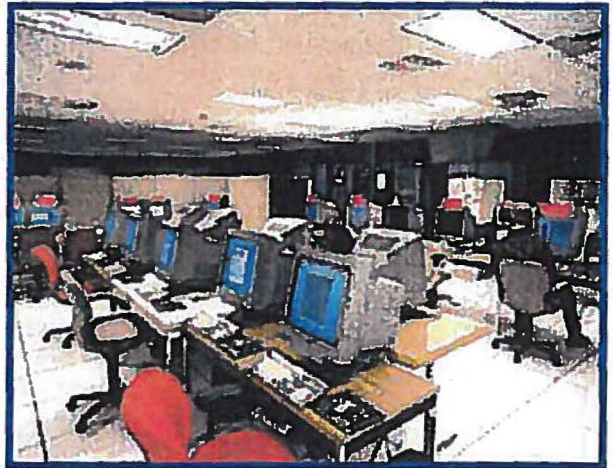
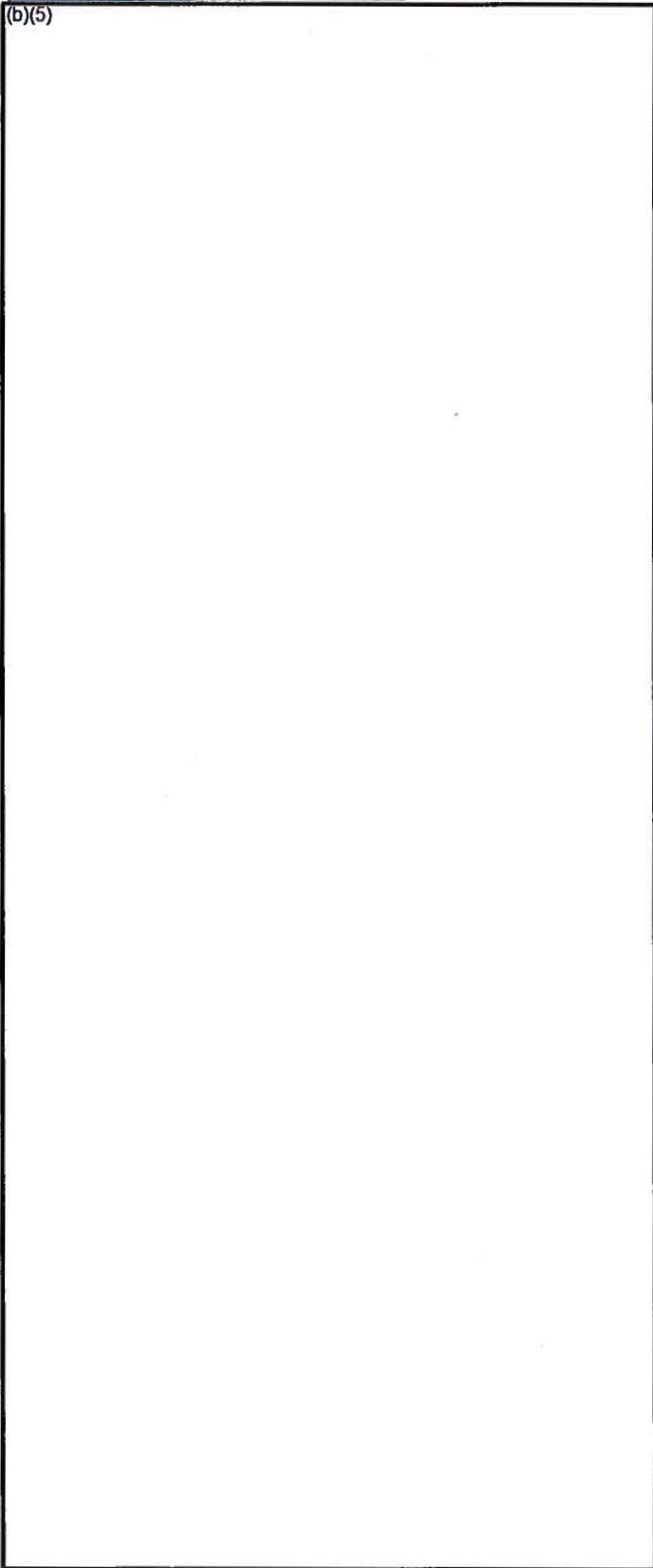


Figure 2-1. SBIRS Contractor Development Facility workstations allow for software testing prior to fielding.

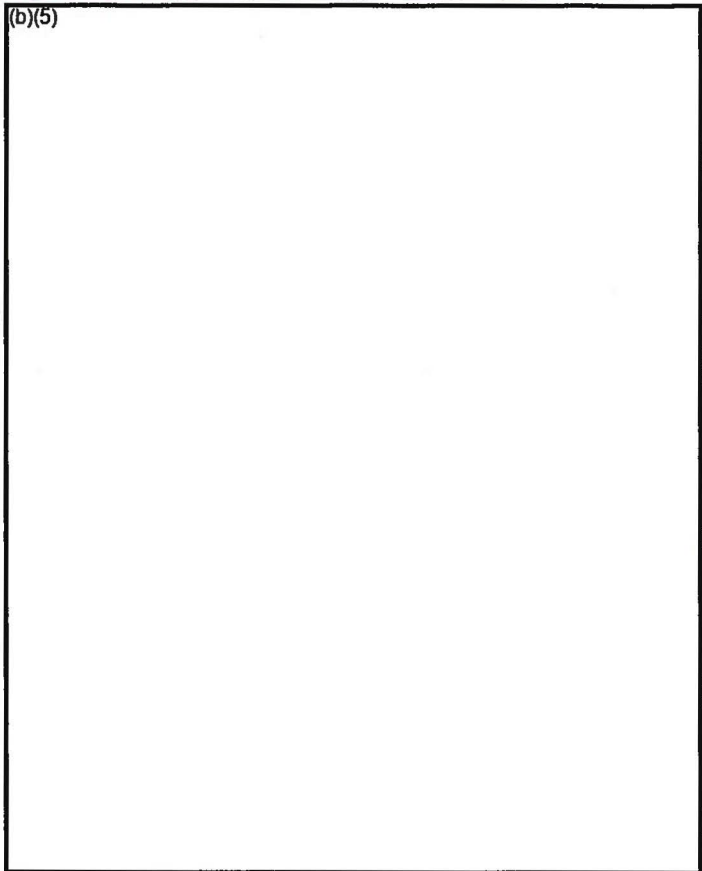
The following subsections consist of tables describing areas of Significant Concern, Issues Requiring Additional Attention, and Superior Areas derived from each sub-area assessment.

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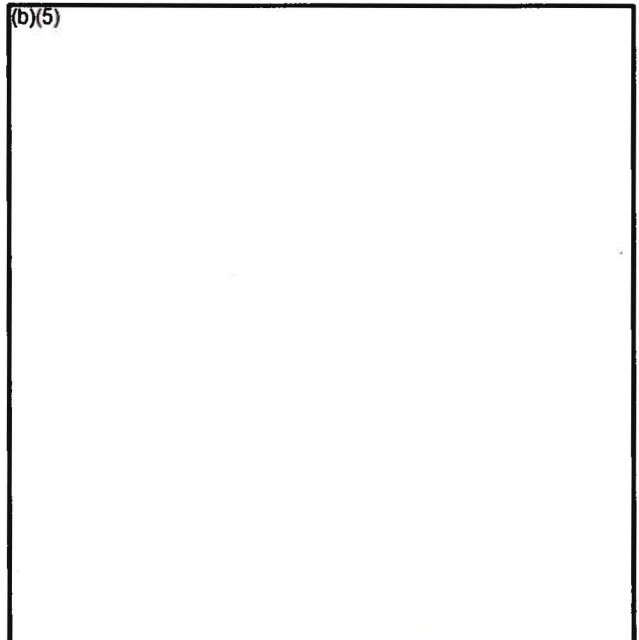
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Impacts of Findings

Significant Concerns not resolved in a timely manner may delay the decision to enter IOT&E and negatively impact declaration of IOC.

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All Issues Requiring Additional Attention are expected to be resolved before IOT&E due to their level of criticality. Issues not properly addressed may be elevated to Significant Concern status during one of AFOTEC's QSRs.

Y2K Summary

While the developer is insuring that all new SBIRS software and supporting COTS products are Y2K compliant, software renovations continue to be made to DSP and ALERT legacy programs. The SPO is in the process of completing AFOTEC Y2K Questionnaires for these legacy programs supporting SBIRS, and are on track to complete all renovations and testing prior to the end of CY98.

AREA 3. Program Documentation and Testability

The Area 3 assessment reviewed program documentation and testability of user requirements. The evaluation was comprised of 13 sub-areas.

Methodology

A review of related documentation and information determined if program documentation was sufficiently developed to support IOT&E. The evaluation methodologies and findings are detailed in Appendix E.

Sub-Area Results

Table 3-1 indicates the collective results for 13 sub-area assessments. Although these findings indicate the most severe rating for a particular sub-area, a multiple or less severe assessment may co-exist within a sub-area.

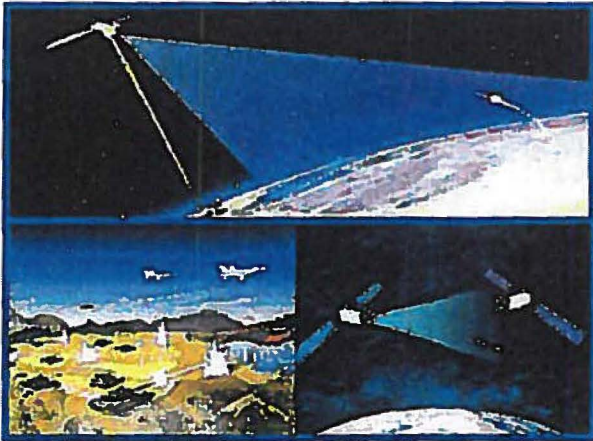


Figure 3-1. SBIRS supports the warfighter.

The following subsections consist of tables describing areas of Significant Concern, Issues Requiring Additional Attention, and Superior Areas derived from each sub-area assessment.

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Significant Concerns

There are no Significant Concerns for Area 3.

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Impact of Findings

Issues Requiring Additional Attention may potentially be elevated to a Significant Concern and monitored during the course of SBIRS acquisition through the QSR process. Failure to resolve identified issues may delay IOT&E and negatively impact declaration of IOC. AFOTEC anticipates resolution of all findings identified in Area 3 and does not expect these issues to impact IOT&E.

AREA 4. Ability of the program to support IOT&E

Area 4 assessed the ability of the program to support operational testing. Area 4 is primarily a summation of critical issues reported within Area 1, Area 2, and Area 3 of this OA. The evaluation comprised six sub-areas.

Methodology

Determination of program progress is based primarily on program information, documentation, schedules, and test team findings from Areas 1, 2 and 3. This information was consolidated and evaluated to determine the program's potential to support an IOT&E in 1999. The evaluation methodologies and findings are detailed in Appendix F.

Sub-Area Results

Table 4-1 indicates the collective results for 6 sub-area assessments. Although these findings indicate the most severe rating for a particular sub-area, a multiple or less severe assessment may co-exist within a sub-area.

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Impact of Findings

The Significant Concerns and Issues Requiring Additional Attention address major

impacts affecting the projected ability of the program to support IOT&E. Significant Concerns contain an element or elements that require management attention. Issues Requiring Additional Attention can potentially be elevated to a Significant Concern and monitored through the course of the acquisition through the QSR process. Failure to resolve identified issues may delay IOT&E and negatively impact declaration of IOC.

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Figure 2: The SBIRS system of systems will provide a highly effective early warning system



CONCLUSIONS AND RECOMMENDATIONS

This OA was conducted one year in advance of the scheduled Increment 1 IOT&E. As

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SBIRS SPO and Lockheed Martin personnel has generally maintained program schedule to date. Continuous scrutiny of schedule risk

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dates, and deliver an operationally effective and suitable system to the warfighter. This task is even more challenging since previously scheduled program events have been delayed and management schedule reserve exhausted. The Apr '99 IOT&E start date could eventually pressure management to combine/reduce DT periods in order to maintain schedule. This must be strictly avoided; lessons learned from previous programs indicate risk to IOT&E is substantially increased when DT has been compressed.

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however, the SBIRS program schedule has been very aggressive since EMD contract award, Nov '96. Proactive management by



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