Description of document:	National Security Agency (NSA) History Paper: DEFSMAC - A Community Asset (1964-1989)
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NATIONAL SECURITY AGENCY
CENTRAL SECURITY SERVICE
FORT GEORGE G. MEADE, MARYLAND 20755-6000

Serial: MDR-117283
27 September 2024

This responds to your request of 7 July 2023 to have "DEFSMAC – A Community Asset" reviewed for declassification. The material has been reviewed under the Mandatory Declassification Review (MDR) requirements of Executive Order (E.O.) 13526 and is enclosed. We have determined that some of the information in the material requires protection.

Some portions deleted from the document were found to be currently and properly classified in accordance with E.O. 13526. The information denied meets the criteria for classification as set forth in Section 1.4 subparagraph (c) and (d) and remains classified TOP SECRET as provided in Section 1.2 of E.O. 13526. The withheld information is exempt from automatic declassification in accordance with Section 3.3(b) (3) and/or (6) of the Executive Order.

Section 3.5 (c) of E.O. 13526, allows for the protection afforded to information under the provisions of law. Therefore, the names of NSA/CSS employees and information that would reveal NSA/CSS functions and activities have been protected in accordance with Section 6, Public Law 86-36 (50 U.S. Code 3605, formerly 50 U.S. Code 402 note).

Please be advised that the responsive document includes other government agencies' information. We have consulted with the other government agencies and have protected their equities with the other government agency (OGA) redaction code.

Since your request for declassification has been denied, you are hereby advised of this Agency's appeal procedures. Any person denied access to information may file an appeal to the NSA/CSS MDR Appeal Authority. **The appeal must be postmarked no later than 60 calendar days after the date of the denial letter.** The appeal shall be in writing addressed to the NSA/CSS MDR Appeal Authority (P133), National Security Agency, 9800 Savage Road, STE 6881, Fort George G. Meade, MD 20755-6881. The

appeal shall reference the initial denial of access and shall contain, in sufficient detail and particularity, the grounds upon which the requester believes the release of information is required. The NSA/CSS MDR Appeal Authority will endeavor to respond to the appeal within 60 working days after receipt of the appeal.

Sincerely,

Jacqueline M. Amacher

Jacqueline M. Amacher
Chief
Declassification Services

Encl:
a/s

15 December 1993

TO: Mr. Gary Keeley

FROM: Helen Tucker

SUBJECT: Paper on DEFSMAC

DEFSMAC - A Community Asset, was originally written as a history paper to document the first twenty-five years of DEFSMAC. The time frame was from 1964 to 1989, a few things have changed since that time:

1. The duties of The Specialized Daily Reporting and Analysis Branch of the Operations Directorate were divided and merged with the Operations Center Branch and the Intelligence Directorate, in 1992.

2. The Science & Technology Directorate was abolished in 1993.

3. In section VI - Plans for the Future -

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OPFIS is no longer being done in DEFSMAC.

The [redacted] and [redacted] systems are not being employed at this time.

DEFSMAC is not involoved in project WINGBACK , which has fallen by the wayside, due to further analysis of the project and budget constraints.

There have been two new directors of DEFSMAC: [redacted] replaced [redacted] and Mr. R.Stephen Smith replaced [redacted] The DIA Deputy Director of DEFSMAC Col Engelman has been replaced by Col Norman Allred.

If I can be of further help to you please give me a call. I can be reached on 963-5214s

PL 86-36/50 USC 3605

(Helen T Retired at the end of January 1994. She was planning to either retire Many DEFSMAC Records or ensure a successor to be in DEFSMAC Continued to preserve them)

-Vicky

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REMARKS:
DEFSMAC- A COMMUNITY ASSET
(1964- 1989)

FROM: NAME, ADDRESS, AND PHONE NO.	DATE
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DEFSMAC - 963-5214	

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DEFSMAC - A COMMUNITY ASSET
(1964 - 1989)

AUTHOR. HELEN M. TUCKER
DEFSMAC
963-5214s

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SUMMARY (U)

~~(S)~~ The Defense Special Missile and Astronautics Center (DEFSMAC) was established at Fort Meade, Maryland effective 1 June 1964, by the Department of Defense to provide a focal point for collection guidance and support for both SIGINT and non-SIGINT sensors engaged in obtaining information concerning foreign space and missile activity.[1] This was in contrast to the previous situation of unilateral, often fragmented,and uncorrelated individual reporting which the Intelligence Community recipient had to consolidate as best he could. DEFSMAC provides a Center for current reporting of intelligence to the Intelligence Community about foreign space and missile activity.

~~(S)~~ DEFSMAC is a joint National Security Agency (NSA) and Defense Intelligence Agency (DIA) center established by Department of Defense (DOD) Directive 5100.43, dated 27 April 1964. DEFSMAC tasks and technically controls designated DOD missile and space intelligence collection and processing activities directed against foreign missile and space activities and provides current analysis and reporting of foreign missile and space events.[2]

~~(S)~~ DEFSMAC's mission is to accomplish 24 hour surveillance of foreign missile and space activities; alert and exercise technical control of DOD intelligence collection systems directed against foreign missile and space events; provide technical support, including tip-off, to all DOD missile and space intelligence collection activities to enable mission accomplishment; and, perform all source current analysis and reporting of all detected foreign missile and space events based on initial site reporting of all detected foreign missile and space events received up to 72 hours after the event.

~~(S)~~ Since its establishment, DEFSMAC has been further tasked by DIA, NSA and higher authorities to provide intelligence information on strategic missile launches directly to the White House Situation Room and National Military Command Center, timely intelligence flow to operational military commanders, support to Strategic Defense Initiative Program activities, assistance to the Departments of Defense and State in treaty monitoring activities, and participate in the Joint Chief of Staff (JCS) directed exercises and other activities.[3]

I. Collection and Dissemination of Information to the Intelligence Community (U) (prior to 1964)

A. Background (U)

~~(TSSC)~~ Prior to the establishment of DEFSMAC, various organizations, such as the Army, Air Force, Navy, CIA, DIA and NSA attempted to task and support collection facilities independently and separately from like efforts by other collection facilites and agencies. The Intelligence Community was subject to collection program duplication, conflicting reporting, and frequent instances of missed collection opportunities.[4]

~~(S)~~ At the request of the Deputy Secretary of Defense, the Assistant Secretary of Defense and the Director of DIA jointly reviewed the missile and space intelligence programs of the DOD components during the period of 25 September 1963 through February 1964. The review disclosed that within the DOD, the DIA, NSA, the JCS, Unified and Specified Commands, the three Military

Departments and certain military commands were engaged in missile and space intelligence activities. These organizations were supported by an extensive contractual effort. The analysis of the review indicated the need for a more efficient effort through improved management arrangements and procedures in the functional area. The analysis further reported that "with the exception of those Defense collection activities which operate(d) under the cognizance of the Director, NSA, the present management arrangements and procedures of Defense collection activities (did) not provide the supervision required to ensure adequate operational and technical performance."[5] As a result of that review the DOD Directive was issued which established a joint NSA/DIA Department of Defense Special Missile and Astronautics Center (DOD/SMAC).

(U) Over the years the title DOD/SMAC was shortened in briefings and by references and was subsquently changed to DEF/SMAC and finally DEFSMAC in 1976, which is the title the Center is known by in the Intelligence Community today.[6]

~~(C)~~ DEFSMAC's functions were reaffirmed by the 1976 OASD (Comptroller) Auditor's report Number 644.[7] This report emphasized the key role of the DEFSMAC centralized control of intelligence and current reporting of all foreign missile and space activity. The specific needs for which the National Intelligence and Military Operational community relies on DEFSMAC can be found in the current intelligence requirements and the Manual of Authorized Receipients of SIGINT Product (MARSP) which have been validated by the Defense Intelligence Agency for the DOD.

B. NSA (U)

~~(C)~~ The National Security Agency (NSA) was established in 1958, to provide for the Signals Intelligence (SIGINT) mission of the United States, to establish an effective unified organization and control all SIGINT collection and processing activities of the United States, and to produce SIGINT in accordance with objectives, requirements and priorities established by the Central Intelligence with the advice of the United States Intelligence Board.[8]

~~(C)~~ The predecessor of DEFSMAC at NSA was the SIGINT Missile and Astronautics Center (SMAC). Plans for its establishment were drawn up in 1960-62. It was to function as the National Center for the rapid processing, in-house analysis and exchange of all missile and space data and related information from all SIGINT sources during periods of foreign missile and space operational activity. It was to be a Restricted SIGINT Operations Area.[9]

~~(TSCO)~~ However as plans for the Center became finialized it became apparent that non-SIGINT information contributed much needed information to provide, on an immediate basis, comprehensive analytic reports pertaining to missile and space activity. At that time the NSA proposed to the DOD and DIA the formation of an all-source center, including non-SIGINT sources.[10]

C. DIA (U)

(U) The DIA was established in 1961 to assure a more efficent allocation of critical intelligence resources, more

effective management of all DoD intelligence activities and the elimination of duplicating facilities and organizations. It was to be a focal point to exercise broad management review authority over military intelligence programs within the Office of the Secretary of Defense, and to provide overall coordination of all foreign intelligence activities, conducted by various defense components.11

D. The Central Intelligence Agency (CIA) and Air Force Technology Techical Divison (FTD) (U)

(S) CIA and FTD maintained their own watch operations center to monitor missile and space events. These centers reported on foreign [redacted] OGA

II. General Description of DEFSMAC (U)

(S) The DEFSMAC charter, signed in 1964, gave DEFSMAC the responsibilty for 24 hour surveillance of foreign missile and space

activities, tasking and technical control of all DOD intelligence collection activities directed against foreign and missile activities; providing technical support, including tip-off, to all DOD missile and space collection assets to assist them in the preformance of their respective missions; and current analysis and reporting of foreign space and missile events based upon data collected by DoD missile and space intelligence activities received at DEFSMAC up to 72 hours after the event. DEFSMAC was to direct sensors on what to do and how to do assigned tasks.

~~(C)~~ DEFSMAC does not have direct authority over the deployment or movement of ships and aircraft involved in missile and space intelligence collection. The DEFSMAC responsibilities are to provide coordinated NSA/CSS/DIA recommendations regarding when and where to deploy collection platforms. Authorities responsible for deployment and movement of mobile collection platforms act on these recommendations in accordance with JCS direction.

(U) The DIA management support and attendant authority concerning production of multidiscipline intelligence, and its

contribution of non-cryptologic intelligence expertise, combined with the NSA/CSS SIGINT authority, presence, management support and cryptologic expertise, permit a much more detailed and comprehensive current management, analysis and reporting activity than could be achieved by either Agency individually.

~~(S)~~ NSA and DIA missions and functions are complementary in nature and the DEFSMAC Joint Activity, as a result has come to be and is viewed as separate by NSA and DIA although supported and guided by both. This view is shared by the Military Departments, and the CIA. DEFSMAC enjoys direct management access to non-dedicated intelligence resources and other sensor systems managed by the military departments and the NSA/CSS. This in turn enables tasking and current planning to proceed in rapid response to fleeting collection opportunities, uninhibited by non-operationally pertinent organizational considerations.

~~(S)~~ CIA maintained a Foreign Missile and Space Activities Center (FMSAC), which worked closely with DEFSMAC for a number of

years, and there was a CIA representative in DEFSMAC until June 1970. FMSAC was disbanded in 1974 leaving DEFSMAC as the only continuously operating center in the Washington area focused on the foreign missile and space problem for alerting, time sensitive collection related actions, and analysis and reporting.

[redacted]

A. Organization Summary (U)

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~~(FOUO)~~ The director of DEFSMAC is always an NSA Senior Executive, he is assisted by a Deputy Director who is always a DIA Air Force colonel. These two positions are filled with the mutual agreement of the Directors of NSA and DIA. The DEFSMAC director is aided by an executive and operational staff. In 1987 a Senior Technological Advisor was added to DEFSMAC to assist in the future development of the organization. This Joint NSA/DIA operation is manned by 130 NSA personnel, [redacted] DIA personnel and [redacted]

[redacted]

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

~~(S)~~ DEFSMAC is organized into four directorates as depicted in Figure 1. The Operations element provides collection management to the collection system and maintains a 24 hour watch center that analyzes current activities and provides tip-off and support to a worldwide multifaceted collection system. The Intelligence element monitors and reports on current missile, space and manned space operations. The Data System element provides automated data processing and external communications support to all of the above. The Science and Technology element advises the center regarding future requirements.

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~~(S-CCO)~~ Priorities and competition for SIGINT collection resources require selective coverage of communications that reflect activities relating to foreign missile and space events. When DEFSMAC detects or is advised of significant activities, appropriate collectors are advised immediately and their coverage is adjusted accordingly. Facilities tasked to collect data on foreign missile and space vehicles are not [redacted] to collect. [redacted] In order to achieve maximum collection, missile and

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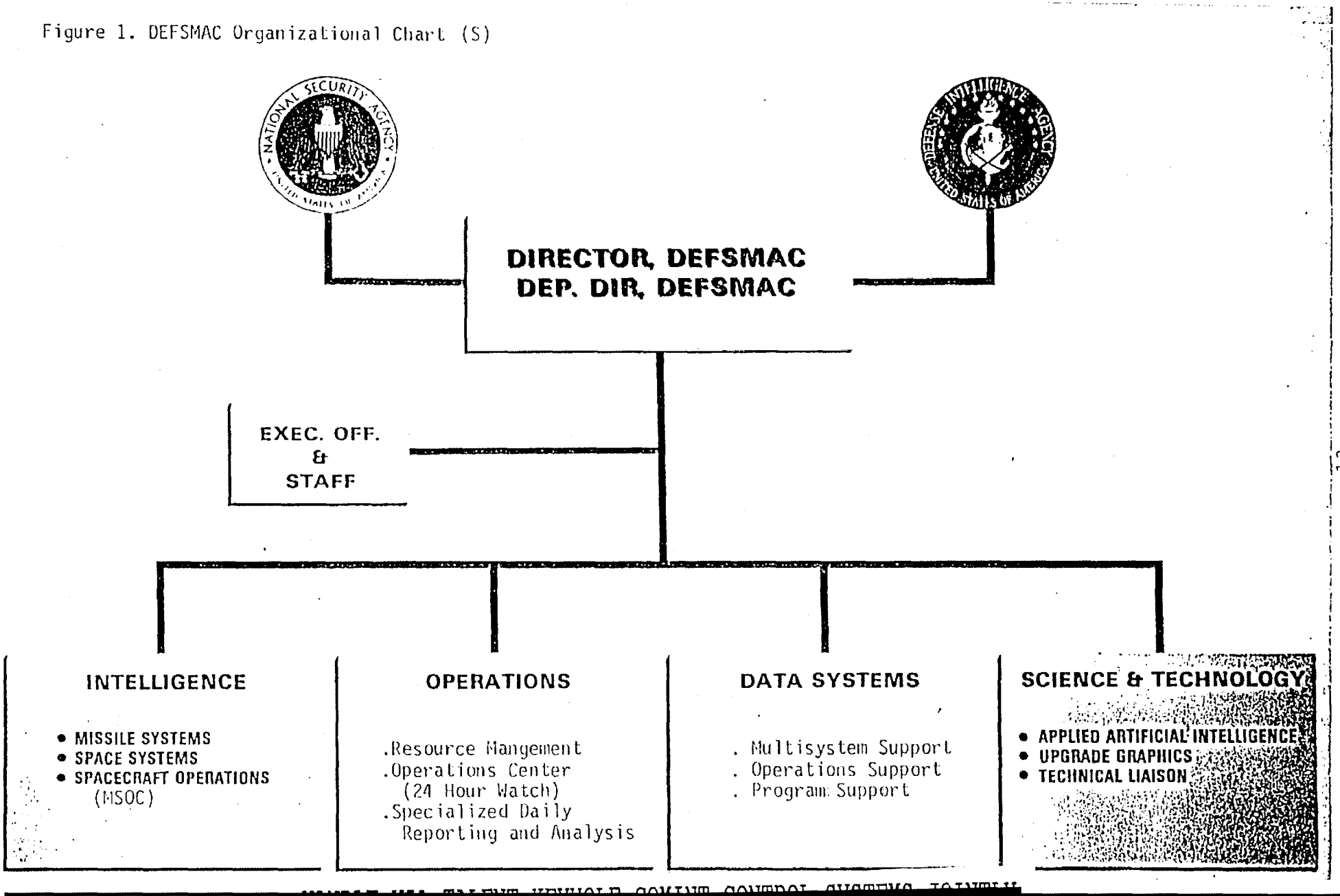
space collectors

(S) DEFSMAC exploits information that is received on a near real-time basis and is received in the Center up to 72 hours after an event. At least two reports are normally issued on each missile event: a launch report and a "wrap-up" type of report. The wrap-up report provides the customers with all the reportable information and data, both SIGINT and non-SIGINT, that has been developed by and passed to DEFSMAC on that event within that time frame. The number of reports issued on a space event vary, depending on the type of event, the life of the vehicle involved and customer interest. Launch and wrap-up reports are always issued.

Figure 1. DEFSMAC Organizational Chart (S)



B. Directorate Responsibilities Summary (U)

1. Operations Directorate (U)

(U) The Operations Directorate consists of the Resource Management Branch, the Specialized Daily Report and Analysis Branch, and the Operations Center. These branches are further divided into sections.

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a. The Resource Management Branch (U)

~~(TS-M)~~ Operational resources management is done by this branch. It is responsible for the coordination of [redacted] collection systems/sites, and the accomplishment of liaison and site support activities between DEFSMAC and collectors. These collectors range widely in volume, scope, and sophistication. They vary from conventional ground SIGINT and MASINT (Measurement and Signature Intelligence, [redacted]

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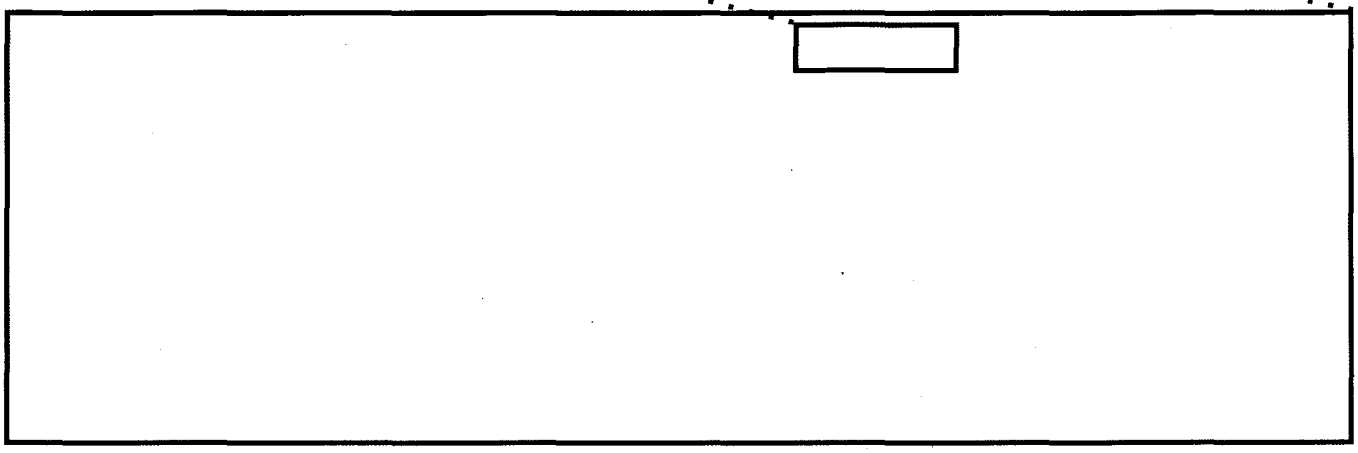

~~(S)~~ Mobile collection resources that this branch is tasked to provide technical support for include the COBRA JUDY and COBRA BALL. COBRA JUDY is The U.S. Ship OBSERVATION ISLAND, also known as the OBIS. It is a specially configured vessel used to collect radar intelligence (RADINT) and SIGINT on the terminal phases of reentry vehicle flights. In 1983 the OBIS replaced the older USNS ARNOLD and VANDERBERG Missile Range Instrumentation Ships. The OBIS was commissioned in 1952 as a freighter, and later as a Polaris testbed ship. It was mothballed for a time, refitted in 1979, and launched as OBIS in 1981. This ship's collection capability is upgraded as improvements and funds become available.

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~~(S-TK)~~ When DEFSMAC was established, [redacted] collections systems were not available to DEFSMAC. As [redacted] SIGINT collection systems grew in number and capability DEFSMAC's heavy dependence on these sensors led to the allocation of two of the collection management personnel to the [redacted] and its predecessor organizations to manage [redacted] and other collection requirements and tasking. The [redacted] data which DEFSMAC began receiving [redacted] is an example of a [redacted] which provides [redacted] of DEFSMAC targets, both [redacted] This arrangement continues today.

b. The Operations Center Branch (U)

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~~(S)~~ The DEFSMAC Operations Center Branch is manned 24 hours a day, 7 days a week, maintaining a continuous, [redacted] surveillance of [redacted] foreign missile and space activities. This center receives a [redacted] of information related to foreign missile and space activities. Some of the information is in the form of (1) [redacted] analysis of a missile [redacted]

from one of the S&T centers, including the CIA; (2) an electrical message from a SIGINT site noting that certain [redacted] (3) a one line KLEIGLIGHT (Electrical SIGINT Report); comments over the OPSCOMM, or (4) a [redacted] DEFSMAC's operations officers have been in the foreground [redacted] missile and space operations. They observe and note the [redacted] These are used to document the activity that takes place before a launch is imminent. They provide 24 hour time sensitive analysis and an evaluation of all applicable SIGINT and MASINT data reported from a worldwide network of sensors and field stations. They provide tip-off, alerting and technical control and guidance of [redacted] collection resources; and preliminary reporting on events. This division is manned by four watch teams, each consisting of a Mission Director and [redacted] personnel.

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c. The Specialized Daily Reporting and Analysis Branch (U)

~~(S)~~ The Specialized Daily Reporting and Analysis Branch is functionally divided into the Satellite Reconnaissance Reporting Section and the Telemetry Processing and Tracking Sections. The branch issues time sensitive, periodic, and mission wrap-up reconnaissance satellite sensor event reports, prepares inputs to special studies on reconnaissance satellites, identifies [redacted] processes and catalogs all satellite and missile telemetry reports, provides quality control and processing of satellite ephemeris data for NSA and DEFSMAC, produces and forwards [redacted] to space collection (SPACOL) sites to support SIGINT collection actions, and produces formatted telemetry reports for NSA and DEFSMAC analyst use. This branch is also the focal point for data base entry of all field site telemetry and launch reports for the S&T Intelligence Community, and is presently being tasked with TACREP reporting.

2. The Intelligence Directorate (U)

~~(C)~~ This is the Intelligence Reporting element which is divided into the Missile, Space and [redacted] Branches that provide analysis and product reporting and the Manned Space Operations Center (MSOC) which does current monitoring and reporting of manned space activities. OGA

~~(S)~~ This division accomplishes all source analysis, evaluates site reporting and produces end product reports for the consumers. Its responsibilities include supervision of all intelligence reporting by DEFSMAC and accomplishment of end product all source analysis and assessment reporting of foreign missile and space events based on field site reports. The division also provides feedback to U.S. [redacted] collectors, and provides the primary interface with consumers. Intelligence Division personnel maintain a comprehensive understanding of worldwide missile and space programs and provide authoritative information to DEFSMAC's many consumers in response to frequent requests. Division

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personnel also maintain a complete, all source data base on foreign missile and space events which is unique and is heavily relied upon throughout the community. This data base is the reference by which NSA catalogs the Foreign Intelligence Signals (FIS) collection.

MSOC ~~(S)~~

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~~(S-CCO)~~ In response to Science and Technology (S&T) Intelligence Community needs, the Soviet Manned Space Operations Center (MSOC) was established in 1981.[13&14] This center is manned with personnel from NSA elements from the [redacted] and an element from the Space and Missile Signals Analysis and Search Group (A64 and W14). It functions under the operational control of the Intelligence Space Branch, providing a 24 hour per day coverage of Soviet manned space activity. These analysts assist DEFSMAC current reporting functions and accomplish long term analysis work. MSOC provides timely reporting of manned space activities and isolates key data to facilitate their analytic efforts. The formation of MSOC benefited NSA, DIA, DEFSMAC and

other DOD consumers by centralizing Soviet manned space analytic and reporting efforts and facilitating collection coordination activities.

~~(S)~~ Requirements for other international countries missile and space activity may lead to further arrangements with other NSA elements.

3. The Data Systems Directorate (U)

(U) The Data Systems Directorate provides the necessary automated data processing capabilites for DEFSMAC's unique programs and maintains external communications and ADP program compatability. It is responsible for hardware, software, and communications support. The directorate consists of three branches, the Multisystem, Operations and Program Support Branches. The directorate is presently involved in converting its data processing from older systems into new more modern systems.

4. The Science and Technology Division (U)

~~(FOUO)~~ This division serves as a focal point for defining future Center requirements. Its functions include the NSA representative to the MASINT Committee, the development of requirements for improved collection, processing, analysis and reporting techniques, and includes development of Artificial Intelligence for the Intelligence Community.

~~(FOUO)~~ From its inception in 1964 DEFSMAC had gradually outgrown both its space and equipment. A major modernization was begun in 1977 and in 1983 the Director of NSA, Lt Gen Lincoln D. Faurer, USAF, and the Director DIA, LTG James A. Williams, USA, inaugurated its operations on 14 March 1983. This modernization effort is continuing today as DEFSMAC's tasks continue to grow with the increased requirements from the Intelligence Community.

III. Evolution of Responsibilities (U)

~~(S)~~ Since DEFSMAC's formation, its responsibilities have steadily grown to meet the significantly increased numbers of foreign missile and space events, more technologically complex systems [redacted] increasing complex and diverse collection systems, and the growing needs of an ever expanding number of consumers throughout the operations and intelligence communities. DEFSMAC presently functions as a national level intelligence operations center for coordinating and alerting multidiscipline [redacted] mobile, [redacted] intelligence collection and surveillance systems.

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A. Targets (U)

~~(S)~~ DEFSMAC's primary mission was originally against Soviet space and missile systems. However with the People's Republic of China (PRC) and Nth (Third World) nations emerging

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missile and space capability, DEFSMAC's mission has vastly expanded. Approximately [redacted] missile and space launches took place in 1964, during the years this activity increased and in 1988 the number of recorded missile and space launches [redacted] Figures 2 and 3 show the steadily increasing activity.

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[redacted]

B. PRC Activity ~~(S)~~

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~~(S)~~ The missile and space activity of the PRC had [redacted] DEFSMAC requested support from [redacted] to help with sensor alerting and the current PRC missile and space activity. This group assigned four personnel to the Center to be used for this purpose. This arrangement continues today.

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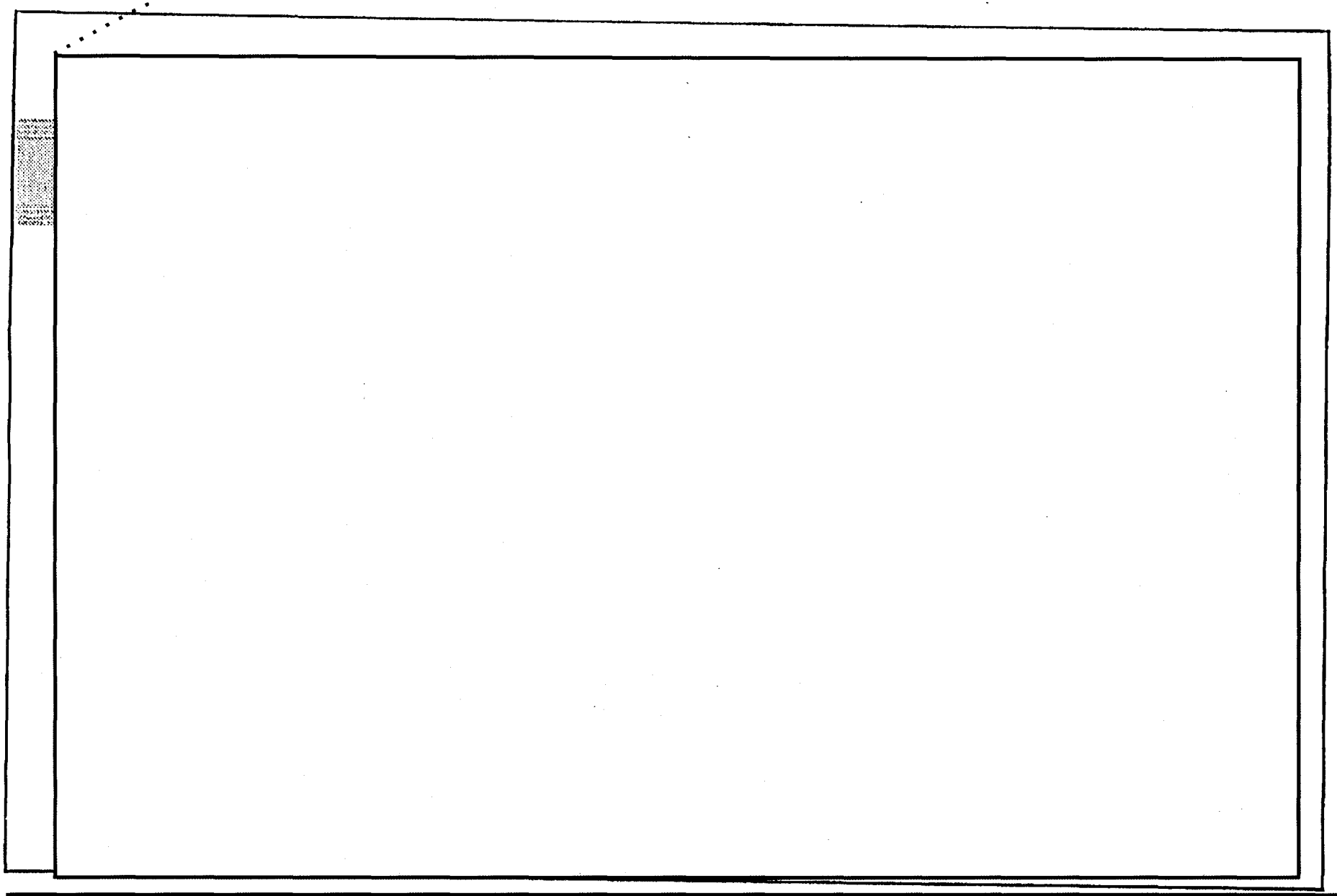

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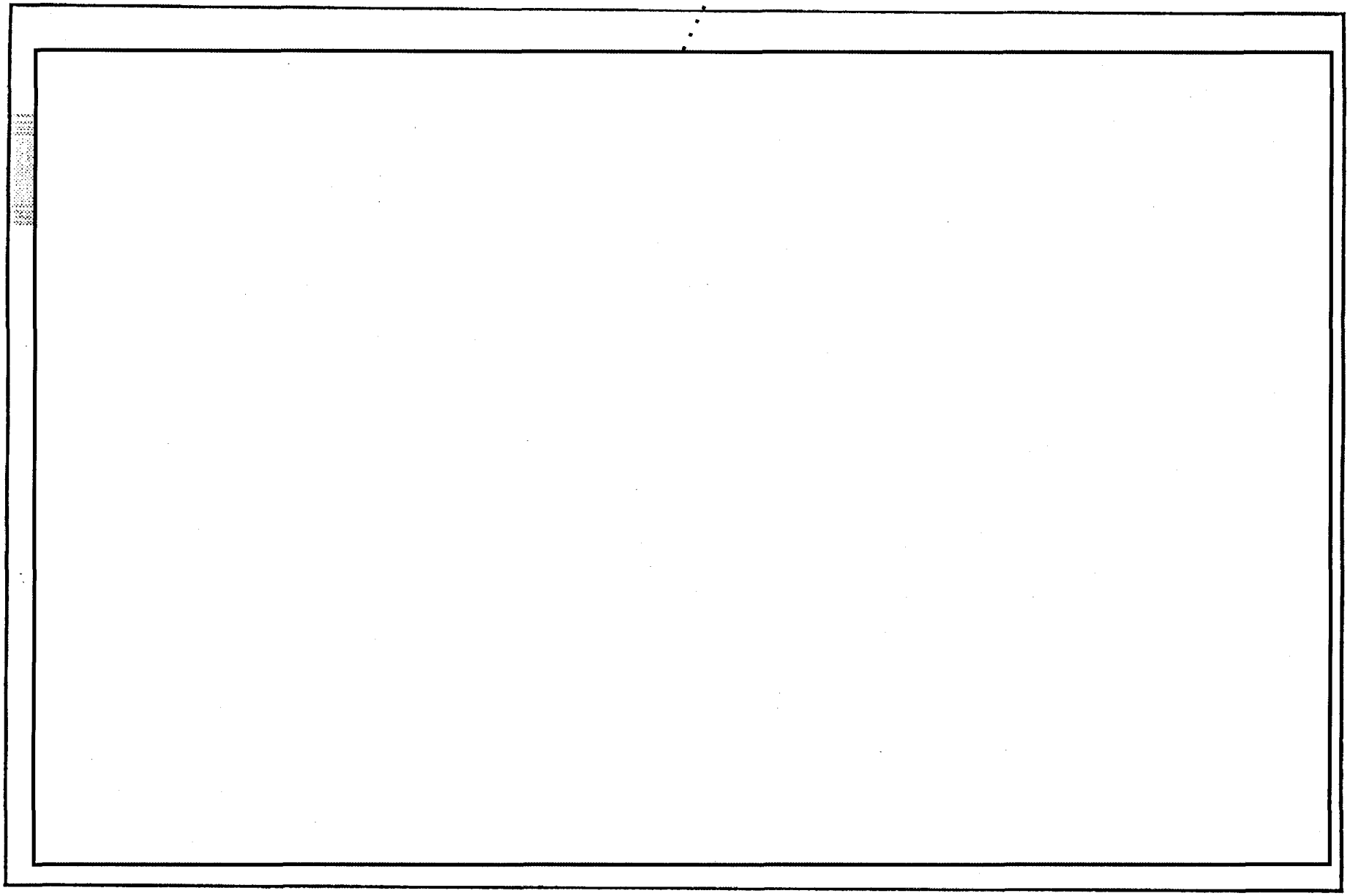

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C. Resources (U)

~~(S)~~ DEFSMAC maintains a round-the-clock effort reviewing the intelligence information obtained from various resources including SIGINT sites [redacted] assets; collection resources of [redacted] as well as other, more sophisticated, national collection resources which provide valuable input to the mission. This demanding task of monitoring and tasking of collection for pre-event activities to termination of a missile or space event, plus the technical complexity of numerous collection assets, presents a challenging and evergrowing intelligence issue.

OGA

D. [redacted] (U)

~~(S-TK)~~ DEFSMAC did not receive [redacted] information

[redacted] on a routine basis [redacted] At that time DEFSMAC began receiving [redacted] These systems used [redacted] by the Air Force for analysis and then forwarded to DEFSMAC. This [redacted] was not current enough to support DEFSMAC's collection planning mission. However [redacted] As the [redacted] progressed to daily support, and the data multiplied there was a growing need for interactive tip-off of [redacted] SIGINT systems which necessitated the creation of the [redacted] within the Intelligence Division in DEFSMAC. This branch prepares and forward requirements, disseminates results, and administratively supports [redacted] product flow. Today through the DEFSMAC's contact with the [redacted] we can request [redacted] and advise them when and where [redacted] on a real time basis. This support aids the Intelligence Community in its recognization of [redacted] brought more details regarding the missile and space activity into DEFSMAC.[15]

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~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

E. Satellite Sensor Event Reporting ~~(S)~~

~~(S)~~ In response to requirements from operational military forces (U.S. CINCPAC, U.S. CINCSPACE, and other commands) DEFSMAC provides time sensitive reporting called [redacted] on foreign [redacted] events to [redacted] and other sensitive operations. The requirements for reporting the activity have grown considerably since 1981 to include 24 hour per day [redacted] support (when requested) and daily sensor event reports. The Specialized Daily Reporting and Analysis Section was formed to handle this requirement in 1981.[16] The contributions made by DEFSMAC in providing these timely reports have been frequently commended by the U.S.Navy.

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F. [redacted] (U)

~~(S)~~ The Soviets conduct missile tests into the

Pacific Broad Ocean Area (BOA) [redacted] This is a major JCS directed operation involving large numbers of Air Force and Navy [redacted] platforms. DEFSMAC provides initial assessment and recommendation for implementation of [redacted] operations and provides extensive technical control for all sensor platforms. [redacted] DEFSMAC personnel [redacted] operations to serve as liaison [redacted] controllers. [redacted] operations have increased in complexity as new Soviet systems have been deployed and the Soviets have begun to modify [redacted]

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G. Joint Chiefs of Staff (JCS) Exercises (U)

(U) DEFSMAC has been tasked with providing support to JCS exercises; is required to write scripts for the exercises and also be a daily participant in the realtime activity.17

H. Intermediate Nuclear Force (INF) and Ballistic Missile Launch Notification Agreement (BLMA) (U)

~~(S)~~ DEFSMAC also provides extensive current intelligence to authorities monitoring launch activities associated with Intermediate Nuclear Forces (INF) and Ballistic Missile Launch Notification Agreement (BLMA) treaty monitoring. DEFSMAC is required to support this task by supplying information on the types and totals of missiles being tested, launched or destroyed by the Soviet Military authorities.

I. U.S. Space Command (USSPACECOM) Requirements (U)

~~(S-CCO)~~ In response to the formation of the USSPACECOM in September 1985, DEFSMAC and USSPACECOM reviewed the need for expanded time sensitive intelligence flow on Soviet spacecraft prelaunch activity and operations.

These officers improve coordination of space intelligence analysis and reporting

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activities, enhance coordination with Command MASINT sensors, and assist development of analytic capabilities.[18] A plan, entitled "OPFIS" was developed to enable collection, processing and reporting of foreign instrumentation signals to meet USSPACECOM and national level consumer requirements.

J. Operational Foreign Instrumentation Signals (OPFIS) (U)

~~(S)~~ OPFIS is the time sensitive derivation of intelligence information for indications, warning and support to military commanders on the status, location, activity and potential threat from foreign missile and space activity through exploitation of foreign instrumentation signals. DEFSMAC provided informal reporting on this intelligence information to the military commanders and authorized consumers until March 1989. At that time DEFSMAC began issuing formal reports called time sensitive TACREPs in response to the increased demand for this information. The OPFIS plan envisions both near and mid term actions to accomplish the tasks.

IV. IMPROVEMENTS IN COLLECTION STRATEGIES (U)

(U) The operation of new collection systems has steadily increased the very large volume of data that is forwarded to the operations center. DEFSMAC is indebted to its customers and collectors for improvements made in collecting information. Timely analysis of large volumes of data collected by national collection resources remains a difficult operational challenge.

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~~(S)~~ The increasing difficulty and complexity of problems caused by [redacted] testing, and the increasingly sophisticated target environments have delayed the analysts in the production of timely, accurate, and complete intelligence reports. Expert systems developed by the Research and Engineering Organization of NSA and other Intelligence Community members have significantly increased accuracy and handle a larger volume of data than the traditional software could manage.

V. COMMUNICATIONS SYSTEMS (U)

(S) From its inception DEFSMAC has used point-to-point communications systems, however in the early days of operation, collection sites normally transmitted information via the OPSCOMM system. This system was not active 24 hours a day. When suspected launch activity began, the system had to be activated before a report could be made, thus delaying the reporting of activity. Today the OPSCOMM circuits remain open and ready for transmissions 24 hours a day.

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(U) Numerous types of communications systems, including satellite, and computer assisted relays and programs are available to the Intelligence Community today. DEFSMAC through the use of various strageties, one of which is new high speed communications

[redacted]

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(S) The nature of the tasked targets has become increasingly more complex and diverse. Accomplishment of timely, responsive direction for optimum collection against targets became and remains difficult. DEFSMAC organized an in-house data systems support element in 1970 to provide the quick action, unique and tailored computer support required by the center. Some of the systems used are: (1) [redacted] - this is an electrical traffic sorting system. This system reduced the time an analyst spent sorting traffic; (2) [redacted] - this is the data handling system that places all entries into the [redacted] the data base for all foreign space and missile launches; (3) [redacted] (4) [redacted] that might be associated with launch tip-off signals; and (5) SMACPOST - an OPSCOMM software package for IBM terminals. This support element has interfaced the DEFSMAC systems with the [redacted] and the National SIGINT Operational Center (NSOC) and maintains DEFSMAC's extensive specialized software systems.

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A. TIP-OFF SUPPORT (U)

~~(C CCO)~~ DEFSMAC and the NSA Office of Space and Missiles (W1) began work in 1984, on an expert system called [redacted] is an effort to develop an automated, integrated, interactive, state-of-the-art tip-off support system to assist the DEFSMAC Operations Center Mission Director in determining the likelihood of foreign missile/space operations. This system will be capable of receiving all-source intelligence, scan the incoming data for pertinent tip-off information such as [redacted] The system would then pass the information on to a symbolics terminal for the DEFSMAC Mission Director's review.[19]

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~~(S)~~ [redacted]

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B. COMMUNICATIONS SUPPORT (U)

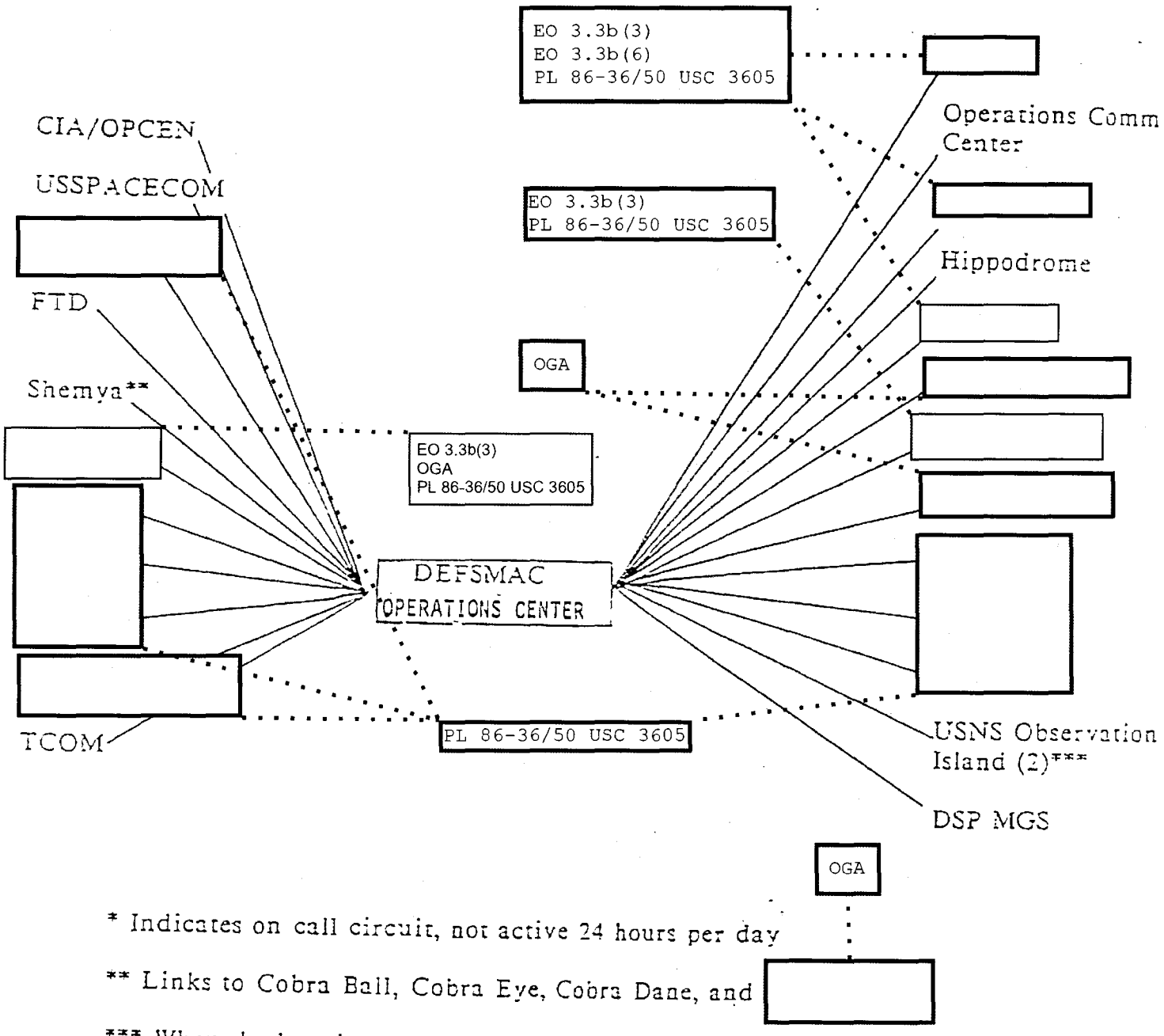
~~(S)~~ DEFSMAC's communications connectivity is provided through secure OPSCOMM, CRITICOMM, general service (GENSER), telephone, press, [redacted] and computer link (shared with NSOC) to the NSA [redacted] and other systems.

(U) OPSCOMM - Operational Communications circuit links. These dedicated point to point communications are used for rapid exchange of time sensitive information such as tip-off, period of interest alerts, and significant ongoing event updates. OPSCOMMS lines are shown in figure 4.

(U) CRITICOMM - A Critic message communications channel managed by NSA for transmission of compartmented information provides access to this category of information.

(U) GENSER - Three separate general seervice routing indicators deliver message traffic to DEFSMAC.

Figure 4. DEFSMAC OPSCOMM CIRCUITS ~~(S-CCO)~~



* Indicates on call circuit, not active 24 hours per day

** Links to Cobra Ball, Cobra Eye, Cobra Dane, and

*** When deployed

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~~(S)~~ Voice - Telephone links to DEFSMAC include AUTOSEVOCOM, NSA Grey secure telephone [redacted] STU III, AUTOVON, and commercial access. Additionally, [redacted] are provided by NSA to support deployed DEFSMAC personnel during [redacted] operations. In addition to this system, there is a dedicated secure-voice [redacted]

(U) Press - Foreign Broadcast Information Service (FBIS) and commercial press circuits are located in the Operations Center Branch.

~~(S-CCO)~~ [redacted]

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(C) ADP Support - Data processing support is provided primarily through access to the [redacted] a computer complex which provides communications handling and data processing support to time sensitive customers at NSA. Within DEFSMAC spaces, approximately 140 user workstations (both stand alone and linked to the [redacted] and other major computer complexes) are available to users for various applications. Some of the data handling systems currently being developed and interfaced with DEFSMAC systems are the MARINARA data manipulation system, the STANZA II (ENGRAFT) a [redacted] system, and the Database Integration system.

C. Communications Patch Panel (U)

(C) When DEFSMAC was established, the communications system had been able to handle the volume of data it received and transmitted. Over the years as more consumers and contacts were added new circuits were patched into the system as required. As the communications panel became overloaded, outages occurred and lack of

adequate lines to handle the increased volume became difficult to establish. When a launch of either a missile or space vehicle is detected, delays measured in seconds could prevent DEFSMAC from successfully capturing requisite data elements. Several of DEFSMAC's contacts and customers have only single communications channels and the loss of DEFSMAC's terminal meant no contact with that site. The need for an immediate and continual link with DEFSMAC's sites became critical. By 1986 the DEFSMAC Operations Center needed to replace the outdated trouble-prone OPSCOMM circuit patch panel with a new, more capable version. Plans were drafted and in 1988 a request for an ADC 4-25336-0020 Patch Panel was forwarded through NSA. This panel was needed to handle critical requirements for immediate access to all of the consumers, and to alert several classes of collectors and users, via direct OPSCOMM, [redacted] General Service (GENSER) and CRITICOMM systems, of impending and active space and missile launches.[20] Work on the patch panel was begun in 1988 and the new Circuit Patch Panel became operational in June 1989.

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VI. PLANS FOR THE FUTURE (U)

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A. OPFIS (U)

~~(S CCO)~~ DEFSMAC announced plans to begin time sensitive Tactical Reporting (TACREP) of Soviet pre-launch and launch operations and initial, limited reporting of Soviet satellite [redacted] data in 1989. DIA was requested to begin defining potential customers for this reporting.[21] While this initiative is in response to recent changes in FIS NSRLS by U.S. Space Command, some of which have been validated by SIRVES, this planning is addressing a broad range of reporting requirements intended to improve time sensitive SIGINT reporting on foreign (primarily Soviet) missile and space operations.[22]

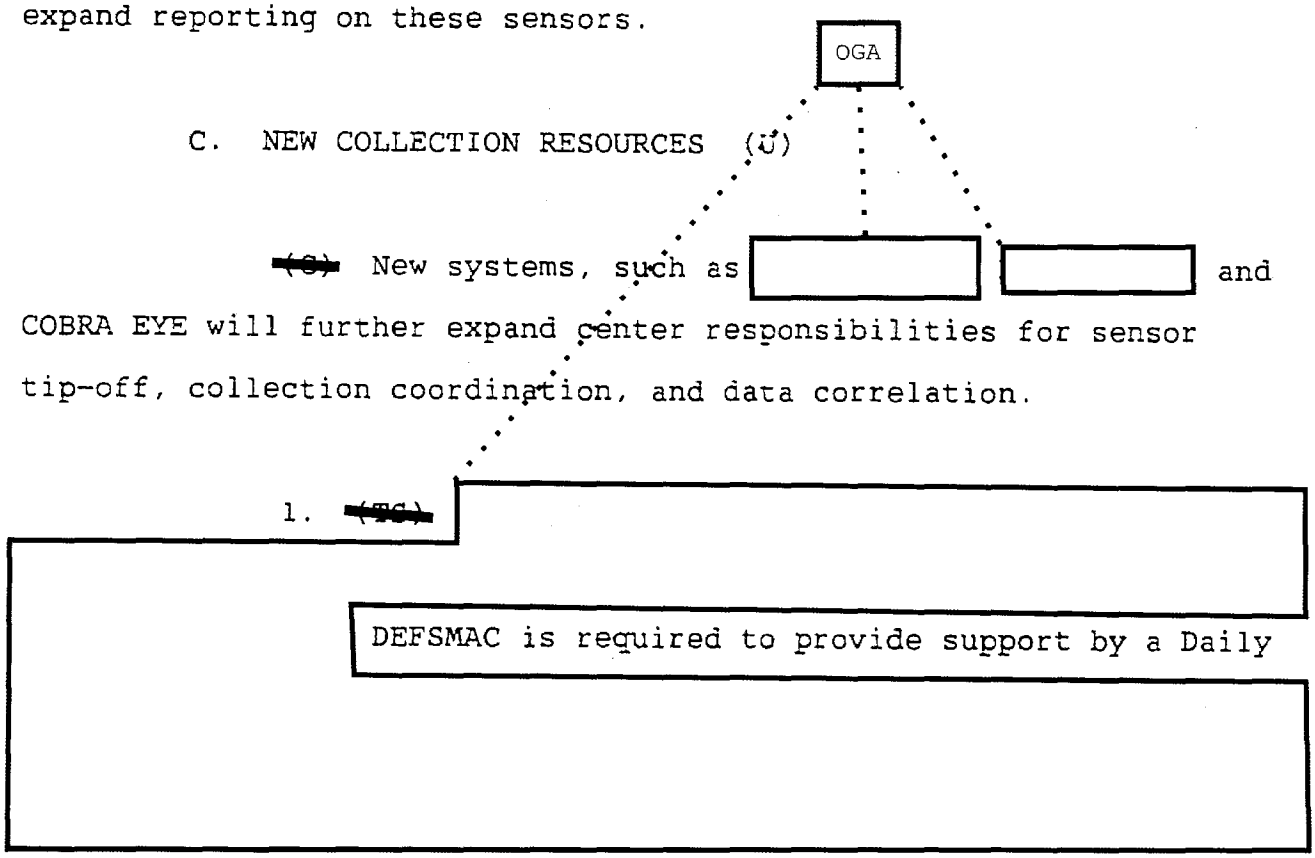
~~(S)~~ The implementation of this OPFIS program will build on the existing space collection and missile S&T collection system by establishing the necessary time sensitive processing,

analysis and reporting mechanisms. Plans have been developed to upgrade field collection, processing and establish automated time sensitive TACREP reporting from DEFSMAC.

~~(S CCO)~~ DEFSMAC reporting, will be expanded to include time sensitive reporting on satellite status and operations. This will be accomplished by establishing a DEFSMAC Space Operations Center in FY1990 to provide the necessary time sensitive analysis and reporting for the space threat. As part of the OPFIS program, DEFSMAC changed its reporting of time sensitive prelaunch and launch support via opscomm and/or telephonic support to such customers as U.S. Space Comamnd/NORAD and the NMCC for all Soviet Strategic Missile and Space launches. A formal TACREP reporting system was instituted on 1 March 1989, thus making it possible to expand TACREP availability to operational military and intelligence community customers with legitimate time sensitive/24 hour per day reporting requirements.

B. MASINT (U)

~~(S)~~ New MASINT sensors are being developed and existing sensors enhanced. The complexity of collection and analysis will continue to increase, and DEFSMAC will be required to expand reporting on these sensors.

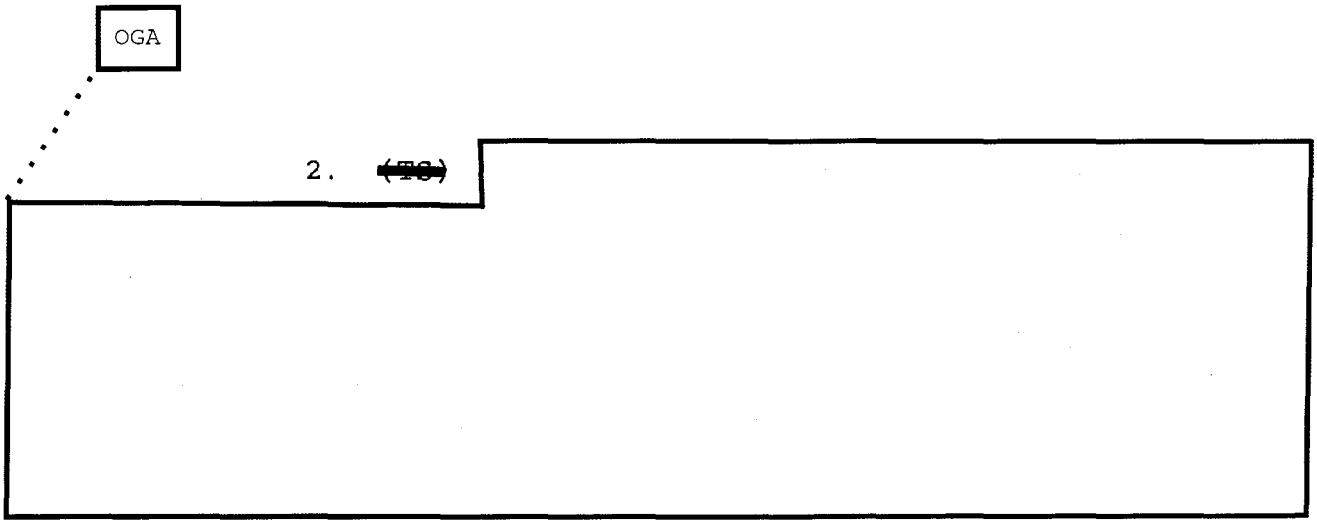


C. NEW COLLECTION RESOURCES (U)

~~(S)~~ New systems, such as and COBRA EYE will further expand center responsibilities for sensor tip-off, collection coordination, and data correlation.

1. ~~(TS)~~

DEFSMAC is required to provide support by a Daily



3. (TS) COBRA EYE is an RC-135X optical aircraft measurement infrared collector program based in Shemya, Alaska.

D. WINGBACK (S)

(S) WINGBACK is an NSA initiative to relocate the essential operating elements of NSOC, OCMC and DEFSMAC to a common area. These are the three time-sensitive operations centers at NSA. The objective is to facilitate consolidation and establish common capabilities which could include: communications and systems management, crisis management and conferencing, administration, logistics, and visitor control The relocation is planned to begin in the 1992-1993 timeframe.

VII. CONCLUSION (U)

~~(S)~~ DEFSMAC fulfills a unique role with the DoD Community through its timely sensor alerting, collection coordination, technical assistance, and time sensitive analysis and reporting. DEFSMAC personnel apply their expertise to accomplish all source initial analyses which frequently are the only assessments disseminated for the first 12 to 18 months on many foreign missile and space events. These assessments single out particularly significant events to enable the S&T intelligence centers to focus on items of immediate interest rather than sorting through volumes of raw data collected on each event. Responsibilities are accomplished through a 24 hour operation center, a worldwide operational communications network, a multisource collection alerting and coordination effort, analytic and technical data base resources, and an analytic force with exceptional experience and continuity on missile and space activity.

(C) DEFSMAC has functioned as a joint, interagency center for the past twenty-five years. With the exception of the Manned Spacecraft Operations Center, it has handled the growth in launch numbers, the corresponding growth in the collected data, the growth in the volume and complexity of targets, collection management, data processing, analysis and the production of current intelligence, in both formal product and informal support actions with virtually the same level of manning that it had in 1964. Many of the analysts have been with the center, or been involved in the missile and space activity since that time. Its responsibilities have steadily grown to meet the significantly increased need of the Intelligence Community. DEFSMAC now functions as a national level intelligence operation center for coordinating and alerting multidiscipline [redacted] intelligence collection and surveillance systems.

[redacted]
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ENDNOTES

[1] James McNamara, Defense Special Missile and Astronautics Center (~~S~~), DOD Directive Number S-5100.43, 27 April 1964.

[2] Gordon A. Blake, Lt Gen, USAF and Joseph F. Carroll, Lt Gen, USAF. Memorandum of Understanding Between the Defense Intelligence Agency and the National Security Agency (~~S~~), 29 May 1964

[3] [redacted] DEFSMAC 2000 (~~TS TK~~), Part I, TCS-53705-89, June 1989.

[4] Charles Tevis, personal interview (~~TSC TKC~~), 19 August 1987.

[5] Eugence G. Fubini, and Joseph F. Carroll Lt Gen, USAF, Department of Defense Review of Missile and Space Intelligence Programs of DoD Components (~~TSC~~), 20 February 1964, p. 2.

[6] Gordon Stark, Change in Defense/SMAC Activity Title (S) Memorandum, 14 January 1976.

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[7] [redacted] Report on the Audit of The Management of Intelligence Collection on Soviet Space and Missile Systems (~~TSC~~), TCS-44204-76, 12 February 1976.

[8] Henry A. Kissinger, Signals Intelligence (~~TS BC~~), NSCID 6, BYE-034-72, 17 February 1972 (Superseded NSCID No. 6, dated 15 September 1958, revised 18 January 1961).

[9] National Security Agency, Plans for Establishment of a SIGINT Missile and Astronautics Center (~~TSC~~), NSA Report, TS-62-03743-62, August 1962.

[10] Stark, personal interview (~~TSC TK~~), 12 January 1988.

[11] William H. Taft, IV, Defense Intelligence Agency, (U) DOD Directive 5105.21, August 1, 1961, (Revised May 1977, May 1979 and December 1980).

[12] Maxwell O. Mitchell, DEFSMAC Organization, Missions and Functions (~~TS~~), Defense/SMAC-140-70S, 25 June 1970.

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13 Richard Bernard, DEFSMAC Highlights ~~(TSC TK)~~, DEFSMAC 113-80, September 1980.

14 [redacted] Soviet Manned Space [redacted] Support ~~(S CCO)~~, Memorandum, W1-SAO-018-81, 27 January 1981.

15 Paul Childress, personal interview ~~(TSC TK)~~, 6 December 1988.

16 Richard Bernard, DEFSMAC Highlights ~~(TCS)~~, NSA-TCS-57968-82, 10 March 1982.

17 [redacted] DEFSMAC Highlights ~~(TSC TK)~~, TCS-53747-89, 27 April 1989.

18 [redacted] and Richard O'Lear, Brig Gen, USAF, Administrative Agreement USSPACECOM/J2 and Director, DEFSMAC ~~(S)~~, May 1987.

19 [redacted], "Inputs to Proposals for FY 1992-1997 Program Build for RUNWAY" ~~(TSC TK)~~, Memorandum, W11-153-89, 25 July 1989.

20 [redacted] Communications Terminal Maintenance ~~(S)~~, Memorandum, DEFSMAC-018-88, 26 January 1988.

21 [redacted] "Space Tactical Reporting" ~~(TSC)~~, DEFSMAC-221-89, 072258Z February 1989.

22 Charles F. Clark, RADM, USN, Operational Foreign Instrumentation Signals ~~(TSC TK)~~, DDO-041-89, 281501Z March 1989.

ANNEX A

DIRECTORS OF DEFSMAC

Charles Tevis	1964 - 1967
Maxwell Mitchell	1967 - 1974
Gordon Stark	1974 - 1978
James Pryde	1978 - 1980
Richard Bernard	1980 - 1983
Roy Crippen	1983 - 1986
[redacted]	1986 - ~~Present~~ 1990
	1990 - 1992
R. STEPHEN SMITH	1992 - "PRESENT" (Dec. 1993 at least)

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~~Not Releasable to Foreign Nationals~~

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~

ANNEX B

DEPUTY DIRECTORS OF DEFSMAC

OGA

[redacted]	1964 - 1967
	1967 - 1972
	1972 - 1974
	1974 - 1979
	1979 - 1981
	1981 - 1984
	1984 - 1985
	1985 - 1987
	1987 - 1988
	1988 - ~~PRESENT~~ 1991
	1991 - "PRESENT (Dec. 1993 at least)

ANNEX C

LIST OF FIGURES