AFSPACECOM
1990

Chapter II

MISSILE WARNING

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Defense Support Program (U)

The Defense Support Program (DSP) consisted of the DSP satellite constellation, fixed Ground Processing Stations (GPS), and a Mobile Ground System (MGS). Continuous DSP coverage [redacted] b(1) [redacted] fixed intercontinental ballistic missile (ICBM) complexes remained the DSP pre-attack surveillance priority. Continuous coverage of [redacted] b(1) [redacted] mobile ICBM and sea-launched ballistic missile (SLBM) deployment areas constituted an extremely high second priority due to [redacted] b(1) [redacted]

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b(1) DSP nuclear detection (NUDET) coverage b(1) served as a third pre-attack surveillance priority. In addition, the rapidly increasing tactical and third world threats --including tactical ballistic missiles, b(1) required DSP to add a fourth pre-attack priority to its mission.

b(1)

Operational Concerns

There were some operational concerns expressed about the future effectiveness of the system even though DSP continued to provide credible early warning capability for ICBM attack against North America:[3]

(1) b(1)

(2) b(1)

(3) Tactical Application/Evolution. Operation DESERT SHIELD highlighted the importance of DSP support to theater commanders.

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(4) Mobile Ground Terminal (MGT) Status. The first two upgraded MGTs were returned to Space Systems Division (SSD) due to poor performance during IOT&E.

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[2] DSP Operations Planning Directive (S/DECL OADR), "For Appendix 28 to Annex C to USCINCSPACE OPORD 3401-90, DSP/MGS Ops (U)," 2 May 90, p 1.

[3] Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO et al, "CC Questions," 7 Sep 90, w/4 atchs, Sup Doc II-1.

(5) Survivable Command Link Status. The new DSP-1 satellites have a survivable command link known as the AFSATCOM Modulation Compatability (AMC). To date, SSD had been unsuccessful in making the AMC commanding work.

(6) MGT Deployment Evolution.

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AFSPACECOM must determine how MGT wartime operations will evolve. The

b(1)

(7) DSP/BSTS Transition. This transition, which will be addressed in detail later in this chapter, involved phasing down the DSP system while ensuring that an adequate TW/AA coverage is maintained. DSP satellite acquisitions/requirements were monitored to preclude coverage loss or purchasing of excess satellites.

Tactical Event Reporting System (TERS)

DSP had been supporting tactical users with reports b(1) since 1983. In the past, b(1) data was transmitted manually from the CONUS Ground Station (CGS) and the Overseas Ground Station (OGS) via the b(1) format. This format often resulted in a report taking b(1) to get into the hands of a tactical user, well beyond the b(1) goal established by USCINCSPACE.

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In September 1989, USCINCSPACE directed the reporting of tactical events via TRAP by 1 November. TERS implementation involved

b(1)

b(1)

But a first year O&M cost of $1.5M and the continuing logistical support for the [redacted] proved unacceptable. The command decided to program the [redacted] directly into the [redacted] Communications Manager software. Stanford Telecommunications, Inc., received the job of programing the software and Initial Operational Capability (IOC) was anticipated for [redacted]

On 15 June Brig Gen Ronald D. Gray, DCS/Operations, informed Unified SPJ3 that the TERS function to be embedded within the [redacted] software would not be ready for implementation on time because the contractor still had several serious problems to resolve. Gen Gray estimated a delay of 3-4 weeks and that implementation could take place on or about [redacted] The new schedule was achieved and the TERS mission became operational [redacted]

DSP satellite detections of the following were reported on TERS:

(1) [redacted]

(2) [redacted]

[redacted] tactical surveillance areas were defined and optimized for DSP surveillance based on Joint Chiefs of Staff (JCS) requirements, multiple US CINC tactical requests, and intelligence information. [redacted] Prioritization of those areas were based on JCS

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[4] Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO/ADO, "Tactical Event Reporting System (TERS) Background Paper," 16 Apr 90, w/4 atchs, Sup Doc II-2.

[5] Ltr (S/DECL OADR), Brig Gen Ronald D. Gray, DCS/Operations, to SPJ3, "Tactical Event Reporting System (TERS) Implementation," 15 Jun 90, Sup Doc II-3.

Locations for the surveillance areas were: [redacted]

requirements in addition to US CINC requests for DSP support of real world tactical and exercise operations. b(1)

After the first three months of operations the command decided to assess lessons learned in implementing TERS and identify any areas for improvement. During that process the following issues surfaced at the command or unit level:

(1) b(1)

(2) Some friction existed in the Air Force Space Operations Center (AFSPOC)/Space Command Center (SPACC) interface. The sites reported there was often a b(1) delay for a tasking change after they reported b(1) before the AFSPOC called back with the new tasking. The AFSPOC blamed the delay on having to wait for the SPACC to call with permission for the new configuration. It was recommended that the AFSPOC give the new tasking when the sites call b(1) Then, the AFSPOC could backbrief the SPAAC on the new configuration within a reasonable time frame.

(3) b(1)

(4) b(1)

(5) b(1)

[6] Msg (S/DECL OADR), HQ USSPACECOM/SPJ3, to HQ AFSPACECOM/XR et al, "Potential For Tactical Application of Ballistic Missile Launch Notification (U)," 202230Z Jun 90, Sup Doc II-4.

b(1)

After the above issues had been identified and analyzed, recommendations were made and staffed through SPJ3.[7]

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[7] Memo (U), Lt Col John S. Paul, Act Dir of Missile Warning Systems, to 1 SWG/DO, "Tactical Event Reporting System (TERS) Lessons Learned," 13 Sep 90, Sup Doc II-5; Ltr (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to HQ USSPACECOM/SPJ3, "Tactical Event Reporting System (TERS) Issue Resolution (U)," 19 Oct 90, w/atch, Sup Doc II-6.

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Support to Operation DESERT SHIELD

Events in the Middle East from August-December 1990 demonstrated the critical value of DSP tactical data to battlefield users. As the Gulf crisis moved ever closer to an armed conflict, AFSPACECOM was tasked by USSPACECOM/SPJ3 to explore all possible means of improving DSP support to DESERT SHIELD. One of the main problems in supplying reliable real-time data concerned the

b(1)

AFSPACECOM initiated action to enable EGS to perform b(1) This involved the installation of b(1) The concept of operations called for a two or three phased installation. In Phase I an initial b(1) capability would be achieved as quickly as possible by the installation of b(1) Phase I also included the necessary software changes/recompilations. Under Phase I EGS would be b(1) Phase I was expected to be completed by the end of the year. In Phase II b(1) so that the crews would not have to go to the other SOC to b(1) Phase three would provide b(1)

In October USCINCSPACE issued a new policy that modified as well as legitimized how AFSPACECOM supported DESERT SHIELD. Elements of the new policy included:

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13 Not within purview of FOIA Request.

14 Msg (S/DECL OADR), HQ AFSPACECOM/DOM, to 1 SPACEWG/DO, "European Ground Station (EGS) b(1) (U)," 162235Z Oct 90, w/atchs, Sup Doc II-7.

(1)

(2)

(3)

(4)

(5)

(6)

When DESERT SHIELD turned into DESERT STORM following the outbreak of hostilities on 16 Jan 1991, DSP played a key role in the quick victory by the United States and its coalition allies. That story does not fall within the bounds of this history but, suffice it to say, by the beginning of the new year, DSP's state of mission readiness was more than equal to the tremendous challenge soon to come.[15]

Constellation Status

b(1)

[15] Msg (S/DECL OADR), HQ AFSPACECOM/DOM, to 1 SPACEWG/DO, "DESERT SHIELD Support Policy (U)," 122352Z Oct 90, Sup Doc II-8.

[16] Bullet Background Paper (S/DECL OADR), Capt Weiss, DOMD, "DSP Constellation Status," 4 May 90, Sup Doc II-9.

[17] Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO et al, b(1) (U)," 21 Jun 90, w/atch, Sup Doc II-10; Memo (S/DECL OADR), Lt Col John S. Paul, Act Dir of Missile Warning Systems, to DO et al, b(1) 3 Jul 90, w/4 atchs, Sup Doc II-11.

On 28 June the OGS noted b(1)

. An investigation revealed, b(1)
had also occurred in 1989. It was believed that either a
b(1)
To date, the situation required no HQ or System Program Office (SPO) assistance nor had any mission impact or danger to the satellite been noted. The situation was being closely monitored and plans were prepared to b(1)
if the satellite began to experience mission degradation. The satellite had never operated b(1) but there were no known problems with the unit. Switching to the backup would have required b(1)
but at year's end no action had yet been taken.[18]

Flight 14, which had been launched in June 1989, b(1)
USCINCSPACE had directed that Flight 14 occupy

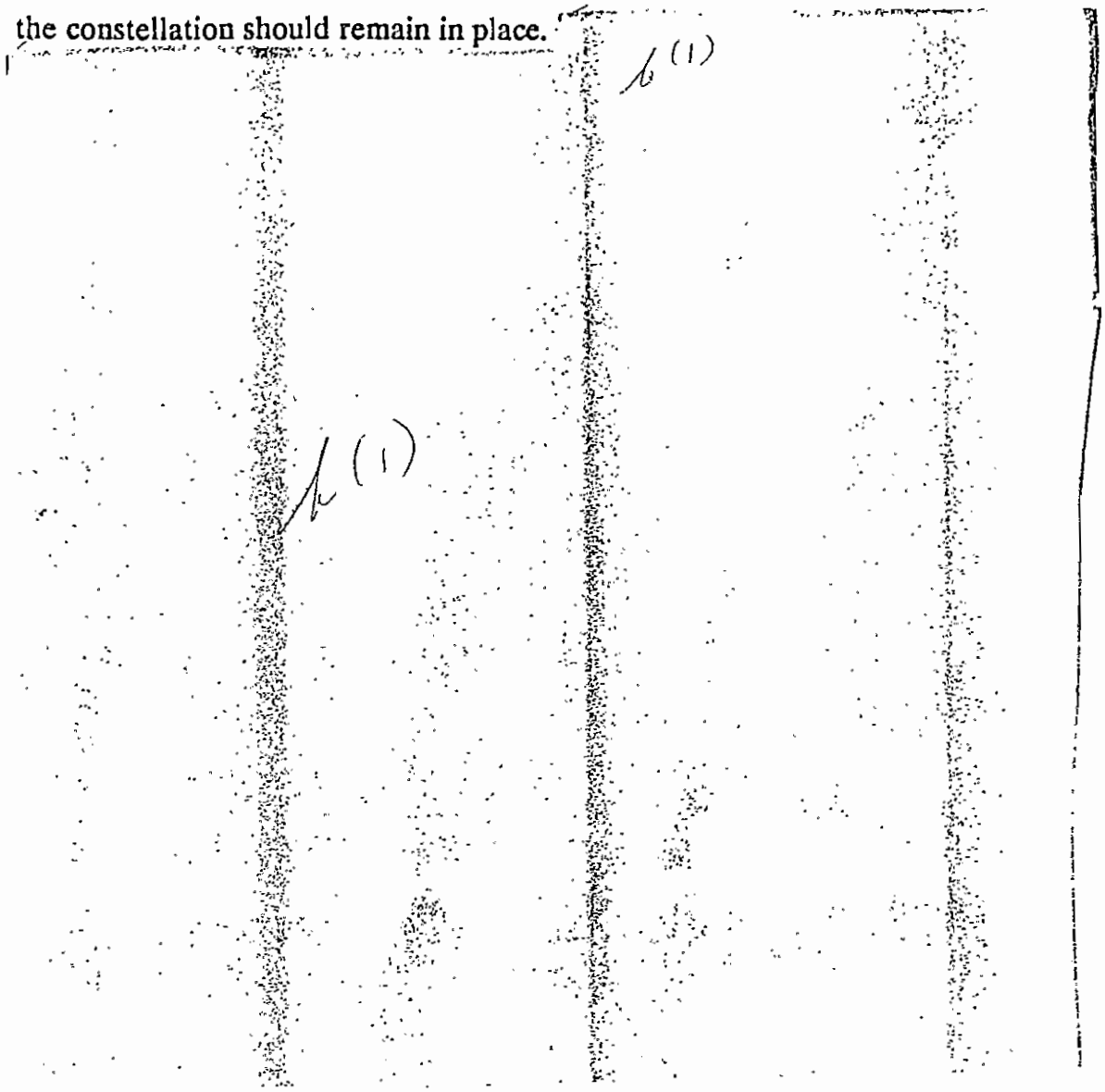
b(1)

The launch of Flight 15 on 13 November 1990 b(1)
Three constraints affected the command's decision as how to best deploy this new satellite:
b(1)
Within these constraints the analysis clearly showed that Flight 15 should occupy b(1)
and the remainder of

[18] Point Paper (S/DECL OADR), Capt Weiss, DOMD, "Defense Support Program (DSP) b(1) (U)," 6 Jul 90, Sup Doc II-12; Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO et al, "Defense Support Program (DSP) b(1) Update," 20 Jul 90, w/atch, Sup Doc II-13; Ltr (S/DECL OADR), Brig Gen Ronald D. Gray, DCS/Operations, to HQ USSPACECOM/SPJ3, "DSP b(1) Situation (U)," 6 Jul 90, Sup Doc II-14.

[19] Msg (S/DECL OADR), HQ AFSPACECOM/DOM, to HQ USAF/XOORS, b(1) Redeployment (U)," 201448Z Feb 90, Sup Doc II-15; Msg (S/DECL OADR), HQ AFSPACECOM/DOM, to HQ USAF/XOOSO/XOXXP, "Defense Support Program (DSP) b(1) (U)," 102200Z Sep 90, Sup Doc II-16.

the constellation should remain in place.



In addition, the command began preparation on a concept of operations to govern the employment of the constellation.[21]

Constellation Effectiveness

DSP satellites had provided a credible capability to detect a strategic missile attack against North America; however, the evolution of Soviet ICBMs and Arctic SLBM launch capabilities had stretched to the limit their ability to provide adequate coverage.

[20] Ltr (S/DECL OADR), Lt Gen Thomas S. Moorman, Jr., COMAFSPACE, to USCINCSPACE, "Defense Suport Program (DSP) Constellation Management (U)," 7 May 90, Sup Doc II-17.

[21] Msg (S/DECL OADR), HQ USSPACECOM/SPJ3, to Joint Staff/J36, "DSP On-Orbit Configuration," 311750Z Jul 90, Sup Doc II-18.

In addition to these developments, the new "Space-Based TW/AA Sensor System Requirements for Ballistic Missiles," validated by the Joint Requirements Oversight Council (JROC), stressed the current system

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The veteran DSP had a few good years left, but its limitations were becoming more significant.

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On the other hand, the basic spacecraft and sensor package could be upgraded to dramatically reduce or eliminate these limitations, or a new space based early warning system could be procured.[22]

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[22] SSS (S/DECL OADR), Brig Gen Robert L. Stewart, USSPACECOM/J5, "DSP/BSTS Program Review," 21 Feb 90, Sup Doc II-19.

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Ground Processing Stations (GPS)

Operating in conjunction with the DSP constellation were the ground processing stations (GPS). The GPSs, both fixed and mobile, provided the capability to command and control, to collect and process satellite data, to display the data in near real time, and to transmit the processed mission data results to the appropriate users. DSP had three strategically-placed, fixed ground stations in 1990: the Overseas Ground Station (OGS) at Woomera, Australia; the European Ground Station (EGS) b(1) and the Continental US (CONUS) Ground Station (CGS) b(1)

Ground System-14 Upgrade. The launch in June 1989 of DSP Flight 14, the first of the new DSP-1 satellites, necessitated software and hardware changes (GS-14 Upgrade) at the fixed ground stations before the capabilities of the new generation of satellites could be fully exploited. In April 1990 the 1017th Test and Evaluation Squadron completed IOC of the new GS-14 equipment. The results were disappointing. Of the nine critical operational issues, the following seven failed to meet operational requirements:

(1) Can the GS-14 system perform Mission A and generate and transmit associated messages?

(2) Can the GS-14 system command and control DSP-14 with Link-3 uplink?

(3) Can the AFSAT II Modulation Compatability (AMC) equipment command and control DSP-14?

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[25] History (S-NF/DECL OADR), Air Force Space Command, Jan-Dec 1989, pp 49-50 (material used is classified Secret).

(4) Can the GS-14 system meet the availability, reliability, and maintainability of the current hardware and software?

(5) Have the personnel been properly trained to operate and maintain the GS-14 hardware and software?

(6) Is the GS-14 hardware and software supportable?

(7) Is the GS-14 upgrade compatible with the existing and upgraded ground station facilities?

The Directorate of Missile Warning Systems (DOM) expressed two major concerns about the GS-14 upgrade. First, instead of improving ground station performance to meet satellite improvements, performance was actually degraded compared to the old system. Second, the AMC simply did not work. DOM advised against command acceptance of the system until the problems were resolved. The impending launch of DSP Flight 15, the second of the new generation satellites, added a sense of urgency to the problem. By the end of 1990 most of the critical issues had been either corrected or reduced to a minor status. The command was expected to accept turnover of GS-14 in early 1991.[26]

DSP System 1 Upgrade. Another fixed ground station upgrade, done concurrent with but separate from GS-14, was the complete redesign of the operational hardware and software to improve threat warning and system availability. The new mission software was designed to fully exploit data from the new 6000-cell Sensory Evolutionary Development satellite in order to enhance discrimination between closely spaced events, provide improved tactical parameter performance and detection of [redacted] with new mission algorithms, and increase threat coverage during periods of intense infrared activity with new automated data management procedures. The newly designed hardware increased system availability and provided a robust data link between ground stations to improve their reliability.

In December 1989, the command placed System 1 development on hold because the contractor (IBM) had been unable to meet the contract cost and schedule milestones. The original IOC had been March 1992, but now all milestones were to be determined following an O-6 review on 28 March and an expected decision shortly thereafter on System 1 acquisition alternatives. The proposal that emerged from these discussions was for the System 1 software development to be completed by IBM but scoped to the minimum specifications approved by AFSPACECOM. This caused IOC at the CGS to be delayed until [redacted] Additionally, a change to the contract now provided for a high capacity computer driven by the software design. Furthermore, the program office agreed to compete the hardware portion of the acquisition and provide the new computers as contractor-furnished equipment to IBM. The request for proposals

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[26] Memo (S/DECL OADR), Lt Col John S. Paul, Act Dir of Missile Warning Systems, to DO et al, "Ground Station Upgrade for Satellite 14 (GS-14) IOT&E Results," 13 Jul 90, w/atch, Sup Doc II-23.

went out on 14 November. The revised IOC at the CGS proved to be too optimistic. An SSD transition group, formed following the March O-6 meeting to study the feasibility of installing multiple systems concurrently, thought [redacted] a more realistic date. In spite of the scheduling problems, with this proposal AFSPACECOM could look forward to getting a full-up System 1 at every DSP fixed ground site, including an upgraded capability at the EGS. In addition, the command fully funded the revised System 1 acquisition because the money for the hardware had already been programmed.[27]

Woomera Deputy Commander Controversy. During 1990 the OGS became embroiled in a controversy over the limits of the Deputy Commander's authority. Earlier, in 1988, Secretary of the Air Force Aldridge and Australian Minister of Defence (MOD) Beazley agreed to amend the 1969 treaty establishing the 5th Defense Space Communications Squadron (DSCS) at Nurrunger. They also agreed to replace the existing Implementing Arrangement (IA) and related documents to account for the amendments as well as the passage of time. One major change was the addition of an Australian Deputy Commander. A total of six annexes were to accompany the IA, addressing administrative arrangements, cost-sharing, security, manning, communications, and real-property management. In November 1988 AFSPACECOM began negotiating the cost-sharing annex, and by April the Australian Department of Defence (ADOD) provided a draft IA for USAF review. The following November HQ USAF's Directorate of Plans (XOX) delegated to AFSPACECOM the authority to negotiate the IA with ADOD.

In January 1990, AFSPACECOM representatives met with Mr Nockels, Counsellor, Defence Policy, Australian Embassy. All major issues were resolved with one critical exception - the role of the Australian Deputy Commander. ADOD insisted that the US make an exception to long-standing policy regarding the control of strategic systems by permitting Australian control of the DSP system in the USAF commander's absence. ADOD also maintained that such an exception was inherent in the September 1988 agreement between the Secretary of the Air Force and the Australian Minister of Defence. AFSPACECOM indicated a willingness to discuss language on the issue that would be acceptable to both sides; however, both sides also acknowledged that the underlying dispute regarding the actual intent of the 1988 agreement would have to be resolved before further progress could be achieved, and that AFSPACECOM did not have the authority to alter standing US policy. AFSPACECOM apprised HQ USAF's Directorate of Plans and DoD of the situation and requested policy guidance. During the first week in April the Australians were advised that the OSD/Air Staff position remained unchanged. On 17-18 April Counsellor Nockels informed the Directorate of International Affairs (XPI) that no progress could be made on other command initiatives until the Deputy Commander issue had been resolved.[28]

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[27] Point Paper (U), Maj Chesley, XRDD, "Defense Support Program (DSP) System 1," 22 Mar 90, Sup Doc II-24; Ltr (U), Lt Gen Thomas S. Moorman, Jr., COMAFSPACE, to USCINCSPACE, "DSP System 1 Status," 3 May 90, Sup Doc II-25.

[28] Ltr (U), Col Glen Doss, DCS/Plans, to AFSPACECOM/CC et al, "Deputy Commander (Woomera) Controversy (U)," 20 Apr 90, Sup Doc II-26.

HQ USAF advised the command that OSD may attempt to negotiate a compromise if AFSPACECOM could not. It was the command's position, though, that policy was the issue, not language. Exceptions to stated policies had been made over the years for allies with whom the US enjoyed a special relationship; b(1)

AFSPACECOM believed that a similar special relationship should be recognized with Australia. Operations of mixed US-Australian crews at Woomera had, in fact, given Australian crew members full access to station operations for many years, and the Australian Deputy Commander had had de facto control of station operations in the absence of the US commander ever since the deputy commander's position was established in 1988. It appeared that the primary consideration against formally agreeing to recognize operational control by the Australian Deputy Commander at Woomera was the b(1)

Negotiations between AFSPACECOM and ADOD on the new Nurrunger Implementing Arrangement were concluded on 19 June in Colorado Springs. OSD/Air Staff agreed to make an exception to long-standing policy and allow the Australian Deputy Commander operational control in the absence of the commander; however, no such agreement would exist in writing. Following completion of the negotiations the draft IA was coordinated within AFSPACECOM and ADOD and then forwarded for OSD/Air Staff review. The Australian government had hoped to have a ceremonial signing in Australia later in the fall, but at year's end the agreement had still not been signed because minor points about language had yet to be resolved.[30]

OGS Satellite Commanding Problem. On 5 April, the OGS experienced several command no-gos (failures of command execution) while engaged in efforts to control Infrared Processing Unit (IRPU) overflow. Erroneous command data generated by the ground station proved responsible for the problem.

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Both ground

[29] SSS (S-NF/DECL OADR), Col Glen Doss, DCS/Plans, "Authority of Deputy Commander at Woomera (U)," 2 May 90, Sup Doc II-27.

[30] Msg (U), AFSPACECOM/XP, to HQ USAF/XOXX, "Nurrunger Implementing Arrangement," Jun 90, Sup Doc II-28; SSS (U), Col Glen Doss, DCS/Plans, "Proposal for CC Trip to Australia," 25 Jun 90, Sup Doc II-29.

software and hardware were investigated and OGS declared a software emergency. The problem was later attributed to human error.[31]

CGS Power Failure. On 3 December the CGS suffered a power failure during the civil engineers' preventive maintenance inspection (PMI) on the Solid State Uninterruptable Power Supply (SSUPS). A bypass breaker failed to hold during a manual reconfiguration which, in turn, caused a power failure to critical equipment and rendered the site unable to process mission data. The loss of power occurred as a result of a mechanical failure during a switching action.

[redacted] b(1)

European Ground Station Relocation. Due to political uncertainties caused by [redacted] b(1) AFSPACECOM received a tasking to develop a contingency plan to relocate the EGS [redacted] b(1) USCINCSPACE expressed his concern that a change in the US troop allocations [redacted] could result in directions to quickly relocate the EGS. Since one of the objectives was to provide the flexibility for EGS to view the most critical DSP assets-[redacted] b(1) -a specific geographic corridor existed within which the EGS could reside.

[redacted] b(1) An assessment by the Directorate of International Affairs supported [redacted] b(1) from a political-military perspective and advised that "expeditious planning" continue.[27]

The first meeting of the PPlan 90-3 (European Ground Station Relocation) Working Group took place on 25 June. The group made the decision to base PPlan milestones on two scenarios: a short notice request [redacted] b(1) or a more orderly long

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[31] Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO et al, "Overseas Ground Station (OGS) Satellite Commanding Problem (U)," 11 Apr 90, Sup Doc II-30.

[redacted] b(1)

[26] SSS (S), Capt Pellerin, DOMD, "Final Operations Review Board (ORB) 90-34 (U)," n.d., w/atch, Sup Doc II-31.

[27] Ltr (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to XPI, "European Ground Station (EGS) Contingency Planning (U)," 20 Feb 90, Sup Doc II-32; SSS (S-NF/DECL OADR), Col Fred Taylor, Asst DCS/Operations, "European Ground Station (EGS) Contingency Planning (U)," 15 Mar 90, Sup Doc II-33; Ltr (S/DECL OADR), John Shenk, XPI, to DOM, "European Ground Station (EGS) Contingency Planning (U)," n.d., Sup Doc II-34.

lead time move. Preparations were also initiated for a site survey team to visit the EGS and several bases in [redacted] Among the site requirements were:

(1) [redacted] area for a fence enclosed EGS operations and maintenance facility.

(2) Electrical power and air conditioning.

(3) [redacted] resource protection.

(4) Access to Defense Satellite Communications System (DSCS) terminals.

(5) Associated parking, fuel storage, fencing, etc.

The command estimated the cost for constructing an associated support building at $3M.[28]

The site evaluation team scheduled its trip to coincide with XP's attendance at the European Basing Conference. Due to the Iraqi invasion of Kuwait, however, HQ USAFE cancelled the conference and advised AFSPACECOM to postpone the trip until a joint USAFE/AFSPACECOM group developed a list of proposed sites. The command placed the EGS Relocation (PPlan 90-3) on hold due to these new developments.[29]

A USAFE representative visited AFSPACOCOM on 19-20 September and advised that [redacted] He recommended that the relocation plan, either short notice or programmed, be placed on hold until Spring 1991. This, in effect, constrained AFSPACECOM from completing a viable relocation plan. Since the command had a tasking from USCINCSPACE, however, the decision was made to work an interim response to the CINC. When the political turmoil lessened the command would press forward to complete the original tasking. [redacted]

[28] Ltr (S/DECL OADR), Col William E. Stanfill, Director, Plans & Programs, to DOMD et al, "PPlan 90-3 Working Group Meeting Minutes (U)," 2 Jul 90, Sup Doc II-35; J Msg (S-NF/DECL OADR), HQ AFSPACECOM/XP, to HQ USAF/XOXXI et al, "Preliminary Site Evaluation for European Ground Station Relocation (S)," 261831Z Jul 90, Sup Doc II-36.

[29] Memo (S/DECL OADR), Col Glen Doss, DCS/Plans, to CC et al, "European Ground Station (EGS) Contingency Planning (U)," 21 Aug 90, Sup Doc II-37; Ltr (S/DECL OADR), Lt Gen Thomas S. Moorman, Jr., COMAFSPACE, to USCINCSPACE, "European Ground Station (EGS) Contingency Planning (Your Ltr, 2 Feb 90) (U)," 28 Aug 90, Sup Doc II-38.

b(1)

In addition to the option of relocating the EGS, b(1) were considered for closure by the AFSPACECOM Force Structure Tiger Team. The group discussed a variety of options in an effort to reduce command O&M expenditures. Closing b(1) was one of those options, though how much serious consideration it received is hard to evaluate.

b(1)

Mobile Ground Terminal-14 Upgrade. Mobile Ground Terminal (MGT)-14 provided hardware and software upgrades to ensure MGT/DSP-1 satellite compatability and survivability b(1)

The initial MGT-14 DT&E test failed on 1 November 1989 due to equipment performance not meeting system-level availability. That failure resulted in a six-month slip to acquisition, which in turn caused testing to be rescheduled for 14 April - 25 May 1990 at IBM's facility in Boulder, Colorado. There were two other major concerns in addition to the DT&E failure. First, spares availability presented a major concern for the program. Some critical spares needed for turnover were not available and no delivery dates had been specified. Second, logistics supportability caused concerns. Specifically, contractor-validated technical orders had many discrepencies. Failure to correct those discrepencies threatened the start of Initial Operational Test & Evaluation in June.[32]

IOT&E proceeded from 11 June to 26 July as scheduled but, the results were less than encouraging:

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[30] Memo (S/DECL OADR), Col William E. Stanfill, Asst DCS/Plans, to CS, "European Ground Station (EGS) Contingency Plan (USCINCSPACE Ltr, 10 Sep 90) (U)," 21 Sep 90, Sup Doc II-39; Ltr (S/DECL OADR), Lt Gen Thomas S. Moorman, Jr., COMAFSPACE, to USCINCSPACE, "European Ground Station (EGS) Contingency Planning (Your Ltr, 10 Sep 90) (U)," 23 Oct 90, Sup Doc II-40; Msg (S-NF/DECL OADR), HQ USAF/XP to HQ AFSPACECOM/XP/DOM, "Release of Information on European Ground Station (EGS) to Germany (S/NF)," 191531Z Oct 90, Sup Doc II-41.

[31] Background Paper (S/DECL OADR), Maj Chekan, DOMD, "Closure of b(1) (U)," 14 Nov 90, Sup Doc II-42.

[32] Point Paper (U), Capt Burnett, XRDD, "Defense Support Program (DSP) Mobile Ground Terminal-14 (MGT-14) Upgrade," 19 Mar 90, Sup Doc II-43.

[redacted]

(2) There was also concern that the radiation from the AMCSS antenna could cause serious injury to personnel. Although this threat had been well-documented no testing had as yet been performed to fully assess the potential risk as it applied to mission configuration.

(3) The safety devices installed to prevent injury from the AMCSS antenna failed during IOT&E. These devices were supposed to inhibit the AMCSS antenna from transmitting when someone is in a radiation hazard area. But in two instances the antenna continued to operate although it should have ceased.

(4) [redacted]

IOT&E produced, in addition to these problems, 99 critical Service Reports (SRs) and 64 lower priority SRs. AFSPACECOM had been scheduled to accept turnover of the upgraded system on 20 August but, as evidenced by its present configuration, MGT-14 did not meet the requirements for turnover. A program slip became imminent when the first two MGT-14 vehicles were returned in August to SSD and the contractor (IBM) for corrective repair. The deficiencies in the trucks involved mission processing, the Mission Data Message (MDM) system, and safety. [redacted]

The new schedule called for delivery of the first two MGT-14 vehicles on 30 November 1990. However, several working-level meetings and an 0-6 review raised serious doubts about the reliability of the 30 November target date. The command thought it unlikely that IBM could fix the remaining 58 operations-impacting SRs by that deadline, and feared that strict adherence to the 30 November date would result in the delivery of vehicles not fully capable of mission performance. At the same time, the command insisted that no re-testing take place until all SRs were fixed. In an October message to SSD, DCS/Requirements made known the command's reservations about the November date and requested a revised schedule to fix/solve the SRs. The command

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[33] Msg (S/DECL OADR), 4 SCS/CC, to HQ AFSPACECOM/DO1 et al, "IOT&E Concerns (U)," 271730Z Jul 90, Sup Doc II-44; Memo (U), Col James Knapp, Asst DCS/Requirements, to CC et al, "Mobile Ground Terminal-14 (MGT-14) Upgrade," 6 Aug 90, Sup Doc II-45; Memo (S/DECL OADR), Col Fred H. Hirsch, Dir of Missile Warning Systems, to DO et al, "MGT-14 Upgrade Status," 6 Aug 90, Sup Doc II-46.

supported 29 March 1991 as a more realistic delivery date for the two vehicles. This date was determined by the operational need for the MGT-14 vehicles based on the projected launch of DSP Flight 16, and on the time IBM predicted it would need to fix all 58 operationally-limiting SRs. In addition, AFSPACECOM requested that it be involved in all DT&E system-level test plans. At year's end. though, even the 29 March date appeared optimistic.[34]

Mobile Ground System Deployment Exercise. In 1990 funds became available from the Chairman, Joint Chiefs of Staff (CJSC), for an exercise of survivable TW/AA operations, b(1) . Original plans called for the deployment of b(1) MGS b(1) Primarily, the deployment aimed at gaining valuable b(1) operational and logistical experience for all levels of the MGS. Verifying MGS as a supportable, survivable and viable DSP sensor during a simulated contingency environment served as b(1) secondary mission. The exercise began on b(1) and concluded b(1) An b(1) After Action Report" was in preparation with a projected completion date of March-April 1991.[35]

b(1)

[34] SSS (U), Col James W. Knapp, Asst DCS/Requirements, "Defense Support Program (DSP) Mobile Ground Terminal-14 (MGT-14) (U)," 25 Oct 90, Sup Doc II-47; J Msg (S/DECL OADR), HQ AFSPACECOM/XR, to HQ SSD/MJ/ALG, "Defense Support Program (DSP) Mobile Ground Terminal-14 (MGT-14) Delivery Dates (U)," 312140Z Oct 90, Sup Doc II-48; Ltr (S/DECL OADR), Col Fred M. Hirsch, Dir of Missile Warning Systems, to USSPACECOM/SPJ3M, "Mobile Ground Terminal-14 (MGT-14) Upgrade Schedule," 28 Nov 90, Sup Doc II-49; Msg (U), HQ SSD/MJ, to HQ AFSPACECOM/XRD et al, "Defense Support Program (DSP) Mobile Ground Terminal-14 (MGT-14) Delivery Dates," 030100Z Dec 90, Sup Doc II-50.

[35] Msg (S/DECL OADR), HQ USSPACECOM/SPJ3, to Joint Staff/J3 et al, "MGS Deployment Exercise," 111800Z May 90, Sup Doc II-51; Msg (S/DECL OADR), HQ AFSPACECOM/DO, to HQ USSPACECOM/SPJ3 et al, "MGS Deployment Exercise," 112210Z May 90, Sup Doc II-52; Memo (S/DECL OADR), Lt Col John S. Paul, Act Dir of Missile Warning Systems, to AFSPACECOM/DO et al, b(1) Alert Order," 25 May 90, w/atch, Sup Doc II-53.