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HISTORY OF HEADQUARTERS STRATEGIC AIR COMMAND 1961

SAC HISTORICAL STUDY NO. 89

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HISTORY

OF

HEADQUARTERS STRATEGIC AIR COMMAND

1961

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HEADQUARTERS STRATEGIC AIR COMMAND

OFFUTT AIR FORCE BASE, NEBRASKA

FOREWORD

This history records the activities of Strategic Air Command for the year 1961. Particular emphasis has been given to mission development, command control communications, ground and air alert operations, training programs, development of missile combat capability, efforts to extend the service life of current aircraft and to secure advanced models, intelligence activities, and personnel actions to maintain the professional force.

Although the approach is from the command level of Headquarters SAC, the study is concerned with all levels of command. This is a history of the entire command rather than of the headquarters.

Future researchers should be aware that this work is not the all-inclusive history of the command. They should, if they desire to make a thorough investigation, peruse the histories of its major subordinate commands and lower echelon units which comprise the command. These are on file in the Historical Division, Air University, Maxwell AFB, Ala.

Major sources used in compiling this history include interviews with key headquarters personnel, notes taken at conferences and meetings, and headquarters files.

Following the narrative are a series of charts which set forth command activities not covered in detail in the narrative. These consist mainly of statistical and organizational information.

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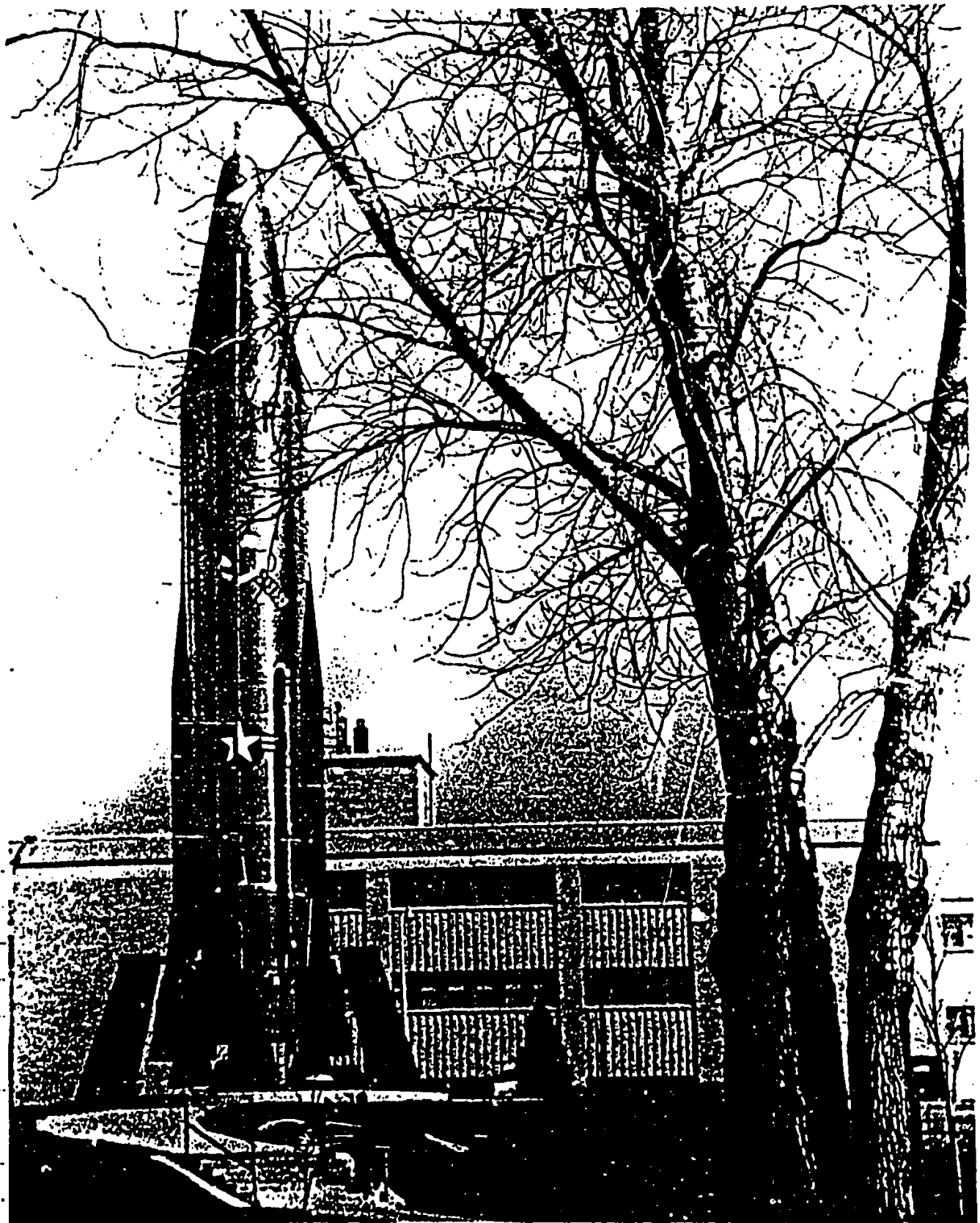

SECTION I - NARRATIVE

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Section I - Narrative

Hq SAC Organizations and Functions Book, Oct 60, which was forwarded as Attachment to History of Headquarters SAC, 1960, remained in effect through 31 Dec 61.

Chapter I

MISSION AND ORGANIZATION

The Command Structure

General Thomas S. Power, CINCSAC, commanded all SAC forces. As one of eight unified and specified commanders,* his authority for operational direction came from the President to the Secretary of Defense and through the Joint Chiefs of Staff (JCS) to him. For administrative, budgetary, and logistic support, the chain began with the President and passed to the Secretary of Defense to the Secretary of the Air Force and then to CINCSAC. General Power possessed authority to launch the strike force under positive control and to execute, divert, or commit the SAC force upon direction from higher authority. Only the President of the United States could authorize the use of nuclear weapons.[1] ~~(S)~~ U

As of 31 December 1961, SAC had 1660 tactical bombers and reconnaissance aircraft and 1095 tanker aircraft.[2] These aircraft were organized into 13 heavy B-52 bomb wings, 21 B-52 strategic wings, 19 B-47 medium bomb wings, 2 B-58 medium wings, 2 R-47 reconnaissance wings, 1 U-2 strategic reconnaissance wing, 29 heavy air refueling squadrons

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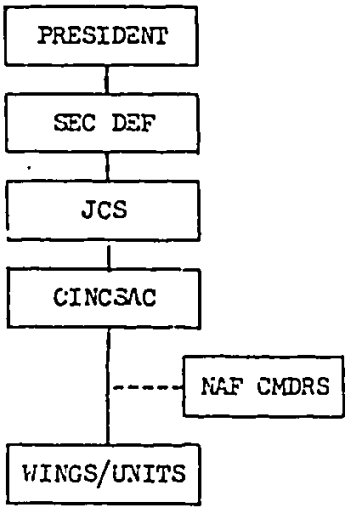
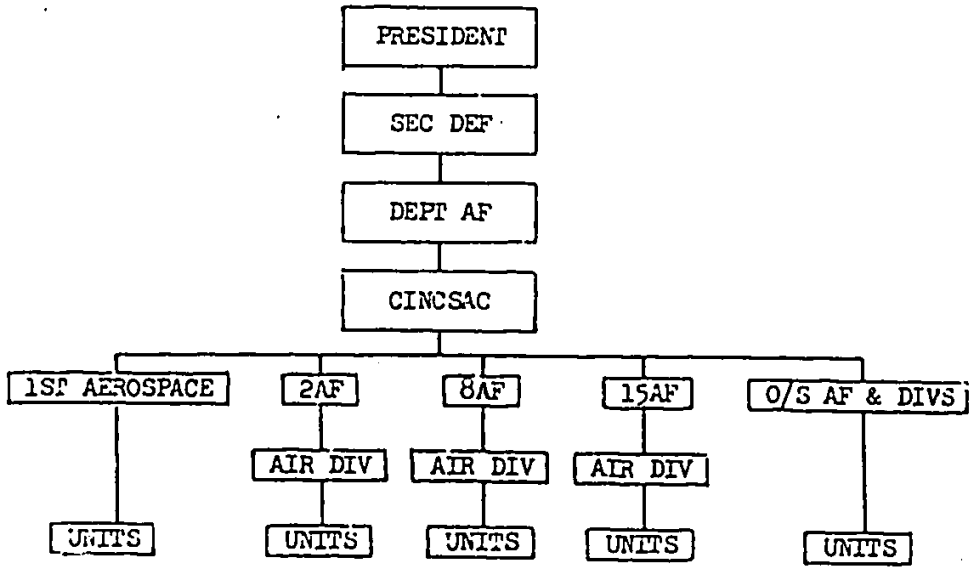
* CINC U.S. Naval Forces Eastern Atlantic and Mediterranean (CINCNELM)
CINC Atlantic (CINCLant)
CINC Alaskan Command (CINCAl)
CINC Caribbean Command (CINCarib)
CINC Continental Air Defense Command (CINCONAD)
CINC U.S. European Command (CINCEur)
CINC Pacific Command (CINCPac)
CINC Strategic Air Command (CINCSAC)

ORGANIZATION FOR STRATEGIC OFFENSE
FOR OPERATIONAL DIRECTION



(----- SUCCESSION OF CMD)

FOR FORCE PREPARATION, ADMINISTRATIVE,
BUDGETARY, AND LOGISTIC SUPPORT



(KC-135), and 29 medium air refueling squadrons (KC-97). Also included was 1 B-47 Combat Crew Training Wing (CCTW).[3] The missile force of eight squadrons had 63 missiles (Atlas and Titan) assigned. This mixed force of aircraft and missiles was manned by 280,582 officers, warrant officers, airmen, and civilians.[4] ~~(S)~~ U

The SAC force included three ZI numbered air forces commanded by lieutenant generals: Eighth Air Force, Lieutenant General Hunter Harris, Jr.; Fifteenth Air Force, Lieutenant General Archie J. Old, Jr.; and Second Air Force, Lieutenant General John D. Ryan. The 1st Strategic Aerospace Division was commanded by Major General Joseph J. Preston; the Sixteenth Air Force by Major General David Wade; the 7th Air Division by Major General Edwin B. Broadhurst; and the 3rd Air Division by Major General William C. Kingsbury.[5] (U)

Subordinate commands conducted peacetime air operations within the following areas of responsibility:[6] ~~(S)~~. U

> Second Air Force - East of 95° west longitude from US-Canadian border to the Pole and west of a line drawn north on 81° west longitude from the US-Canadian border to 60° north latitude, east to 68° west longitude, and north to the Pole. ~~(S)~~ U
>
> Eighth Air Force - Greenland, west of 35° west longitude; and in Canada east of a line drawn north on 81° west longitude from the US-Canadian border to 60° north latitude, east to 68° west longitude, and north to the Pole. ~~(S)~~ U
>
> Fifteenth Air Force - Pacific (east of International Date Line); Alaska; and Canada (west of 95° west longitude). ~~(S)~~ U
>
> Sixteenth Air Force - Area east of 35° west longitude, west of 90° east longitude, and south of 47° north latitude. ~~(S)~~ U

3rd Air Division - Far East (west of the International Date Line and east of the 90° east longitude). ~~(C)~~ U

7th Air Division - United Kingdom; Iceland; east of 35° west longitude and north of 47° north latitude. ~~(C)~~ (U)

To direct the strategic offensive should SAC Headquarters become inoperative, the command established alternate headquarters at each of the three ZI numbered air forces and in the airborne command post (ABNCP). An alternate CINCSAC would assume command under these conditions:[7] ~~(S)~~ U

Condition ALFA - When SAC Headquarters has been destroyed and this fact confirmed through visual or radar inspection by the airborne command post. ~~(S)~~ U

Condition BRAVO - When it has been positively determined that the command of SAC units and direction of SAC EWO forces cannot emanate from General Power, CINCSAC, or Lieutenant General McConnell, the Vice CINCSAC. ~~(S)~~ U

Effective 1 October 1961, the following general officers were designated successors to CINCSAC (in order of succession):[8] (1) Lieutenant General John P. McConnell, Vice CINCSAC; (2) Lieutenant General Archie J. Old, Jr., Commander, Fifteenth Air Force; (3) Lieutenant General Hunter Harris, Jr., Commander, Eighth Air Force; (4) Lieutenant General John D. Ryan, Commander, Second Air Force; and (5) CINCSAC Airborne. The last named was the general officer designated as the Airborne Emergency Action Officer aboard the ABNCP. The designated successors would constantly maintain the capability to assume command.[9] ~~(S)~~ U

Deterrence in Transition

As defined in the Unified Command Plan (UCP) of 4 February 1961, "unified and specified commands are responsible to the President and the Secretary of Defense for such military missions as may be assigned to them by the Secretary of Defense, with the approval of the President."[10] With this relationship as a foundation, the JCS delineated military objectives and strategic concepts to the unified and specified commands through the Joint Strategic Capabilities Plan (JSCP). ~~(S)~~ U

The JSCP-62 reflected for the first time the role of the CINCSAC as Director of Strategic Target Planning (DSTP) and gave instructions for development of the National Strategic Target List (NSTL) and the Single Integrated Operational Plan (SIOP) as instruments for attack of strategic targets. His duties were as follows:[11] ~~(S)~~ U

> Director of Strategic Target Planning. The individual who is CINCSAC, having been designated as the Director of Strategic Target Planning will act as agent of the Joint Chiefs of Staff to: ~~(S)~~. U
>
> (1) Organize a Joint Strategic Target Planning Staff consisting of personnel from the various Services possessing the required skills to perform the targeting and planning functions. ~~(TS)~~ U
>
> (2) Develop and maintain the NSTL and the SIOP for attack of the targets on the NSTL. In planning the strategic attack against the Sino-Soviet Bloc war-making potential, the NSTL and the SIOP will provide for the optimum integration of the committed forces for the initial strategic attack of a minimum list of targets, the destruction of which will accomplish the objectives set forth in the National Strategic Targeting and Attack Policy. ~~(S)~~ U

(3) Submit the NSTL and the SIOP to the Joint Chiefs of Staff for review and approval, highlighting points of difference which he resolved during the preparation of the NSTL and the SIOP. (S) U

Further, the CINCSAC would commit forces to these targets on the NSTL and insure complete coverage of essential Sino-Soviet bloc targets as provided in the SIOP. No attacks would be programmed by the DSTP against NSTL targets "unless provided for by the SIOP."[12] (S) U

The first SIOP became effective 1 April 1961 and included 61 per cent of the total nuclear delivery capability of the unified and specified commands. Unified commanders withheld 39 per cent of their force for use at their own discretion. Strategic Air Command's complete alert capability was included in the SIOP.[13] (S) U

The JSCP-62 delineated SAC's general war responsibilities. Of primary importance was the launching of a nuclear strategic attack against NSTL targets. Objectives of the initial strike included: (1) Destruction and neutralization of major military and government control centers; (2) Attack on nuclear delivery capability of the Sino-Soviet bloc; and (3) Strike against primary Sino-Soviet urban and industrial complexes.[14] (S) U

The role of the command in limited war in light of the formation of the JSTPS was expressed by the JSCP as follows:[15] (S) U

> U.S. nuclear retaliatory forces capable of deterring or participating in limited war operations will be employed as deemed necessary after due consideration

of the impact on the SIOP, which is a first priority task, and timely notification of the JCS and the DSTP. (S) U

Air Force Regulation 23-12 stated the SAC mission and responsibilities. Revised on 3 May 1961, the regulation delineated the command mission as follows:[16] (U)

a. Organize, train, equip, administer, and prepare strategic air forces for combat including strategic reconnaissance, bombardment, missiles, special mission, and support units. (U)

b. Exercise command over all forces allocated to SAC by JCS or other authority.

c. Perform special tasks as designated by the Secretary of Defense. (U)

d. Conduct strategic air operations with assigned forces made available by JCS and as defined in functions of the Armed Forces.* (U)

e. Conduct other air operations as JCS directs. (U)

f. Support other commands under JCS in their missions. (U)

g. Collaborate with AFSC** to prepare proposals for new systems intended for use within the command. (U)

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* "Conduct" meant directing essential strategic air offensive operations to obtain required unity of effort. Within the scope of JCS directives, it included: assigning targets, weighing effort, timing air operations, and coordinating detailed operations of forces involved to prevent their interference and to secure maximum tactical advantages from operations. (U)

** Air Force Systems Command.

h. Provide support to AFSC to implement approved systems programs for the number or priority of systems intended for use within the command. (U)

i. Prepare plans to carry out these missions in an emergency. (U)

The major change in Regulation 23-12 over the previous version dated 5 May 1958 was in the impact of the establishment of the AFSC. This called for SAC to work with AFSC in preparation of weapon system proposals. (U)

The outmoded world-wide coordination of targeting plans among unified and specified commanders was replaced by the NSTL and the SIOP following the birth of the JSTPS. While the coordination conferences were eliminated, the JCS decided Joint Coordination Centers were still required. It believed established procedures for coordination of atomic operations, when revised to reflect the improved coordination of the SIOP, remained essential in the following areas:[17] (S)

a. Rescheduled or recycled strikes during SIOP "free time" in a particular target area.* (S)

b. Strikes by non-SIOP forces against other than National Strategic Target List (NSTL) targets. (S)

c. Strikes conducted by commanders, or higher authority, during post-SIOP or subsequent phase of nuclear war. (S)

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* SIOP "free time" was defined as the interval between scheduled time over the target (TOT). SIOP began at "E-hour" and ended at the expiration of the final TOT. There would be "free time" between TOTs of various waves of strikes. (S)

The SIOP would undoubtedly reduce the necessity for "post-E-hour" coordination during the initial attack, but its impact on atomic coordination could not be fully and accurately appraised without additional analysis and testing. Therefore, the JCS directed establishment of an Ad Hoc Joint Command and Control Study Group (JCCSG) to study and evaluate the problems of command and control within the atomic coordination system.* It would monitor the world-wide atomic exercise "High Heels" held 10-20 September 1961.[18] (S) U

"High Heels" was the first "general war" exercise held directly under the guidance of the JCS and the first since completion of the SIOP. It tested the SIOP and the general war plans of all commanders. From its examination of the exercise, the JCCSG concluded:[19] (S) U

(1) SIOP has largely provided for coordination previously performed by the Joint Coordination Centers prior to E-Hour and during the initial atomic attack. (S) U

(2) The atomic coordination function, pre-E-Hour, during the initial attack, post-E-Hour and for non-SIOP strikes, is a necessary function. The present system is not satisfying the requirement as to timeliness of information in the resolution of conflicts over the target. (TS) U

(3) There is a need for enroute coordination for which the present atomic coordination machinery does not provide. (S) U

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* Major General Fred M. Dean, Director, J-3, was appointed Chairman of the Ad Hoc JCCSG. Actually, the task of evaluation would be performed by the Joint Command and Control Development Group (JCCDG) delegated by the JCCSG.

(4) The present atomic coordination system is too dependent upon the extensive use of long-haul communications after E-hour. (S)

(5) There are reporting functions now being performed by the JCC's that are not part of the coordination function and these functions comprise a substantial portion of their total effort. (S)

(6) It is likely that the JCC's in their present locations will not survive to perform their assigned functions after E-hour. Further, the designated alternate (Alternate Joint War Annex - AJWRA) is presently incapable of performing the atomic coordination functions. (S)

(7) The Joint Strategic Target Planning Staff could perform the atomic coordination functions both before and during hostilities. (S)

Both SAC and USAF took exception to the JCCSG proposals. While pointing out that the report emphasized the need for coordination, USAF observed that the JCCSG did not support its recommendation that the DSTP should assume the responsibility for this integration. Further, the report did not present sufficient evidence to support the recommendation for phasing out the coordination centers. Although this suggestion was based on the assumption that SIOP had replaced the JCC function of pre-E-hour coordination, USAF said SIOP had not replaced any JCC functions or changed any of the centers' operating procedures. The JSTPS had replaced pre-E-hour coordination previously accomplished by the WWCCs.[20] (S)

This command felt there would be a continuing requirement for the following coordination functions:[21] (1) Reliable post-E-hour data source to provide the JCS and the unified and specified commanders with

essential strike information; (2) Coordination of non-SIOP strikes and post-SIOP strikes; and (3) Decentralized processing centers to receive, evaluate, summarize, and transmit reconnaissance and area radioactivity information. According to SAC, the JCOS proposal for centralization did not offer enough improvement over the present system. The possibility of improving the existing system seemed to offer more opportunity for increased timeliness in the transmission of operational data.[22] (TS) U

For example, SAC proposed--along with the general proposal to retain the existing system--a significant reduction in message traffic and acceptance by the coordination centers of post-strike information direct from the reporting source. Further, vulnerability of the JCC's should be remedied through hardening, dispersal, and mobility along with an improved communications capability for the JCCs. This command believed reporting and coordinating tasks should not be separated.[23] (TS) U

In general, "High Heels" realized its objectives, although it was conceded that ample room remained for improvement. The final report of the JCS concluded that two global exercises should be conducted each year: a "High Heels" type exercise in the fall, with a shorter, more varied CPX in the spring. The JCS recommended that the annual global atomic exercise be coordinated with the annual NATO exercise in order to initiate an appropriate intelligence buildup.[24] (TS NOFORN). U

Retention of Medium Units

On 25 July 1961, in response to Soviet Premier Khrushchev's threats over Berlin, President Kennedy announced that certain B-47 units previously

earmarked for deactivation would be retained to bolster America's strategic striking power during the forthcoming Berlin crisis. In a subsequent address to Congress, he directed that six B-47 wings and six KC-97 squadrons be retained. (U)

The following B-47 units were retained: 70th SRW, Little Rock AFB;* 310th, Schilling AFB; 2nd, Hunter AFB; 68th, Chennault AFB; 306th, MacDill AFB; and the 22nd, March AFB. These KC-97 squadrons were retained: 301st, Barksdale AFB; 98th, Lincoln AFB; 90th, Forbes AFB; 2nd, Hunter AFB; 340th, Whiteman AFB; and 306th, MacDill AFB.[25] ~~(S)~~ (U)

Project "Life Insurance"

Intimately related to the projected increase in SAC's ground alert to approximately 50 per cent, Project "Life Insurance" began with a service test at Columbus and Clinton-Sherman AFBs which was completed in late March 1961. Essentially a reorganization of single wing bases to support an expanded ground alert, the project resulted in a revised SAC Regulation 20-15.[26] ~~(S)~~ (U)

Primarily a field test at Columbus and Clinton-Sherman AFBs, Project "Life Insurance" was designed to utilize more effectively manpower in support of ground alert through transfer of personnel spaces from support areas to operations and maintenance. It indicated that responsibilities of the wing and base commanders should be separated on 26 of

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* Redesignated 70th MBW 25 Oct 61 (SAC SO G-134, 7 Nov 61).

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31 single wing bases. It was also decided to retain the base commander at all bases assigned missile units.[27] Supply squadrons were transferred to wings effective 1 October 1961 with aircraft support squadrons eliminated at all single wing stations except Barksdale and March on that date. Operations squadrons would be deleted at single wing SAC bases effective 1 January 1962. It was pointed out that while manpower effectiveness in support of ground alert would be enhanced and streamlined, no reduction in requirements would result.[28] (U)

Thus, on 28 July interim authority was granted by SAC for immediate reorganization of the following B-52 single wing bases:[29] Second Air Force - Altus, Clinton-Sherman, Columbus, Barksdale, Bergstrom, Wurtsmith, and Blytheville; Eighth Air Force - Dow, Homestead, Loring, Turner, and Ramey; Fifteenth Air Force - Beale, Biggs, Castle, Fairchild, Glasgow, Larson, and Walker. Complete authority was given with publication of the revised SAC Regulation 20-15 on 28 September. ~~(S)~~ U

1st Strategic Aerospace Division Organization

Coincident with redesignating the 1st Missile Division at Vandenberg as the 1st Strategic Aerospace Division effective 21 July

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1961,* the Division was reorganized establishing the Headquarters 392nd Strategic Missile Wing and the Headquarters 4392nd Aerospace Support Wing. The rationale behind the new organization was a reduction in the duties and control of the division commander. Thus, through reorganization the division commander would have less people reporting directly to him.[30] (U)

However, in December by personal direction of General Power, the two-wing reorganization was cancelled.[31] On 4 December, SAC requested the Air Force Chief of Staff terminate the July reorganization effective 15 December since "it has been determined that the separation of functions between the division and the wings has not been successful."[32] The title of 1st Strategic Aerospace Division would be retained, but the organization of the division would revert to the July 1961 Unit Manning Document.[33] Headquarters USAF approval was granted on 14 December.[34] (U)

At the end of 1961, therefore, the organization of the 1st Strategic Aerospace Division became precisely what it had been in July prior

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* Headquarters USAF--on 18 July 1961--approved the use of the term "aerospace" in organizations at Vandenberg AFB. At the same time, it rejected use of the word in the name Vandenberg Air Force Base since "it is considered inappropriate to use 'aerospace' in base names while USAF remains United States Air Force." The following USAF policy governed use of the term: "Aerospace will be injected into or substituted for air in the names of those organizations which are significantly engaged in aerospace operations or support thereof. In this case aerospace operations means that two or more of the following types of systems are involved: air systems, ballistic missile systems and space vehicle systems." (Msg, CAV 86565, Hq USAF to SAC, "Use of Aerospace Term," 18 Jul 61) (U)

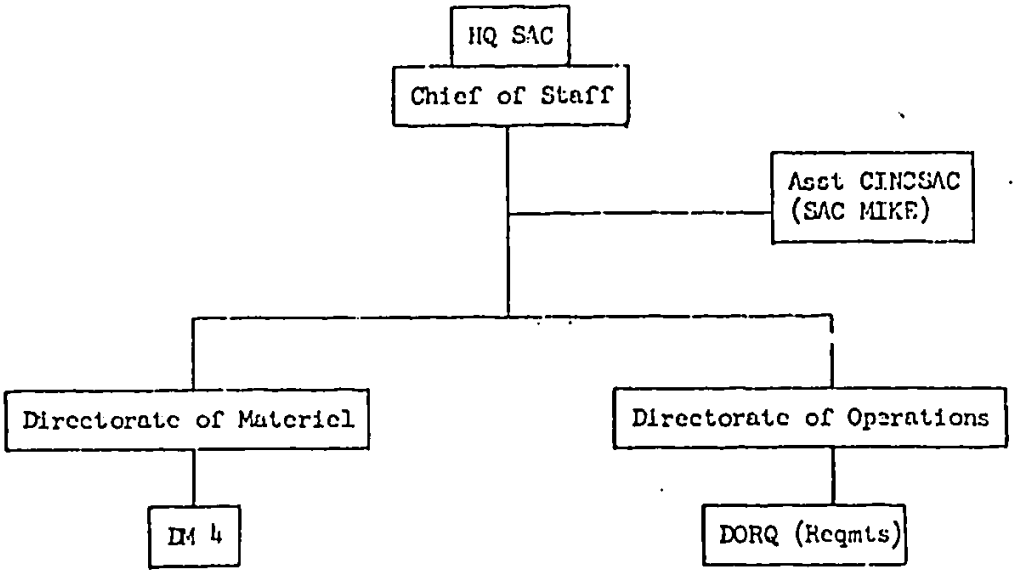
to the two-wing establishment. The only difference was one of terminology: The 4392nd Support Squadron had been renamed the 4392nd Aerospace Support Group. Also, as before, all squadrons and groups would report directly to Division headquarters.[35] (U)

SAC MIKE and Establishment of the Weapon System Management Complex

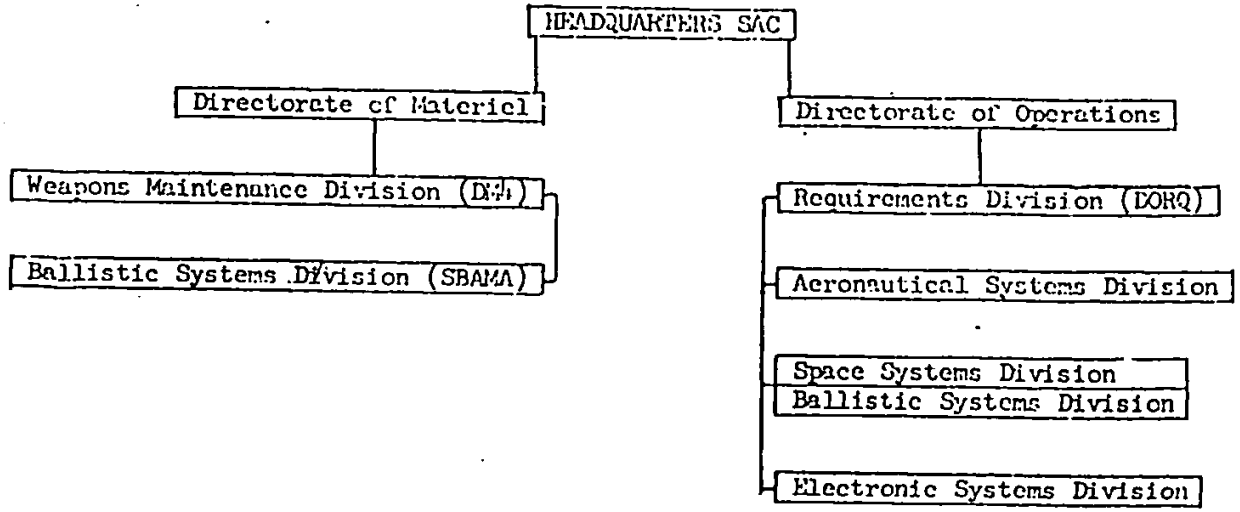
With the establishment of a new weapon system management complex, the office of the Assistant CINCSAC (SAC MIKE) was eliminated effective 1 July 1961.[36] Formation of the management system resulted in four SAC System Offices designed to provide refined coordination and integration of systems programs between SAC, Air Force Logistics Command (AFLC), and Air Force Systems Command (AFSC). While SAC MIKE as an entity was eliminated *per se*, SAC MIKE personnel (13 officers, 1 airman, and 5 civilians) were utilized in the establishment of the SAC Systems Office (SACSO) at the Ballistic Systems Division/Space Systems Division (BSD/SSD) at Inglewood and in the initial manning of the office at the San Bernardino Air Materiel Area (SBAMA).[37] (See Charts next two pages) (U)

The Air Force approach to weapon system management was documented in the Air Force "375 series" of regulations. These described weapon system management in terms of Headquarters USAF System Staff Offices (SSOs), field System Program Offices (SPOs), the System Program Director, the major air commands, and the user commands. (U)

PREVIOUS SYSTEMS ORGANIZATION SHOWING SAC MIKE



SAC SYSTEMS OFFICE LOCATIONS AND REPORTING CHANNELS



In essence, SPOs were offices with combined representation from the AFSC, the AFLC, the Air Training Command (ATC), and using commands.[38] They were primarily concerned with the centralized direction of weapon system programs in conjunction with the using commands. System Program Offices might be located wherever necessary. Thus, SACSOs were established at the following AFSC/AFLC facilities for the orderly and systematic integration of weapon system programs of concern to this command:[39] (1) Wright-Patterson AFB, Ohio; (2) Electronic Systems Division, Hanscom Field, Bedford, Massachusetts; (3) BSD/SSD, Inglewood, California; and (4) SBAMA, Norton AFB, California. (U)

The SACSOs supported the SPOs by being constantly aware of SAC operational, maintenance, and logistic concepts and monitoring system programs during the design, development, testing, and operational cycles.[40] Headquarters SAC would be notified should any alteration be proposed in system progress which would influence command concepts, delivery dates, alert requirements, or cost. (U)

A primary change in the new systems organization which diverged from the old SAC MIKE structure was that the SACSOs located at Wright-Patterson AFB, Hanscom Field, and Inglewood reported directly to the Chief of the SAC Requirements Division, with the office at SBAMA responsible to the Chief of the Weapons Maintenance Division, Directorate of Materiel. (U)

The actual intercommand agreement (titled "Memorandum of Agreement Between Using Commands and the Air Force Systems Command Related to

Implementation of the Weapon System Management Program") was approved by SAC and the AFSC effective 12 May 1961. The agreement followed a meeting on 15 March 1961 where SAC, AFSC, AFLC, TAC, ADC, and ATC representatives considered and drafted the document.[41] (U)

Political Advisor to CINCSAC

The assignment of a political advisor (POLAD) to CINCSAC grew out of the tradition of similar assignments fostered in the immediate post-World War II period. The need for close cooperation and coordination between the State and Defense Departments - especially in the field of foreign relations - dictated the assignment of POLADs to particular commands having a special requirement for them. Thus, since SAC's activities were connected with U.S. foreign relations, it was felt that fulfillment of the command's mission would be enhanced by assignment of an advisor.[42] On 11 September 1961, Mr. Edward L. Freers began his duties at SAC Headquarters. Mr. Freers served in an advisory capacity to General Power, providing information and advice on political, politico-military, economic, and other non-military matters.[43] ~~(C)~~ U

Summary

The Joint Strategic Capabilities Plan (JSCP) was the primary medium by which the JCS delineated military objectives and strategic concepts to the unified and specified commands. Changes in the JSCP-62 (for FY-62) reflected the strong impact of the establishment of the Joint Strategic Target Planning Staff on strategic planning. ~~(S)~~ U

The placing into effect of the first Single Integrated Operational Plan (SIOP) in April influenced the character of the Joint Coordination Centers (JCCs). Analysis of atomic coordination machinery and the necessity for the JCCs followed Exercise "High Heels." This command reiterated it believed JCCs should be continued because a definite requirement existed; however, SAC felt coordination procedures could be improved. ~~(S)~~ U

Significant alterations in SAC's organization during 1961 reflected steps taken to prepare for increased alert responsibilities and the changing character of SAC's missile program. ~~(S)~~ U

FOOTNOTES

1. SAC Command Control Plan, 2 Jan 62, pp 12-13.
2. SAC Aircraft Project Status Report, as of 31 Dec 61, 3 Jan 62.
3. Ibid.
4. See Section II for personnel statistics.
5. See Section II for listing of major subordinate commands and their structure.
6. SAC Manual 55-12, "Air Operations Peacetime," 1 Jul 61, Chapter II, Explanation of Terms, Part I, Change 1.
7. Change 2 to SAC Continuity of Operations Plan (COP) 198, 1 Jul 61, in DXI.
8. Change 3 to SAC COP 198, 1 Oct 61.
9. Ibid.
10. SM-105-61, "The Joint Chiefs of Staff Unified Command Plan (UCP)," 4 Feb 61, Par 5.
11. SM-1310-60, JSCP-62, 1 Jul 61-30 Jun 62, B-78371, par 40, (a), (1), (2), (3).
12. Ibid., (b), (2), (3).
13. Current Status Presentation, "Strategic Mission Area," by Col J. F. Starkey, Mission Analysis Division, Dir of Management Analysis, Comptroller of Air Force, to the Vice Chief of Staff, USAF, 3 Mar 61.
14. SM-1310-60, JSCP-62, 1 Jul 61-30 Jun 62, B-78371, par 21.
15. Ibid., par 11(d).
16. Air Force Regulation 23-12, "Organization-Field, Strategic Air Command (SAC)," 3 May 61, Dept of Air Force.
17. JCS 2056/241, Section III, par 7(a), (b), (c).
18. Ibid., Section III, par 8, 9.

19. "Report by the Joint Command & Control Study Group to the Joint Chiefs of Staff on a Command and Control Aspect of Exercise HIGH HEELS Specifically the Atomic Coordination Machinery," 19 Dec 61. Members of the JCCSG were: Maj Gen Fred M. Dean, USAF, Chairman; Brig Gen J. W. Keating, USA; Rear Adm G. F. Pittard, USN; Brig Gen J. D. Page, USAF; and Brig Gen N. J. Anderson, USMC. (61) U

20. Memo for Maj Gen F. M. Dean, USAF, Chairman, JCCSG, "Command & Control Aspect of Exercise HIGH HEELS, Specifically the Atomic Coordination Machinery," 19 Jan 62, by Brig Gen J. D. Page, USAF.

21. Msg, VC B-82257, SAC to JCS & JACE AJCC, Ft Ritchie, Md., for JCCSG at JCS and AFXPD at USAF, "Atomic Coordination," 17 Feb 62. See also Final Report "High Heels," Hq SAC, Oct 61, p 4, in DXIH.

22. Ibid.

23. Ibid.

24. Final Report, JCS, "Exercise HIGH HEELS," Part I, Sep 61, Appendix N.

25. Msg, AFCVC 94701, Hq USAF to SAC, "Medium Force Retention," 17 Aug 61; PD-64-2, "USAF Program-Bases, Units & Priorities," Mar 62.

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27. Ltr, SAC (DPLMO), to Hq USAF (AFOMO), n.s., 28 Mar 61, signed by Col W. M. Shy, Dep Ch, DPLM.

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30. SAC SO G-94, 20 Jul 61; Msg, DPLMO 49141, SAC to 1st STRATAERO-SPACEDIV, "Reorganization Vandenberg," 12 Dec 61; Interview, H. S. Wolk, Historian, with Lt Col V. P. Terry, DPLMO, 1 May 62.

31. Interview, H. S. Wolk, Historian, with Lt Col T. A. Wacht, DPLMO, 25 Apr 62.

32. Msg, DPLMO 45395, SAC to CofS USAF, "Reorganization 1st Strategic Aerospace Division," 4 Dec 61.

33. Ibid.

34. Ltr, AFOMO 716m to SAC, "Inactivation of the Headquarters 392d Strategic Missile Wing," 14 Dec 61, signed by Maj Gen B. O. Davis, Jr., Dir of Mpr & Org, DCS/O, Hq USAF.

35. IOM, DPLMO to All Staff Directorates, "Reorganization 1st Strategic Aerospace Division," 14 Dec 61, w/Atch 1.

36. SAC Special Order G-82, 21 Jun 61.

37. Atch 1, "Manning Spaces Required for AFR Series Implementation," 3 May 61, by DORQA to IOM, DPLMM to DORQA, same subject, 11 May 61. Atch 2 to this IOM includes complete manning requirements for all SACSOs. (U)

38. Air Force Regulation 375-2, "Systems Management--System Program Office," 31 Aug 60.

39. SAC Supplement #1 to AFR 375-2, "Systems Management - System Program Office," 27 Jul 61. See this document for specific organization of each of the four SACSOs. (U)

40. Ibid.

41. "Memorandum of Agreement Between Using Commands and the Air Force Systems Command Related to Implementation of the Weapon System Management Program," 12 May 61.

42. Interview, H. S. Wolk, Historian, with Mr. E. L. Freers, POLAD, 3 May 62.

43. JCS SM-730-61, "Utilization of Political Advisors," 3 Jul 61, par 3; Interview, H. S. Wolk, Historian, with Mr. E. L. Freers, POLAD, 3 May 62.

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Chapter II

COMMAND CONTROL COMMUNICATIONS

"The whole secret of war lies in the ability to master the lines of communication."

-- Napoleon

Introduction

Command control has been defined as "the control that comes to a commander by virtue of sound organization, clear lines of authority, rapid communications, and unity of command."[1] No subject consumed more time and effort on the highest levels of government, within the DOD, USAF, and SAC during 1961 than command and control of U.S. nuclear forces. Only the President could authorize the use of nuclear weapons in any conflict. Such a decision, of course, would be carefully considered. Because of the compression of time with the advancement of weapons technology, decision-making and command control were inseparable:[2] ~~(S)~~ U

> Accordingly, the JCS, NORAD, Hq USAF, and the Strategic Air Command must be equipped with high speed automated systems in order to have the National decision-making process compatible with force reaction capabilities. These automated systems must be capable of rapidly and accurately passing essential data between agencies, and in addition . . . must be capable of passing appropriate directions to the fighting forces, as soon as the National Decision has been made. ~~(S)~~ U

The command control problem presented a dual challenge. On the one hand, it was necessary to launch the strategic nuclear force under

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conditions of little or no warning, and on the other hand it was necessary to prepare for "selective and controlled response." During 1961 this dichotomy made unprecedented demands upon SAC's command control communications system.[3] ~~(S)~~ U

Warning

The amount of warning received by SAC would determine the actual stress or challenge to the command control system and hence the character and success of the retaliatory strike. The Ballistic Missile Early Warning System (BMEWS) and the Bomb Alarm System were the two vital segments of the warning apparatus developed to provide SAC with the time so important for launching a nuclear counter-strike. ~~(S)~~ U

The Secretary of Defense authorized construction of BMEWS in January 1958. By the close of 1961, two of the three BMEWS forward sites had achieved a complete automatic capability: the Thule site on 1 February 1961 and the Clear, Alaska, site on 30 September. Construction continued at Site #3 at Fylingdales Moor, England, scheduled to become operational in April 1963. In addition, a tracking radar became operational at Site #1 (Thule) during the July-December 1961 period, giving the sector a scanning capability which would eventually be covered by Site #3 at Fylingdales.[4] ~~(S)~~ U

Operational Support Requirement #62 (23 March 1955), outlining development of an Atomic Strike Recording System (ASTREC), established the rationale for the Bomb Alarm System. CINCNORAD would eventually

control it, as directed by the JCS. Overall installation for the first increment of 96 detector locations and 9 ZI display centers was planned by 1 May 1962 with detectors placed at Thule, Greenland, and Clear, Alaska, during the first two weeks of January 1962.[5] (S) U

Complete BMEWS capability awaited completion of two phases of development. The first (1A) comprised operational sites at Thule and Clear with a tracking radar at Thule. The area scanned by the Thule tracker radar would eventually be covered by the operational site at Fylingdales. Phase 1A--complete with tracker--became operational on 31 December 1961 when the radar began functioning.[6] As previously mentioned, Thule became operational on 1 February and Clear on 30 September 1961. ~~(S)~~ U

The second phase (1) consisted of three forward sites at Thule, Clear, and Fylingdales. These would scan the space through which ICBMs would pass from the Soviet Union to the United States or southern Canada. The Thule and Clear sites would include high-powered fixed antenna detection radar. Fylingdales would have three tracking radars.[7] ~~(S)~~ U

An integral segment of the BMEWS was the Rearward Communications System which comprised communication lines (including alternate routes) conveying voice, teletype, and data messages from the three forward sites to the NORAD combat operations center at Ent AFB, Colorado. Links eventually would include combined military and commercial facilities

with tropospheric scatter radio, submarine cable, radio relay, and land cable.[8] In October, a third circuit--augmenting submarine cable and tropospheric scatter--became operational from Thule to the ZI, using low frequency alternate radio transmitting only teletype. It would provide communications should the submarine cable and tropospheric scatter fail. Also in October, NORAD installed an emergency SSB radio station at Thule, providing another link between that base and the Central Computer and Display Facility in the operations center at NORAD.[9] ~~(S)~~ U

The same information reported in the computer and display facility at NORAD was displayed at the BMEWS display facility at SAC Headquarters. This information was also transmitted to a similar panel at USAF Headquarters.[10] ~~(S)~~ U

This command, ADC, and NORAD agreed that the interim BMEWS route alarm system required improvement to reflect complete route outages to BMEWS sites.[11] This problem was dramatically revealed on 24 November in the "Black Forest" incident. As reported in the SAC Communications Controller's Log in the command post:[12] ~~(C)~~ U

> 24/1052Z--entire loss of BMEWS routes . . . all land lines to NORAD out . . . switch fell out at Black Forest tower (between Ent and Prospect Valley) . . . at the same time both B packages down from NORAD to sites . . . all advised 1057Z . . . . ~~(C)~~ U

The American Telephone and Telegraph (AT&T) carrier failure between Prospect Valley, Colorado, and Colorado Springs affected the following circuits: BMEWS bell and light monitor circuits; Primary alert, SAC-

NORAD; voice communications, SAC Command Post-NCRAD Command Post; and CINCSAC's "hot line" to NORAD. At the same time, the "B" routes to Thule and Clear, Alaska, failed.* It should be remembered, however, that alternate routes remained available through Westover and March AFBs and via single sideband to Colorado Springs.[13] ~~(C)~~. U

The cause of the failure was traced to noise on the switch controls line which caused a head end transmitter switch to release at the Black Forest repeater site between Prospect Valley and Colorado Springs. The same circuits (above) were again affected from 1221 to 1222 hours on 24 November when a frequency modulated receiver failed at Prospect Valley. The first failure at 1052 lasted for three minutes, until 1055.[14] ~~(C)~~ U

The loss of the Black Forest microwave facilities for three minutes resulted in this command sending its alert force to taxi under minimum reaction conditions. This actual alert corresponded to a DELTA alert exercise** and was completed under DELTA conditions by direction of the

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* SAC Channel & Traffic Control Agency Records, 24 Nov 61. There are four existing BMEWS routes as follows: Thule, Route 1-A and Route 1-B; Clear, Alaska, Route 2-A and 2-B. Thus, the "B" routes referred to one route each from the Thule and Clear sites.

** In a DELTA exercise the crews proceed to the alert aircraft and automatically start engines. When the roll is called the crews answer with tactical sign and "ready." After answering "ready," crews will be automatically cleared to tower frequency and will then follow locally established procedures as required to assume "minimum Reaction Posture." (SACM 27-1, "Planning Factors Manual on Alert," 1 Sep 61, p 2.) ~~(C)~~ U

CINCSAC.[15] The total number of bomber aircraft (including ECM) involved in the alert was 577. Minimum reaction tanker aircraft included 393 KC-135s and KC-97s. As far as raction timing was concerned, the first bomber was ready for takeoff in _____, the last bomber in _____. The first tanker was ready for takeoff in _____ the last in _____. No aircraft left the ground.[16] ~~(S)~~ (U)

Subsequent investigation showed that AT&T had routed all critical circuits through the Prospect Valley-Ent system, although it had previously assured SAC that circuit diversity had been accomplished. A detailed investigation of communications lines between critical points revealed that circuits affecting SAC-Joint War Room and SAC-USAF Command Post communications were common at Garden City (near Washington, D. C.) rather than diversity-routed. It was suggested the JCS study all critical circuitry.[17] ~~(C)~~ U

The Black Forest incident illuminated the necessity of complete diversity routing of all critical circuits in order to prevent reoccurrence of a similar situation. ~~(C)~~ U

During the last six months of 1961, the prototype bomb alarm system--consisting of 14 targets on the eastern seaboard--continued to operate satisfactorily. Accepted by the Air Force on 10 February 1961, the prototype system responded over 15 million times to requests through November 1961.[18] Scheduled for completion by July 1962, 51 signal generators (out of 300) had been completed and were being processed

through testing and adjusting as of 7 December. Thule and Clear, Alaska, sites became operative on 21 December.[19] ~~(S)~~

Entirely leased from the Western Union Company, the system depended upon three optical sensors sensitive to thermal radiation and located within 11 miles of each target site. Each sensor was connected to a signal generator several miles away. The generators, in turn, were connected by telegraph line loops to one of six remotely located master control centers. These control centers then connected to system users, i.e., SAC, NORAD, the Air Force Control Center, and the Alternate Joint Control Center at Fort Ritchie.[20] ~~(S)~~

The bomb alarm display for SAC Headquarters was scheduled to be completed by 1 February 1962. This command also requested USAF determine, through Western Union, the feasibility of installing a display in the airborne command post (ABNCP). Western Union replied that it was feasible, but specific requirements had not been outlined.[21] ~~(S)~~

Pre-Attack Command Control System (465L)

As a corollary to the need for selective and controlled response to nuclear attack, DOD directed USAF--on 22 June 1961--to modify SAC Control System (SACCS) 465L to a pre-attack system and to develop a survivable post-attack system to control strategic forces during war. The DOD had been less than enthusiastic about 465L, feeling it could not work as a post-strike system because of non-survivable communications links. Further, SAC's desire for hardened 465L combat centers and

a four-computer configuration failed to strike a responsive chord. In early July, the DOD directed that engineering and construction money marked for 465L facilities at all SAC headquarters be withheld pending establishment of specific pre- and post-hostilities programs.[22] ~~(S)~~ U

To SAC, its requirement remained as valid as ever. The continuing growth of the command and the enemy threat only enhanced the value of a system which reduced the time spent meeting EWO requirements. Command and control of SAC weapons would only be accomplished by an automated system providing flexibility for control of a mixed force of manned aircraft and missiles.[23] Using 465L, the CINCSAC and his staff could count on a high speed data transmission, processing, and display system possessing a 3000 words per minute capability 24 hours a day under varying conditions. Status of strike forces would be projected with current war plans, providing a contrast of actual events against planned action. Automatic processing of damage reports could be handled along with establishment of new priorities. The SACCS consisted of three major subsystems:* Data Transmission, Data Processing, and Presentation.[24] ~~(S)~~ U

But in late August, the DOD stressed the economy of a peacetime only system.[25] Deputy Secretary of Defense Gilpatric outlined the preattack system as follows:[26] ~~(S)~~ U

> Offutt AFB - A complete control complex for SAC Headquarters with a Traffic Control Center (TCC), military

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* A detailed description of these subsystems is in Hist of SAC, Jan-Jun 61, p 39.

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computer and display. The system would be installed in the existing combat operations center as modified. ~~(S)~~ U

March AFB - Installation of a complete control complex with a maximum of 9 vol. ~~(S)~~ U

Barksdale AFB - A TCC and display installed in a permanent, soft above-ground structure. ~~(S)~~ U

Westover AFB - A TCC and display, housed in a soft extension to the existing combat operations center. ~~(S)~~ U

He said CINCSAC would naturally use 465L as long as it survived, but its EWO functions would be de-emphasized because they were a post-strike activity. It was more important "to focus full attention on the effort necessary to secure this EWO capability in the post-strike system.[27] ~~(S)~~ U

In late September, the Electronic Systems Division (ESD) proposed a combined SAC/AFCC position on 465L, recommending approval of the so-called "Plan 11."[28] This command concurred.[29] In effect, Plan 11 evolved from DOD guidance outlining pre-attack and post-attack systems. It called for the first computer installation at Offutt to become operational on 1 September 1965. By 1 July 1965 the complete system would possess initial operating capability (IOC) including: (1) Offutt; one computer, one transmission control center, a local communications complex launch control center (LCC) and "printout" display installed; (2) Westover; one TCC, an LCC, and display installed; (3) Barksdale; a TCC and LCC; and (4) March; one TCC and an LCC. Through progressive installation, a complete operational capability would be reached by 1 January 1969, i.e., two computers at Offutt with complete display subsystems at each numbered air force headquarters.[30] ~~(S)~~ U

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Hardening would not be a part of 465L except for components located at hard missile sites. Hardened equipment at missile complexes would operate in synchronization with the PACCS.[31] Approval of Plan 11 came from Headquarters USAF on 9 November and included funding authorization.[32] ~~(S)~~ U

Post-Attack Command Control System (PACCS)

Following redirection of 465L to a pre-strike system and the DOD decision to establish a PACCS, the command received general guidance for the latter system. Headquarters USAF asked SAC to formulate its ideas for system design, while it began determining equipment lists, managerial procedures, and program costs. A general outline began to take shape in July. The system would combine airborne and ground control centers. Airborne centers would operate from Headquarters SAC and the numbered air forces; ground centers would be located at SAC Headquarters and March AFB in deep underground capsules separate from 465L centers.[33] ~~(S)~~ U

The post-attack system had to have survivable communications, and these had to be as survivable as the hardened centers they served. This would be achieved by a combination of redundancy and hardening. In July, Air Force envisioned communications links would include:[34] (1) Airborne UHF/VHF radio relays; (2) Hardened LF radio; (3) Emergency communication rockets; (4) Single Sideband (SSB) HF radio; and (5) Land circuits reconstituted after strikes by reserve and National Guard forces. The new system would be linked with the pre-strike SACCS. (S) U

Deputy Secretary of Defense Roswell Gilpatric assigned "the highest priority" to PACCS. He discussed hardened, ground support centers in terms of two 2000 foot deep capsules, one each in the vicinity of Offutt and March Air Force Bases, and each containing communications equipment similar to that carried by the airborne command posts and relays. From airborne command posts (ABNCP) and underground capsules, the SAC strike force would be controlled during thermonuclear war.[35] ~~(S)~~ U

As mentioned previously, Deputy Secretary Gilpatric authorized continued development and funding of 465L, but with emphasis on the more economic peacetime design.[36] He directed Air Force to submit to the Secretary of Defense a comprehensive plan for both PACCS and the SACCS. Funding would continue at the present rate until the plan was formally approved.[37] ~~(S)~~ U

At the end of August, however, plans for a hardened capsule at March AFB were changed by the DOD to a 25 psi facility to be located some distance from the base. Post-strike functions would be included in 465L since exercising of the SAC control system belonged in the pre-attack phase and because it could not be determined exactly when 465L would cease functioning.[38] ~~(S)~~ U

Meanwhile, SAC continued work on a specific plan for command control. It defined the mission of the PACCS as follows:[39] ~~(S)~~ U

> In support of national policy, the mission of the PACCS is to provide CINCSAC with the survivable capabilities required to coordinate and control

assigned forces on a continuing basis from first-weapon impact on the United States through conclusion of nuclear hostilities. ~~(S)~~

Among its tasks were:[40] (1) Capability assessment; (2) Initiation of initial response; (3) Assessment of enemy capability; (4) Evaluation of strike effectiveness; (5) Recovery; (6) Reconstitution; and (7) Subsequent strikes. ~~(S)~~

Planning included four distinct time phases or "packages." The so-called Package A represented an IOC in May 1962 and envisioned a complete capability in December 1962. This stage included 20 KC-135 airborne command posts and 36 B-47 UHF relay aircraft, a measurable improvement over the existing capability of one continuously airborne command post supported by five more KC-135s. The second phase, or Package B, scheduled for 1963-1964, would include automated airborne command posts and automated digital relay aircraft. The third segment, Package C, for the 1965 time period, featured deep underground support facilities with hardened communications. In the post-1965 period, Package D would improve the computer program and extend communications to include overseas coverage through satellites and a rocket relay system.[41] ~~(S)~~

On 18 November, Secretary of Defense Robert S. McNamara tentatively approved Packages A and B for planning and funding for the FY 1963 budget. Regarding Package C, he tentatively approved planning, design, site selection, and acquisition in FY 1962 and 1963 for an underground SAC command post. Secretary McNamara observed that if adequate plans were

submitted to the OSD not later than 1 May 1962, "favorable consideration will be given to a proposal to request Congressional authorization for site acquisition and construction in FY 1963."[42] Also approved at the same time was "Plan II" of the SACCS including programmed costs through FY 1966. ~~(S)~~ U

On 6 December General Thomas S. Power, CINCSAC, approved the SAC concept for the PACCS, i.e., the addition to the airborne command control element (KC-135 command posts and B-47 relay aircraft), and the underground facility located within 50-75 miles of Offutt AFB. Because the survivable support complex would take considerable time to site, design, and construct, an interim capability was planned using a train.[43] The CINCSAC requested USAF identify the necessary funds for the underground center in FY 1962 and 1963. He also asked approval for modification of a train which would provide an interim and "austere" capability until the permanent site became available.[44] ~~(S)~~ U

The Airborne Command Post

Under the PACCS concept described above, the Headquarters SAC command post would be continuously airborne. Also, command posts would be kept on ground alert at each numbered air force headquarters, to be launched during periods of tension, on BMEWS warning, or as directed by CINCSAC or higher authority.[45] ~~(S)~~ U

Behind the evolution of SAC's airborne command post (ABNCP) lay the search for a survivable execution capability for the strategic

force. Because soft landlines and high frequency single sideband radio were vulnerable, the latter to nuclear radiation, this command turned to the airborne network. While not considered a panacea, it represented a first step toward solution of the alert and execution problem.[46] (S) (U)

The ABNCP was geared to rapid and effective communications, being charged with the following responsibility:[47] (1) Maintain contact with the SAC ground command post by two separate routes; (2) Maintain contact with Joint War Room/Alternate Joint War Rooms (of JCS); (3) Maintain contact with NORAD Command Post; (4) Be prepared to relay message traffic between the USAF Command Post and the SAC Command Post; and (5) Keep contact with SAC numbered air forces and overseas air divisions. (S) (U)

The command took its first step in the development of an airborne command control network on 1 July 1960 when it began a 15-minute ground alert at Offutt AFB. "No-notice" launches were conducted approximately twice a week. Through February 1961, over 40 such launches had been conducted with a general officer and control team on board. Reaction time averaged about on "no-notice" launches.[48] (S) (S) (U)

Following this success, on 1 February General White directed SAC begin a continuous airborne operation as soon as possible.[49] He believed this experience would help justify additional funds for a more complete capability without using KC-135s from the tanker force. Two days later (2000 hours CST) General Power began the operation with a control team led by a SAC general officer.[50] (S) (U)

The command post was launched three times daily, each sortie lasting about eight and one-half hours. The control team of seven men included the Airborne Emergency Action Officer (SAC general officer), a duty controller (major), communications controller (captain), a senior master sergeant or NCO duty controller, and three radio operators in addition to the regular flight crew. Each week two rated general officers from the numbered air forces augmented rated general officers assigned to SAC Headquarters to provide a three-man rotating team for the position of Airborne Emergency Action Officer.[51] ~~(S)~~ U

The final pattern and operational capability of the command post system depended upon the ultimate decision concerning the post-attack complex and its relationship to the pre-strike 465L system.[52] The SAC operated with only a partially completed survivable network. It still supported a complete system which--when airborne--would have the capability of contacting every SAC base command post in the ZI in less than an hour through direct UHF communications.[53] ~~(S)~~ U

Following success of the ground alert and the airborne operation of the ABNCP, the command forwarded a requirement for 20 KC-135s modified as command posts and 36 B-47s to be modified as communications relay platforms.[54] Nine B-47, termed Airborne Relay Stations, would be launched simultaneously with command posts to provide UHF communications coverage of approximately 80 per cent of all North American SAC bases. Relay aircraft, operating on the periphery and between ABNCPs, would insure effective command control during hostilities. During periods of

tension or strategic warning, the command post and relay aircraft would be dispersed to civilian and other military bases. In the event of tactical warning, three command posts and nine relay aircraft would augment the continuously airborne command post.[55] ~~(S)~~

The USAF approved this command's request for an additional 15 KC-135s (five KC-135 aircraft were previously approved for modification) in October.[56] Beginning in January 1962, the SAC would test the airborne relay system with the first two modified B-47s. If successful, the remaining relay aircraft would then be funded.[57] As set forth in Package A of the PACCS, the 20 command posts available by December 1962 would be of the manual type; automated relay, computer, and display equipment would not be available until December 1963 in Package B.[58] In December 1961, command planning focused on the possibility of installing an automatic BVEWS warning capability in the ABNCP. ~~(S)~~

UHF Emergency Rocket Communications System

The command envisioned this system as another means of enabling command and control communications to survive. Planned as a survivable alternate way of transmitting the weapons expenditure authorization ("Go-Code") from CINCSAC to the strike force, this system (Program Designator 2[illegible]9) was outlined in USAF Specific Operational Requirement (SOR) #192, 29 September 1961.[59] ~~(S)~~

An interim configuration of three rockets in the Omaha vicinity - each in a separate location - would become operational by 1 January 1963.

The second phase, or complete operational system, included four individual complexes of three rockets each. By the end of 1961, three tentative locations had been selected--Hastings, Nebraska; Fort Riley, Kansas; and Ottumwa, Iowa. The operational date for the first three was 1 January 1964 with the fourth site scheduled to become operational on 1 January 1965.[60] ~~(S)~~ U

The system concept called for a solid propellant rocket to carry a transmitter to high altitude for continuous broadcast of recorded messages. Information could be inserted into rocket recorders by the airborne command post or the SAC ground command post. It would be fired upon word from a command element.[61] On 30 October, Headquarters USAF directed a change in design from silo launch to above-ground mobile launchers.[62] ~~(S)~~ U

Northern Area UHF Positive Control System

When completed, the northern area UHF system would provide SAC with positive control communications through extension of the primary alerting system to selected locations and to aircraft operating over Canada, Alaska, Greenland, Iceland, and the Aleutians. This system comprised 14 sites capable of transmitting or receiving on UHF. ~~(S)~~ U

In early June 1961, the UHF system changed from a 23-site complex to one of 14 stations. Routes from UHF stations would terminate at Elkhorn, Nebraska, with alternate routes to Westover and March AFBs.[63] Airborne command posts, the SAC command post, and the short order SSB system would all have access to the northern area network.[64] ~~(S)~~ U

By the end of 1961 SAC had an interim capability and expected to have a Phase I operational capability by 10 May 1962.[65] High power amplifiers were also programmed at each site to extend UHF ground-to-air coverage to approximately 600 miles. Thus, communications were strengthened against enemy jamming. The target date for installation of amplifiers was December 1963.[66] ~~(S)~~ U

This command wanted the conventional UHF system modified because of a reduction in dependence upon high frequency systems due to decreasing sun-spot activity. While SAC supported attempts to increase range coverage, it realized this depended on technical feasibility as well as concentrated testing.[67] ~~(S)~~ U

Exercise "High Heels"

One method of determining how well communications worked was by testing them during a global atomic exercise. The world-wide exercise "High Heels"--10-15 September 1961--was the most comprehensive one ever held and provided a realistic environment for testing command control procedures. Objectives were as follows:[68] ~~(S)~~ U

(1) To conduct a realistic test of the implementing and reporting procedures of General War Plans on a world-wide basis. ~~(S)~~ U

(2) To exercise and test the equipment, facilities, and procedures established for the control and coordination of atomic operations. ~~(S)~~ U

(3) To exercise the nuclear detonation and radioactive fallout reporting system. ~~(S)~~ U

In general, "High Heels" tested the efficiency of command control procedures for atomic operations. On 10 September, the JCS directed all commands to establish a DEFCON 4 position. On the following day, and "in view of the deteriorating world situation," CINCSAC directed SAC forces to a simulated DEFCON 3.[69] (S) U

On 12 September, SAC simulated launch of the ground alert force and missiles underwent a simulated countdown. Following a BMEWS alarm level #1, the "Go-Code" went out to aircraft launched under positive control and airborne alert aircraft. Prior to the end of the exercise, a weapon release message was transmitted to the UK and the last airborne aircraft was assumed to have received the "Go-Code."[70] (S) U

This command believed the exercise was "highly successful" in that it afforded an opportunity to test wartime command control procedures. It had long been the SAC position that such an exercise should be as realistic as possible; thus, with the simulation of strike force operations under the Single Integrated Operational Plan (SIOP-62), a new element of realism was introduced.* However, SAC questioned the validity of the intelligence cycle of "High Heels" which allowed enough warning to permit a lengthy period of preparation.[71] (S) U

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* On 3 March 1962, the JCS approved certain procedures for control and coordination of atomic delivery forces. The SIOP-62 was approved by the JCS on 2 December 1960 and provided for integration of atomic forces in the initial attack against the Sino-Soviet bloc. Thus, under the SIOP, planning of the Joint Strategic Target Planning Staff replaced pre-hostilities atomic coordination previously accomplished at world-wide coordination conferences. The first test of SIOP-62 planning came with Exercise "High Heels." (JCS 2056/241, "Coordination of Atomic Operations," 11 May 1961) (S) U

One of the major advancements over the previous exercise ("Black Rock") was reduction of time-over-target conflicts from 19 to 8. Six of the eight conflicts involved CINCSAC and CINCEur, and two were between CINCSAC and CINCPac. Clearly, effective planning under SIOP-62 had reduced the number of target conflicts.[72] Although the command anticipated many requests for nuclear support, only seven were received. During "Black Rock," which lasted approximately 50 hours, over 40 requests materialized. (S) U

Despite the reduction of conflicts, the report of the Joint Command Control Study Group (JCCSG) emphasized that "the present system is not satisfying the requirement as to timeliness of information in the resolution of conflicts over the target.* The JCCSG observed a need for enroute coordination and felt there was excessive dependence upon long-haul communications after E-Hour. It further recommended that each unified and specified commander with an atomic operations responsibility be provided with a computer capability if it did not already possess the capability.[73] (S) U

The major SAC recommendation which evolved from "High Heels" was that two global exercises should be held each year. One would be a CPX conducted for training purposes through full exercising of all facilities,

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* Report by the Joint Command and Control Study Group to the Joint Chiefs of Staff on a Command and Control Aspect of Exercise HIGH HEELS Specifically the Atomic Coordination Machinery, 19 Dec 61. See Chapter I for the implications of the JCCSG Report on the Joint Coordination Centers. (C) U

and the other would be a "no-notice" tactical warning exercise starting at a random time selected by the JCS without a preceding vulnerability period. The latter exercise, therefore, would include conditions approximating DOD estimates of the circumstances under which general war might occur.[74] This recommendation was identical to SAC's suggestion following "Black Rock." ~~(S)~~

Air Force Communications Service (AFCS)

The Air Force Communications Service, established on 31 January 1961, sought to increase the effectiveness of Air Force communications by manpower and dollar savings and by more efficient use of personnel.[75] (U)

The SAC believed certain concepts and procedures planned by the AFCS were incompatible with command requirements. Basically, it objected to the lack of evidence that its needs in the area of alert and execution communications could be met by AFCS. Especially repugnant was AFCS's intention to provide base communications service and support. To SAC, communications-electronics formed an integral segment of its EWO capability, and it wanted to retain control over programming and funding of all facilities and services supporting them.[76] (U)

In August 1961, the command remained unconvinced that AFCS would properly serve SAC. It could not agree to turn over critical communications to a "common user" system. Neither was SAC prepared to give up programming and budgeting functions, believing the action would hamper

its ability to respond to new and changing requirements. If the transfer did occur, an undesirable situation of split funding would result, because not all communications facilities would be transferred. And it would be difficult to design a system whereby the local AFCS commander could satisfy the requirements of the local commander. The AFCS might well become a mediator between bases and commands, attempting to sort out priorities and to satisfy requirements for limited funds. While SAC had previously transferred management of its long line communications to the Office of Commercial Communications Management (in December 1960), and thence to AFCS, it still maintained that control of organization and management of funds must remain a command responsibility.[77] (U)

Following support for the SAC position from Major General Harold W. Grant, Commander of AFCS, in October the USAF moved to resolve the issue. General Frederic H. Smith, Jr., Air Force Vice Chief of Staff, requested full cooperation for the following policy:[78] (1) Major commands will continue to budget for base communications services and funds for these requirements will be provided to the major commands; and (2) AFCS will consolidate requirements of major commands for long line communication ("P-482") services with major commands submitting program requirements peculiar to their mission directly to USAF. Headquarters USAF would approve and establish the necessary program, providing AFCS with adequate financing. In essence, each major command would continue to submit program needs related to their missions directly to USAF. (U)

The final result of the disagreement between USAF and SAC over funding procedures was a compromise. This command's view on "P-458" money prevailed; it would continue to fund its base communications. On the other hand, USAF not SAC would control organization and management money for long line communications ("P-482"). The command said USAF's direction as far as base communications funding was entirely in accord with SAC's desires, but in long line communications budgeting the issue wasn't as clear. Although SAC retained its reservations about P-482 funding, it took steps to make the new arrangement work.[79] (U)

Completely unresolved at the close of 1961 was a definite date for complete SAC integration into AFCS. Reluctant to realign its communications to the AFCS concept in a short period of time, this command stressed that EWO communications must remain under SAC control. The underlying question of command integration remained in the formative stage at the end of 1961. The only certainty was that any final solution would bear directly on the ability of CINCSAC to control the strategic strike force. (U)

Defense Communications Agency (DCA)

The same uncertainty that marked SAC's relationship with AFCS arose in this command's association with a relatively new organization, the Defense Communications Agency. (U)

The DCA,* under the direction, authority, and control of the Secretary of Defense, controlled all DOD world-wide, long haul, government owned and leased, point-to-point circuits, trunks, terminals, switching centers, control facilities, and tributaries needed to provide links to and between the President, Secretary of Defense, JCS, the military departments, the unified and specified commands, and lower subordinate headquarters. The DCA mission was as follows:[80] (U)

> . . . to insure that the Defense Communications System (DCS) will be so established, improved and operated as to meet the long-haul, point-to-point, telecommunications requirements of the Department of Defense and other governmental agencies as directed. (U)

It controlled the only communications system furnishing the above; no other facilities were authorized. (U)

In its plan for future development (DCA Mid-Range Plan, 1961), DCA delineated four major objectives:[81] (1) Integrating the DCS by the end of the second quarter of FY 1964; (2) Developing a single, modernized and compatible defense communications system by FY 1968; (3) Providing the basis for future expansion of the DCS for the period beyond FY 1968; and (4) Providing a basis for improved DCS telecommunications service. ~~(S)~~ (U)

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* Its establishment was delineated in DOD Directive 5105.19, 12 May 60, as amended 14 Nov 61.

The Air Force project manager for the DCA plan was the AFCS. It would coordinate all Air Force actions connected with the single communications system, with only unresolved differences going to USAF.[82] While virtually all DCS long-haul lines would be integrated, according to the Mid-Range Plan, SIOP communications lines would not be initially included in the "pooled" resources until the complete system could provide the reliability and rapidity necessary for strategic nuclear targeting requirements.[83] ~~(S)~~ U

At the end of 1961 it was difficult to forecast the precise impact of the DCA and the AFCS upon this command. The command would be directly involved with AFCS in the future, although the exact character of the relationship was more difficult to determine. The SAC connection with DCA would evolve through the AFCS which was project manager for DCA. ~~(C)~~ U

Summary

The problem of command control of strategic nuclear forces evolved from the attempt of communications and control elements to keep pace with strategic offensive weapons. The emphasis on more and better warning systems and on survivable command control communications were manifestations of this attempt. ~~(S)~~ U

In warning, substantial progress was made during 1961. Two-thirds of the BMEWS had been completed by 31 December, with an interim tracker protecting the sector eventually to be covered by the UK site. ~~(S)~~ U

In command control communications, the DOD decision to reorient 465L to a pre-attack system and to develop a post-attack system (PACCS) confirmed that in the future emphasis would be placed on acquiring communications which could be expected to survive and be used after hostilities began. Although planning had just begun for a post-attack system, SAC began considering the use of space communications systems as an even more valid solution to the problem for the future.[84] In the realm of command and control, farsightedness became the indispensable ingredient. ~~(S)~~ (U)

Some questions of future control of communications remained unresolved. Establishment of the DCA and the AFCS brought up the question of how much this command could rely on others to provide it with the high degree of efficiency required in alert and execution communications. Developments seemed to indicate the trend was toward centralization of communications activities despite SAC's apprehensions. (U)

FOOTNOTES

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5. IOM, DO to C ° JCSLG, "USAF Bomb Alarm System Status," 8 Dec 61, signed by Maj Gen K. K. Compton, DO.

6. Special Report #43.

7. Ibid.

8. Special Report #42, 12 Jun 61, p 6.

9. Interview, H. S. Wolk, Historian, with Maj J. R. Cavanaugh, DOCEOT, 6 Mar 62.

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14. SAC Channel & Traffic Control Agency Records, 24 Nov 61.

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Chapter III

OPERATIONS AND TRAINING

"Victory in war does not depend entirely upon numbers or mere courage; only skill and discipline will assure it."

-- Vegetius

Introduction

The core of all SAC activities during any period in its history was the operations and training program. For it went to the heart of the matter, and by its results answered the most vital question that can be asked of any military force: How well can you perform your mission? One observer of the development of American military policy lists SAC and the U.S. Marine Corps as the only two major U.S. commands which are elite forces. He says this was achieved by ruthless concentration on combat readiness and effectiveness.[1] If the adjective ruthless is too strong to describe the emphasis put on combat readiness in SAC, the author's point remains clear: training was continuous, exacting, and transitional. (U)

The command had been on alert since 1957. No other military force in history had maintained the same level of operational readiness for so long a period of time, and there was little likelihood the requirement would lessen in the immediate future. Shaping operations and training to the alert program required unique adjustments in traditional procedures. The combat crews were the very crux of SAC's strength.

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Their training emphasized realism above all but flying safety and the pattern changed often to counter developments in enemy capability. This chapter will discuss in detail the dispersal and alert programs, major flying programs, and key elements of the training program. The capability of SAC to perform its mission will permeate it. (U)

Securing the Force

Strategic Air Command forces had to be able to survive an enemy attack, penetrate enemy defenses, and accurately bomb and destroy its targets. But the last two would not occur unless the first was successful. In January 1962 the United States possessed an extensive air defense system protecting the North American continent costing about $2 billion annually.[2] This system, operated by the North American Air Defense Command, gave excellent protection against manned bombers. Active defense against ballistic missiles did not exist, although NORAD completed two segments of its Ballistic Missile Early Warning System during the year, leaving only one to be completed.* Consequently, SAC continued measures to protect its retaliatory force by dispersal and alert. These were not new programs by any means, but they were being constantly refined. ~~(S)~~ U

The Dispersal Program**

By December 1961 the program to limit the number of heavy units on any one base, first approved in principle by USAF in 1954, was virtually

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* See Chapter II for a discussion of developments in warning systems.
** See Section II for a listing of heavy and medium bases.

complete. SAC had 41 activated heavy B-52 squadrons,* 38 of which were combat ready.** Twenty-eight of the combat ready units were dispersed: 19 of the squadrons were assigned to strategic wings (15 UE),*** and 9 to bomb wings (15 UE).**** This left 10 non-dispersed combat ready squadrons. Three each were in the 6th and 93rd BWs (45 UE), and two each were in the 42nd and 99th BWs (30 UE).[3] ~~(S)~~ U

No formal SAC program existed to disperse medium units, but unit inactivations and conversions had gradually made the majority of medium bases single wing stations. Only five of 18 medium bomber bases had two wings assigned in December 1961;***** there had been no change since June.[4] ~~(S)~~ U

The command achieved an added degree of dispersal by sending B-47s to selected civilian and military airfields within the United States, and by deploying to overseas bases. By July 1961, the "Clutch Pedal" dispersal operation was a year old and had become routine. Two aircraft per wing flew (without weapons) to a dispersal base every quarter, remained for 12 to 72 hours to familiarize crews and maintenance personnel with the base, and returned to their home base.[5] ~~(S)~~ U

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* 14 wings (42 squadrons) was the ultimate programmed force through FY 66 (USAF Current Status Report, Jan 62, p 1-7).

** Three non-combat ready were: 4042nd, 4239th, and 19th BW (28 BSq).

*** 2AF - 4043, 4123, 4130, 4228, 4238, 4245.
8AF - 4038, 4039, 4047, 4135, 4137, 4138, 4241.
15AF - 4126, 4128, 4134, 4136, 4141, 4170.

**** 7, 11, 97, 379, 72, 5, 28, 92, and 95.

***** Lincoln, Little Rock, Pease, Lockbourne, and Forbes.

The Alert Force

Increased Ground Alert. In February 1961 the Chief of Staff, USAF, apprised SAC that the Kennedy Administration was initiating a complete appraisal of the defense establishment. A corollary of this would be an inquiry into the increased vulnerability of the manned bomber. General White recommended that SAC investigate its alert posture:[6] ~~(TS)~~

> With the uncertainty of warning devices--both as to adequacy and availability--and even assuming 15 minutes of tactical warning, the argument is made that the one-third ground alert is the only part of the force having a reasonable chance of surviving. Two-thirds of our force is discounted as not possessing any significant follow-on capability. Obviously arguments for more manned systems face rough sledding if we continue our present ground alert system and posture into the 1962-1965 time period. ~~(TS)~~

The Chief of Staff believed the Air Force should increase the alert posture. "I am thinking of an approach which calls for something over 50% of our B-52/B-47 forces on ground alert including fairly wide dispersal and possible selective hardening, leading toward the 'high alert' posture we have developed for the B-70."[7] Alert aircraft would now constitute the primary strike aircraft. There would be no "follow-on" force as such, although the remaining planes could be readied for combat if strategic warning were available. In peacetime the non-alert force would represent the logistic and training base for the strike force. Using these guidelines, General White asked SAC to develop planning factors for an increased ground alert posture.[8] ~~(TS)~~

After preliminary analysis, General Power was confident that the increased alert posture could begin at an early date. Initially, he would use existing manpower and materiel resources. The goal would be achieved ". . . through harder work, longer hours, and by placing ever greater demands on the personnel of this command."[9] But the command could not do the job by grit alone; additional support was necessary. More definitive planning factors sent to USAF on 14 February spelled out the ramifications and requirements of the program.[10] ~~(S)~~ U

Although planning factors had been urgently requested by USAF, approval of the expanded program was not soon in coming. On 21 February USAF said the chance of an early decision was remote.[11] In the meantime, SAC was instructed to continue planning so that the increased alert could be implemented in an orderly fashion 90 days after approval.[12] After renewed inquiries from this command, on 3 June USAF authorized the increased alert to be put into operation not later than 15 July 1961. Levels of alert for individual units would be at SAC's discretion, but the crew work week was not to exceed that required to support the current alert posture, i.e., 74 hours a week.[13] ~~(S)~~ U

Between 30 June and 31 July SAC increased its alert force by 356 aircraft (686 to 1042).[14] At the end of the year 881 aircraft were on alert.[15] As mentioned above, the command had the prerogative of setting the level of alert in its units. Depending upon a unit's equipment authorization, a sliding scale was used (depending upon aircraft availability) to determine the alert capability of each bomber unit and tanker

squadron. Adjustments were made to a unit's alert requirement considering such factors as crews available and aircraft in major modification programs.[16] ~~(S)~~ U

Keeping more aircraft on alert meant fewer were available to accomplish training. In the B-52 force, especially, structural modification programs restricted aircraft availability.[17] Those that were available, however, seemed to thrive on more use: non-operationally ready figures declined during the period.[18] There was some increase in the number of aircraft out of commission for parts (ACCP), aircraft not fully equipped (ANFE), and cannibalizations,[19] but overall the increased alert had no deteriorating effect on the command's weapon systems. Neither did crews have trouble completing their flying requirements.[20] ~~(S)~~ U

With the requirement to keep more aircraft on alert, procedures had to be developed to reduce the time aircraft spent in maintenance. In anticipation of the 50 per cent alert, with its concomitant requirement for a 40 per cent increase in alert and training sorties, USAF in January 1961 directed SAC to work with AFLC to develop the Improved Maintenance Program (IMP). The command had taken important preliminary steps in 1960, including an increase of inspection intervals from 300 to 600 hours, reduction in the number of inspection items, elimination of calendar inspections, and initiation of the Inspect-Repair-Schedule (ISR) concept, which employed experienced mechanics as flight-line inspectors. (U)

Objectives of the IMP were to extend inspection intervals, cut downtimes and inspection requirements, eliminate duplications, and maintain the particular weapon system during turnaround. The program, established subject to semi-annual review and modification, now encompasses all SAC aircraft. (U)

Initial IMP reviews reduced inspection workcard items for the B-52 by 45 per cent, B-47 by 59 per cent, KC-97 by 52 per cent, and KC-135 by 41 per cent. It reduced downtime for B-52 periodic inspections from 12-14 days to 9 hours, with similar reductions for other aircraft. For the fleet as a whole, the program cut downtime per 600 flying hours by 59 to 80 per cent and inspection manhours by 35 to 63 per cent. It increased inspection intervals for the B-52/KC-135 J-57 engine from 400 to 1,600 hours and for the B-47 J-47 engine from 300 to 600 hours. (U)

Field evaluation of the IMP indicated a percentage improvement in the maintenance sortie cancellation rate for every type aircraft except the B-47, which remained stationary; a decrease in the percentage of aircrew writeups per sortie, except for an insignificant increase in the B-52, and general percentage increases in EWO effectiveness and number of sorties per available aircraft. In the latter category, increases ranged from 39 to 69 per cent. (U)

SAC further evaluated IMP by visits to three commercial airlines. Although the command's inspection manhours per 600 flying hours (by this time down substantially from the figure at IMP's initiation) ranged from

49.2 to 58.2 per cent of the total for each of the subject airlines, SAC's late takeoff rate for materiel reasons was only one-third as great as that of the closest commercial line. (U)

By early 1962, 25-hour inspection packages - of which there were 24 in the 600-hour cycle for the B-52 - could be accomplished in three or four hours without taking the aircraft off the flight line. This achievement, which gave SAC the ability to fly 18 sorties per month with each B-52, resulted from a further cut in the number of inspection items and the adoption of a recovery team concept, by which the phased inspections were carried out as soon as the aircraft landed.[20a] (U)

Increased alert did create manning and scheduling problems. The command had a shortage of crews. It had planned to use crews made available by the inactivation of certain medium bomb units and tanker squadrons to help attain the 1.8:1 crew to aircraft ratio needed for the increased alert. When the DOD decided to retain these units, manning problems caused degradations in aircrew availability and consequently aircraft degradations.[21] Scheduling, that is maintaining enough combat ready crews in each tactical unit to meet the 50 per cent alert and still adhere to the policy of not working them more than an average of 74 hours a week, received considerable attention the last six months of the year. ~~(S)~~ (U)

Before, alert duty had been simply added to the training program and routine duty. Now, alert became normal duty and all crew activities were accomplished while on alert. Headquarters SAC emphasized that all crew duties should be scrutinized and non-essential tasks eliminated. A crew's work week would generally follow this schedule: 60 hours alert duty (which included training and other routine work); 6 hours flying; and 8 hours in other duties not of an alert nature.[22] ~~(S)~~ U

Some scheduling inequities existed at the end of the year. A team from Headquarters SAC surveyed unit procedures in 21 tactical squadrons and found many crews exceeded the average work week. Work loads were not equal and too much work was being done off alert duty.[23] The headquarters had no intention of standardizing work schedules, but it was working closely with the numbered air forces to refine them.[24] ~~(S)~~ U

Airborne Alert Developments. While changes in ground alert during 1961 involved increased numbers, alterations in the flying alert program consisted of route changes. (U)

From a modest beginning in September 1958, with one bomb wing launching a combat ready B-52 every six hours, SAC's airborne alert indoctrination program had increased to 11 wings launching a total of 12 sorties per day by late 1961. ~~(S)~~ U

During 1960 and early 1961 airborne alert operations were conducted along "ladder" type routes resembling giant north-south loops stretching from the U.S. north into the Canadian Arctic. Six sorties per day were

easily accommodated in this plan, and with the increase to 12 sorties, beginning with the "Cover All" operation in January 1961, additional sorties were simply added to the original flight plan. This did not immediately jeopardize flight safety, but a future expansion of the indoctrination flights to one-sixteenth of the force could. A concomitant problem was the necessity for extensive coordination with the FAA and the Canadian Government.[25] ~~(S)~~ U

To solve problems inherent in the "ladder" routing, during early 1961, SAC operations planners devised a bomber stream concept known as "Chrome Dome." It used two routes, one completely circumnavigating Canada, and the other traversing the Atlantic to prescribe a route in the western Mediterranean area before returning to the U.S. Tanker task forces located in the northeast U.S. (Griffiss, Loring, and Westover AFBs); at Eielson AFB, Alaska; and at Torrejon, Spain, would service the aircraft. All planning and requirements for this new procedure were completed and forwarded to USAF at the end of June, where they awaited Defense Department approval.[26] ~~(S)~~ U

With confirmation of "Chrome Dome" pending, SAC conducted its seventh and eighth airborne alert exercises: "Keen Axe," 1 July through 30 September; and "Wire Brush," 1 October through 5 November. Each consisted of 12 bomber sorties. For each bomber flight two tanker sorties were required.[27] ~~(S)~~ U

On 6 November "Chrome Dome" began. Four strategic wings and two bomb wings flew one sortie a day and one bomb wing flew two sorties, all on the northern route. On the southern route four strategic wings flew one sortie a day.[28] Fifteenth and Second Air Forces provided extra refuelers for the Eielson and Torrejon task forces.[29] ~~(S)~~ U

A new ingredient in the airborne alert operation, missing from past exercises, but begun during "Keen Axe" and continued during the next two quarterly operations, was monitorship of the Thule BMEWS facility.[30] In "Chrome Dome" two sorties a day from the 99th BW at Westover AFB flew north to orbit in the vicinity of Thule, monitoring the facility by radar, visually, or by UHF contact.[31] ~~(S)~~ U

Although it was too early in December 1961 to permit any final analysis of the success of "Chrome Dome" operations, indications were that the bomber stream approach did not present any more difficulties than previous "ladder" type exercises. After comparing it with its predecessor "Wire Brush," operations planners could find "no appreciable increase in maintenance difficulties.[32] ~~(S)~~ U

During 1961 SAC continued to fly 12 airborne alert indoctrination sorties a day, but it became capable of expanding the operation to 1/16 or 1/8 of the heavy force within 72 hours after notification. This was the most the DOD had authorized. Since 1960 the command, supported by USAF, had sought a materiel buildup to permit 1/4 of the force to be airborne.[33] But word from USAF in mid-1961 seemed to indicate that continued

DOD silence on the matter had convinced Air Force that there was little hope for its attainment. Its Program Guidance (PG) document 63-3 supported procurement of materiel only for the 1/8 level.[34] In reply to the question whether or not SAC still had a requirement for the 1/4 on-the-shelf capability,[35] the command said yes.[36] It seemed clear, however, that no DOD approval for the 1/4 buildup would be forthcoming without the stimulus of increased international tensions. ~~(S)~~ U

The Overseas Alert Program. Strategic Air Command continued to exploit the advantages of operating from overseas bases during 1961. These bases afforded a minimum penetration time to enemy territory for the bomber force, complicated enemy strike force timing, helped alleviate the problem of limited tankers, supported force recovery, aided in dispersal of the medium force, and gave tangible proof to our allies of our intent to protect Western Europe. It was true that they were becoming more vulnerable to military and political attack, but as long as national objectives required it, SAC would continue to operate from its overseas bases. ~~(S)~~ U

This program embodying the principles of alert and dispersal was in its fourth year in 1961. Called Reflex in Europe and North Africa and Air Mail in the Far East, it consisted of sending B-47s and KC-97s to forward bases and maintaining them in a high state of readiness. The new "SAC Planning Factors Manual on Alert" issued in September provided for a 23-day temporary duty for bomber aircraft and a 30-day stint for aircrews (about 21 days on alert, 7 days off, and 1 day deploying and

redeploying). Tanker schedules and cycles were prepared by the numbered air forces. To refuel bombers enroute, at least 20 tankers were maintained on Lajes, Azores ("Short Punt"). Alert aircraft in the Far East, on Guam, were rotated less frequently because of the long distances between the mainland and the scarcity of tankers at enroute stations. Aircraft remained 90 days, although [illegible] still rotated every 30 days. In contrast to Reflex, Air Mail allowed a portion of the crews to participate in some flight training while on alert, while the remainder was on alert. The increased alert during 1961 reflected in the expansion of alert on bases in Spain and North Africa; alert in the United Kingdom increased only slightly. Reflex of KC-97s decreased slightly, but this was more than compensated for by increased KC-97 and KC-135 alert at northern tier bases in the ZI.[37] (S). (U)

Air Operations

Strategic Air Command air operations during 1961 consisted of diverse programs ranging from support of tactical air deployments to reconnaissance surveillance of the Sino-Soviet Bloc. Some were conducted on a large scale, e.g., the joint SAC-NORAD air defense exercise involving over 200 SAC aircraft; and some were on a small scale, e.g., the periodic movement of a single heavy aircraft to an overseas base for support indoctrination. The historian does not intend to discuss every phase of this extensive program. He will concentrate on the most significant, and merely mention routine exercises of limited scope.. (U)

Sky Shield II

The only large scale exercise engaged in by SAC during 1961 was "Sky Shield II," a joint SAC-NORAD air defense exercise. Like its predecessor, "Sky Shield I," the 1961 operation was designed to exercise all possible components of NORAD's warning and intercept system. (U)

After confirmation from JCS to begin preparations for the 1961 exercise, NORAD and SAC planners spent the next few months completing details of the operation.[38] The JCS stated the purpose of "Sky Shield II" was ". . . to exercise the entire North American air defense system in the most realistic environment achievable in peacetime."[39] The key word, of course, was peacetime. Although realism was desired, the exercise was not to be a contest between the offense and the defense.[40] To accomplish the training objectives, the two commands required 12 hours of unrestricted use of the air space over North America. This extension from six hours (in "Sky Shield I") to 12 hours ground time for all aircraft not involved in the exercise required detailed coordination with civilian aviation organizations.*[41] ~~(S)~~

On 3 August the JCS informed NORAD of approval to begin the exercise 1700Z, 14 October, and to continue it for 12 hours.[42] Thus, following a hypothetical increase in world tensions beginning 10 August,

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* Federal Aviation Agency, commercial air carrier associations, and general aviation pilot organizations.

hostile aircraft were discovered penetrating the Distant Early Warning line on the above hour. This was the aggressor force of 26 SAC and 8 RAF bombers, the majority of which launched from overseas bases. The NORAD warned SAC, who launched its alert bombers and 198 tankers.* These aircraft departed the continental U.S. using EWO routes and practicing "Safe Passage" procedures.** After refueling, they became aggressors and turned to penetrate the defense system through corridors previously used by the initial strike force. Augmented by U.S. and Canadian based forces from other commands, SAC used ECM, communications jamming, and coordinated high and low level attacks to degrade NORAD's defenses. After completion of this phase, the attacking aircraft flew to home stations.[43] ~~(S)~~ U

The prime objectives of "Sky Shield II" were achieved.[44] The CINCNORAD reported the use of SAC aircraft against his defenses ". . . enabled by command to simulate closely the defensive actions which might be required in an actual attack . . . ."[45] His radar and SAGE systems functioned efficiently. Of special importance was the experience gained in combating electronic countermeasures jamming.[46] But NORAD was under

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* SAC's capability to react to a national emergency was unimpaired by the participation in the exercise (Msg DCOPOP 0830, SAC to NORAD, n.s., since 4 Aug 61; SAC Ops Order 11-62, Annex X, 13 Sep 61).

** Preplanned safe routes through air defenses for outbound friendly aircraft.

no allusions that "Sky Shield II" was a true test of its capability. It lacked realism: with the exception of the 26th Region, the attack was spread too thin to simulate a wartime situation.[47] ~~(S)~~ U

Strategic Air Command's contribution to "Sky Shield II" was 232 strike sorties* (243 planned) of the 559 total flown (723 planned).** Ten SAC sorties were not launched because of weather; one aborted after launch because of mechanical failure.[48] The SAC Director of Operations cited this low abort rate as indicative of the high professional caliber and motivation of SAC's air and ground crews and support personnel.[49] Approximately 47 per cent of SAC's strikes (109 of 232) flew their routes as planned at low level.[50] But in this command's estimation, exercises such as "Sky Shield II" gave its individual crews little training.[51] The SAC-NORAD briefing to the JCS recommended redesign of the next exercise to concentrate it in time and space. This was the direction being taken in preparation of the air defense exercise "Spring Thaw," scheduled for April 1962. Plans called for concentrating over 80 SAC aircraft using ECM against one region.[52] ~~(S)~~ U

SAC Support of Tactical Air Command

In another joint program during the year, SAC supported TAC fighter operations with its jet tankers. Headquarters USAF planned a single

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* 233 launched, but one aircraft, a B-52G of the 4241st SW, Seymour Johnson AFB, was lost at sea.

** Others involved were: Air Training Command, Air Defense Command, Royal Canadian Air Force, U.S. Navy, U.S. Marine Corps, Tactical Air Command, Alaskan Air Command, and Royal Air Force.

tanker force by the end of 1963, managed by SAC, but providing training and emergency deployment assistance to TAC's Composite Air Strike Force (CASF).[53] ~~(S)~~ U

The first step was a program to determine the compatibility of new tanker and receiver equipment. Tests during August and September 1959 ("Step On It") and November 1960 ("Back High") determined that equipment required modification for more efficient SAC-TAC refueling.[54] Further tests would be useless until new drogue adapter kits and new rendezvous equipment were installed.[55] USAF agreed:[56] Modifications were completed in February 1961,[57] and in March SAC refuelers and TAC aircraft tested the equipment. It was successful. Tactics, training, and techniques developed would make future CASF deployments more reliable.[58] ~~(S)~~ U

The next phase, support of an actual deployment of fighters, planned for early October,[59] was postponed to early 1962 when training sorties in late September revealed the F-105 was only marginal in its ability to refuel from the KC-135 because of ineffective night lighting.[60] ~~(S)~~ U

Another TAC exercise participated in by SAC during the last six months of 1961 was "Stair Step II." Here again, the KC-135 was used, but this time as a communications station.[61] The TAC deployed eight recently federalized Air National Guard fighter and reconnaissance

squadrons to Europe. The command provided five KC-135s to act as communications relays along the flight routes. Other tankers stood ready at eastern bases for emergency refueling, but none was needed.[62] (S) U

Reconnaissance

Reconnaissance operations were an integral part of the SAC mission. Air Force Regulation 23-12 directed it to ". . . organize, train, equip, administer, and prepare strategic air forces for combat, including strategic reconnaissance . . . ." The basic operations order for reconnaissance activity, SAC Ops Order 60-60, stated the requirement as follows:[63] (S) U

> CINCSAC has been directed to conduct a continuous program of electronic reconnaissance along the periphery of Soviet Russia, Soviet Satellite countries, and Communist China. This order directs electronic reconnaissance in specified areas which will be accomplished primarily with RB-47 aircraft, crews and support personnel deployed . . . to Yokota Air Base, Japan; Eielson Air Force Base, Alaska; Brize Norton Air Base, United Kingdom; and Incirlik Air Base, Turkey. (S) U

The command maintained two units in active reconnaissance work: the 55th Strategic Reconnaissance Wing, Forbes AFB, Kansas; and the 4080th Strategic Wing, Laughlin AFB, Texas. The 4080th, equipped with U-2 aircraft, flew largely weather reconnaissance and High Altitude Sampling Program missions. The 55th SRW, with various models of RB-47 aircraft, engaged in collecting Electronic Intelligence (ELINT) data,

in Electronic Countermeasures (ECM) missions, and in weather reconnaissance and various other test programs. (S) U

Operational ferret* missions by [redacted]s were curtailed during the last half of 1960 and early 1961 in the aftermath of the shooting down of an RB-47 over the Barents Sea in July 1960. During the interregnum the aircraft were renamed R-47s to remove the connotation that they had a bombing capability; new navigational and communications procedures were developed; and the aircraft were modified with new electronic equipment. In August 1961 they resumed normal operations.[64] (S) U

During 1961 the R-47s of the 55th SRW monitored Soviet and Chinese Communist radars,[65] gathered stratospheric fallout samples during Soviet nuclear tests,[66] and intercepted and recorded pre-burnout telemetry of Soviet ICBM and IRBM and satellite launches.[67] The U-2s of the 4080th SW flew high altitude sampling missions, gathering fallout data for the Air Force Technical Applications Center;[68] assisted the Air Weather Service in compiling weather data;[69] conducted quarterly nephographic** coverage of missile sites in the U.S.;[70] and served as intercept targets for air defense fighters.[71] (S) U

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* Aircraft equipped to detect, locate, record, and analyze electromagnetic radiation.

** The process of determining the height and motion of clouds, generally by simultaneous photographs with a pair of cameras some distance apart.

During 1961 strategic reconnaissance performed many and varied projects throughout the world. Recon aircraft fulfilled vital requirements to detect types of equipment and installations, to determine capabilities and use of equipment and installations, and to identify changes in deployment. The knowledge gained from these missions, collated with other intelligence, provided an indication of the weaknesses and strengths of the Sino-Soviet air defense structure. The collected data, when fully processed, provided SAC with intelligence that was directly applicable to satisfying the requirements of warning, penetration, and targeting. ~~(S)~~ (U)

Training

The SAC training program was a compound of many requirements, but its most important element was the development of air crews to such a high state of proficiency that they could immediately and successfully complete the unit's assigned mission. The basic SAC training program for units and crews was set forth in SAC Regulation 50-8. Numbered air force and SAC headquarters continually assessed crew training and unit proficiency by means of testing programs. Realistic training continued to be emphasized during 1961. The intent was to present crews with the most challenging situation possible, that is, the one most nearly simulating combat conditions. (U)

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Incentive Training

The Incentive Program was a management device for allowing units maximum flexibility to concentrate on priority EWO requirements. It permitted units to accrue additional Management Control System (MCS) points for training over and above the minimum required. At the end of December 1961 it had been in operation one year.[72] Statistics indicated this attempt to increase the quantity and quality of air training had been successful. Total activity in vital EWO areas, e.g., bombing, navigation, ECM, and air refueling, increased significantly during the year. Also, those units which scored high in incentive points placed high in the MCS, and did well in evaluation programs.[73] (U)

Operational Readiness Inspections

In SAC, the Inspectors General of USAF, SAC, and the numbered air forces conducted operational readiness inspections (ORIs) using no-notice simulated combat missions (SCM) performed in accordance with SAC Manual 50-3.[74] During the year 44 inspections were conducted; 10 units failed, mainly because of weaknesses in bombing reliability and mission effectiveness and material failures.[75] In August the command changed the criteria for testing. Thereafter, in the crew effectiveness portion, instead of testing all crews, only the alert force would be considered. In this way, SAC hoped to obtain a more valid estimate of true combat capability. Under the new ORI criteria, units were still rated in

general factors affecting unit operational capability, but the crux of the test was its demonstrated alert mission effectiveness.[76] (U)

To fill the void left by the above change, SAC instituted the Bar None exercise. Once a year each bomb wing would be evaluated. The exercise was a unit planned and numbered air force approved exam to assess a unit's total EWO capability. All crews would be evaluated during a five-week period. Some time during the period the 1st Combat Evaluation Group would conduct its annual no-notice evaluation, choosing about 25 per cent of the assigned crews.[77] Between 9 October and the end of the year, 10 bomb wings were tested under the new criteria. All passed.[78] At the end of the year the Training Division was amending the criteria to include automatic probation for a unit which failed in mission effectiveness.[79] ~~(S)~~ U

Yearly Evaluation Exercise

The SAC conducted its yearly evaluation exercise ("On Target") between 19 June and 22 July 1961. Objectives of the exercise were to test both the validity of basic tactics and the training program in these tactics. During "On Target," Short Look Large Charge and Side Step bombing tactics,* low altitude navigation, high altitude corridor

* The Short Look Large Charge maneuver entailed a low level navigational run to an RBS site (Short Look) and a release on two targets within the same complex using one offset aiming point (Large Charge). The Side Step maneuver was a high altitude navigational run with a two degree sweeping 'S' turn before and after the bomb drop. It was designed as a defensive maneuver against surface-to-air missiles.

navigation, electronic countermeasures, local defense runs, and radar simulator runs were tested under realistic conditions. All bombardment units then in a numbered air force training period, plus combat crew training wings and the 42nd Bomb Wing (B-58), participated. During the exercise units flew 513 sorties: 255 by B-47s, 242 by B-52s, and 16 by B-58s.[80] ~~(C)~~ U

Analyzing the bomb scoring results, Headquarters SAC found Short Lock Large Charge and Side Step tactics feasible and realistic, although generally crews needed more training in them. This was especially true of Short Lock Large Charge. The Side Step maneuver needed revision as to the amount of time permitted in the bomb run. Low altitude navigation, high altitude navigation, local defense runs, and radar simulator runs were also validated. The exercise did indicate newer crews needed more training in low altitude navigation and that more signal identification training was needed on radar simulator runs.[81] ~~(S)~~ U

"On Target" reaffirmed the command's EWO combat capability for 1961. The SAC aircrew training program, although demanding on staffs and crews, was EWO oriented. (U)

Radar Bomb Scoring

It can be said that command emphasis on radar bombing and scoring, a procedure in which ground based radar and plotting equipment is used

to determine the theoretical point or points of impact of a theoretical bomb release during a simulated bombing mission, came in 1948 after SAC crews erred excessively in a maximum effort against a mobile radar scoring station with a definite aiming point.[82] Concentration on this type of training had not diminished by 1961, although techniques of the training had changed greatly in the intervening years. (U)

The trend in evaluating bombing by radar was toward increased realism. Combat crews had mastered the use of radar scope photography, and had become proficient in bombing a specific target in a specific complex. But, as pointed out by SAC's Vice Commander in Chief, once crews had mastered a target, continued attacks against it provided little additional learning.[83] In its RBS Realignment Program, started in 1960 to provide increased emphasis on low level training, SAC began making certain scoring sites mobile. On 1 March 1961 the command acquired its first train-mounted radar bomb scoring device (RBS Express).[84] ~~(S)~~ U

Early activity against the RBS train was low and reliability was marginal.[85] But during the last six months of the year there was a steady increase in the use of the trains (two more became operational in September), and accuracy and reliability increased.[86] There were also encouraging results from the 1961 Bomb Competition in September. All low altitude runs were accomplished against two RBS trains. Higher accuracy was achieved than during the 1960 competition, although the previous year a fixed site was used.[87] Headquarters SAC found crews

. . . absolutely sold on the objectiveness, realism, and the challenge inherent in the FBS Express concept."[88] The Deputy Director of Operations cited the results of the bomb competition as evidence that the command's training program should and as EWO oriented as possible.[89] (S) U

But although the three trains gave SAC added realism in training, there were too few of them to give extensive training to crews. For example, each crew could only be scheduled against three strange targets per quarter, whereas against fixed sites the average crew flew 14 runs per quarter. The SAC Training Division, pointing out that experience had proved that quality of training rose when quantity increased, planned to institute a series of semi-mobile targets. Using a fixed base as support, mobile equipment in truck trailers would be located within a radius of 75 to 100 miles and attacks scored against it. The equipment's location would be changed often.[90] During the last few months of the year the numbered air forces and the Federal Aviation Agency surveyed potential semi-mobile sites. By the end of the year, Boise, Idaho; Greenville, Mississippi; and Lynchburg, Virginia, had been chosen. Plans called for Boise to become operational in February with the other two sites coming in the following month.[91] (S) U

Another program, a cooperative venture by SAC and the Army, increased the variety of SAC training and at the same time gave air defense units realistic experience against high performance aircraft. In it,

Nike air defense sites scored navigation and high altitude bomb runs. Begun on a modest scale in 1960 with eight sites, by August 1961 28 ZI and 4 overseas sites were scoring radar runs.[92] ~~(S)~~ U

[illegible] training was handicapped by a high ground abort rate; this had not been entirely unexpected, since the work was new to the Army.[93] Constant attention and coordination at all levels of command brought Nike scoring to a credible level by the end of the year, although problems of inequitable use of sites and scheduling were not entirely solved.[94] General Power cited to General George H. Decker, Chief of Staff, USA, the impressive record of the Spokane and Seattle sites during the bomb competition. At the end of the year SAC, USA, NORAD, and FAA were working out details of a low level training program using Nike sites to begin early in 1962.[95] ~~(S)~~ U

1961 Combat Competition

Radar bombing figured prominently in the thirteenth annual SAC combat competition held 16-22 September. The Fifteenth Air Force acted as host, Fairchild AFB serving as headquarters and staging base for bomber and tanker aircraft. The dual objectives of the competition remained to give impetus to the competitive spirit of the command's units and aircrews and to further the standards of excellence in the various combat categories.[96] (U)

Twenty-four units participated: 12 bomb wings (6 B-52s and 6 B-47s), and 12 air refueling squadrons (6 KC-97s and 6 KC-135s). Each crew flew

one mission (two missions for KC-135 crews) over a specified route. In a departure from previous competitions, all bomber missions launched from an alert posture. Additional innovations included:[97] (1) Strange low level routes and targets; (2) Double release on low and high altitude target complexes; (3) RBS express trains scored low level altitude runs; (4) Mike sites scored high altitude bombing; and (5) Use of celestial corridor type navigation. ~~(C)~~ U

The 4137th SW, Robins AFB, Georgia, won the Fairchild Trophy as the best overall bombardment unit. The 4137th was judged best in the combined categories of alert, bombing, navigation, ECM, air refueling, pilot techniques, and munitions loading. The 915th ARS captured the Summers Trophy as the best overall tanker unit by its proficiency in alert, navigation, air refueling, and pilot techniques. Winners in other categories follow:[98] best bomber crew in navigation, crew S-06 (2 BW, Hunter); best crew in bombing, crew E-14 (4137 SW, Robins); best overall bomber crew, crew E-14 (4137 SW, Robins); best bomber unit in navigation, 42 BW, Loring; best unit in bombing, 4137 SW, Robins; best B-47 unit, 2 BW, Hunter; best B-52 unit, 4137 SW, Robins; best tanker crew in navigation, crew J-93 (310 ARS, Schilling); best overall tanker crew, crew J-20 (911 ARS, Seymour-Johnson); best KC-97 unit, 340 ARS, Whiteman; best KC-135 unit, 915 ARS, Ramey; best B-47 munitions loading team, 32 MMS, Chennault; best B-52 munitions loading team, 63 MMS, Beale; and best overall munitions loading team, 32 MMS, Chennault. (U)

In general, the 1961 combat competition was highly successful. All but one aircraft was launched as scheduled, with B-47 and B-52 high altitude bombing far superior to the previous three competitions. In addition, low level results against the RAF Express (in first release) represented a measurable improvement over the previous year, even though before fixed sites were used. Further analysis showed that SAC had reached high proficiency in low altitude navigation. ECM results were also excellent. The Final Report recommended that future exercises be made even more realistic because of the success of 1961 efforts as well as the benefits obtained from highly realistic and competitive exercises.[99] ~~(C)~~ U

Summary

It was a paradox that SAC's main crew activity did not involve flying at all. The expanded ground alert program added significantly to SAC's [illegible]tal strike power during 1961, but it caused crew scheduling problems that had not been completely solved by the end of the year. This additional requirement did not prevent crews from meeting their flying requirements, however, and it had little overall effect on aircraft reliability. In the flying alert program, the command was still unsuccessful in getting authority to increase the number of B-52s constantly airborne, but previous problems of routing and overflight approval were assuaged with the beginning of "Chrome Dome" flights. ~~(S)~~ U

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The command's only large scale exercise during the year was a joint effort with North American Air Defense Command. Initial planning for the next exercise indicated more cognizance would be taken of SAC operational requirements. In another inter-command arrangement, SAC supported Tactical Air Command's fighters with refuelings from its KC-135 force. ~~(S)~~ U

Realistic training continued to be emphasized: radar bombing against mobile sites increased, more Nike sites entered the RBS program, and plans were completed for incorporating low level semi-mobile sites. The 1961 Combat Competition featured several innovations, all calculated to more closely simulate an actual EWO situation. Despite changes in test criteria, no significant trends could be discerned in Operational Readiness Inspections: by coincidence, the same number of units were tested and the same number failed during both six months of 1961. Crews put on probation constituted an almost insignificant number of the total crews combat ready. In the new Bar None exercise, an annual unit test involving all crews, 10 units were examined and all passed. ~~(S)~~ U

In conclusion, SAC's operations and training program was a viable program responsive to the changing requirements of the strategic mission and the advancements in modern technology. (U)

FOOTNOTES

1. Samuel P. Huntington, The Common Defense: Strategic Programs in National Politics (Columbia University Press, New York, 1961), p 312.

2. Statement by SecDef Robert S. McNamara, in Hearings, Subcommittee on DOD Appropriations, Committee on Appropriations, House of Representatives, 87th Cong, 2nd Sess, "Department of Defense Appropriations for 1963," Part 2, p 42.

3. Report, 1-SAC-V1, 31 Dec 61.

4. See Section II, this history; a comparison has been made with Hist of SAC, Jan-Jun 61, p 105.

5. SAC OPORD 38-61, "Clutch Pedal," 15 Aug 60, as amended Jan 62; Hist of SAC, Jan-Jun 61, p 106; List of "Clutch Pedal" dispersal bases included in Section II.

6. Ltr, Gen Thomas D. White, CofS USAF, to Gen Thomas S. Power, CINCSAC, 1 Feb 61 (B-78094). The contents of this letter were electrically transmitted in Msg, AFCCS 82040, Hq USAF to SAC, personal for Power from White, 1 Feb 61.

7. Ibid.

8. Ibid.

9. Msg, C B-78154, SAC to CofS USAF, personal for Gen White from Gen Power, "Increased Readiness Posture," 10 Feb 61 (B-78154).

10. Ltr, Gen Thomas S. Power to Gen Thomas D. White, 14 Feb 61 (B-78178).

11. Msg, AFCVC 88082, Hq USAF to SAC, "SAC Force Readiness Posture," 21 Feb 61.

12. Msg, AFCVC 91464, Hq USAF to SAC, "SAC Force Readiness Posture," 7 Mar 61.

13. Msg, AFCVC 75559, Hq USAF to SAC, "Alert Posture for B-52/47 and KC-135/97 Force," 3 Jun 61.

14. Rpt, 1-SAC-V1, 30 Jun 61, compared with same report for 31 Jul.

15. Rpt, 1-SAC-V1, 31 Dec 61.

16. SACM 27-1, "Planning Factors Manual on Alert," 1 Sep 61, p 12.

17. Interview, R. Kipp, Historian, with Maj J. W. Blackstock, Ch, Bomber Proj Sec, DM3, 16 Apr 62.

18. USAF Current Status Report, Jul-Dec 61.

19. Interview, R. Kipp, Historian, with Maj J. W. Blackstock, Ch, Bomber Proj Sec, DM3, 16 Apr 62; Ltr, Maj Gen J. W. Wilson, DM, to Maj Gen L. L. Lundell, Comdr, OCAMA, "Supply Support for B-52 Aircraft," 30 Jan 62; Historian's examination of 1-AFS-52 report, "AOCP, ANFE, and MOCP," Jul-Dec 61, and RCS S-39 Report, "Canni= balizations," Jul-Dec 61.

20. Interview, R. Kipp, Historian, with Lt Col W. L. Spiller, Ch, DOTPA, 12 Apr 62. Only 6000 fewer hours were flown in the last six months of the year than in the first, see Chart 13, Hist of SAC, Jan-Jun 61; Chart 13, Hist of SAC, Jul-Dec 61.

20a. Briefing by Col P. C. Sianis, Ch, DM4, to Gen Power, "Improved Maintenance Program," prepared by DM4A, Feb 62.

21. Briefing, "Alert Degradations (5 month average)," prepared by Lt Col H. O. Tucker, DOPLMC, 1 Mar 62.

22. Msg, DO B-78414, SAC to Alfa, "Crew Utilization and Training . . .," 4 Mar 61; Msg, DOTPA 3799, SAC to CofS USAF, n.s., 25 May 61.

23. Briefing, "Crew Workloads Survey Results," prepared by DOTPA.

24. IOM, Maj Gen A. J. Russell, DDO, to DXI, et al., "Crew Utilization and Alert Operations," 15 Dec 61.

25. For a complete description of the planning processes involving "Chrome Dome" see Hist of SAC, Jan-Jun 61, pp 70-85.

26. Ibid.

27. SAC Air Operations Schedule (Peacetime), FY 62, as amended to 3 Nov 61. For specifics of the year's operations, see Section II.

28. Msg, DOOPOP 3187, SAC to Alfa 2, et al., n.s., 20 Oct 61. For "Chrome Dome" units see Section II.

29. Ltr, Col R. J. Wright, Comdr, Eielson Task Force, to 15AF, "Task Force Monthly Rpt," 11 Dec 61; Msg, ZIPPO 11-079, 3970 CSG to SAC, et al., 4 Nov 61.

30. Msg, C 1301, personal Power to White, n.s., 17 Feb 61; Msg, DPLB B-79190, SAC to 7AD, for Maj Gen C. B. Westover, Comdr, 7AD, 15 May 61; Msg, DO 0036, SAC to JCS, "Monitoring of BMEWS," 4 Jul 61; IOM, Col W. W. Brier, Ex, DO, to DOPL, et al., "Airborne Monitor of BMEWS," 11 Aug 61.

31. Appendix 1, Annex B, to SAC Ops Order 23-62A, 19 Oct 61.

32. Briefing, "Analysis of Chrome Dome Compared to Wire Brush," prepared by DOPLMX.

33. Hist of SAC, Jan-Jun 60, p 137.

34. IOM, Col R. G. Dupont, Dep Ch, Plans Div, DPL, to IM3, "Airborne Alert Objective," 8 Jul 61; Memo for the Record, Maj J. W. Kreitz, DPLBF, "Airborne Alert," 21 Aug 61.

35. Msg, CVC 60799, Hq USAF to SAC, "Airborne Alert," 27 Sep 61.

36. Msg, C 2597, SAC to USAF, "Airborne Alert," 2 Oct 61.

37. FY 62 SAC Air Opeations Schedule (Peacetime), amended to 3 Nov 61; Rpt, 1-SAC-V1, 31 Dec 61.

38. Msg, 992994, JCS to NORAD, 30 Mar 61.

39. Msg, JCS 1049, JCS to CofS USAF, n.s., 7 Aug 61.

40. Ltr, Maj Gen W. H. Hennig, CofS, NORAD, to SAC, "Policy . . . Exercise 'Sky Shield' Data," 22 May 61; Ltr, Maj Gen E. B. Broadhurst, CofS, SAC, to CINCNORAD, "Policy . . . Exercise 'Sky Shield,'" 3 Jun 61.

41. IOM, Col L. C. Lewis, Ch, DOOP, to DO, "'Sky Shield II' Conference (JCS)," 5 Jul 61; Ltr, Mr. D. D. Thomas, Dir, Air Traffic Service, FAA, to Heads of Regional Offices, "Military Exercise, Sky Shield II," 14 Sep 61.

42. Msg, JCS 1026, JCS to CINCNORAD, 3 Aug 61. The Canadian Government had approved the exercise in late June (Msg, NOEV-E X 110, CINCNORAD to JCS, n.s., 30 Jun 61).

43. Appendix 3, "Sky Shield II Basic Concept," to Memo for the President, from Gen L. L. Lemnitzer, Chairman, JCS, "Sky Shield II," 19 Oct 61, CM-400-61; IOM, Maj Gen A. J. Russell, DDO, SAC, to VC and C, "Sky Shield II," n.d.; Briefing, "Sky Shield II," presented to JCS 1 Dec 61 by SAC-NORAD team, in DKIH; See also photos of SAC status boards taken in command post during the operation, in DKIH.

44. Memo for the President, from Gen L. L. Lemnitzer, Chairman, JCS, "Sky Shield II," 19 Oct 61, CM-400-61.

45. Msg, NMCR 097, CINCNORAD to CINCSAC, et al., n.s., 17 Oct 61. See also Msg, AFCCS 71956, USAF to SAC, personal LeMay to Power, n.s., 19 Oct 61.

46. Briefing, "Sky Shield II," presented to JCS by NORAD-SAC team, 1 Dec 61. See also Ltr, Air Vice Marshal Murray D. Lister, DCS/O, NORAD, to CINCSAC, "Briefings on Sky Shield II," 6 Dec 61, with 1 Atch (containing 3 Incls).

47. Rpt, "Conclusions and/or Recommendations on Sky Shield II," [by Region commanders] 9 Jan 62; Memo for the Record, Maj C. P. Moore, DOOPOP, "JCS/CCS Sky Shield II Briefing," 29 Nov 61.

48. Appendix 4, "Sky Shield II Operational Data," to Memo for the President, from Gen L. L. Lemnitzer, Chairman, JCS, "Sky Shield II," 19 Oct 61, CM-400-61.

49. Msg, DO 34685, SAC to Alfa 2, 2AF, 7AD, "Sky Shield II," 24 Oct 61.

50. Memo for the Files, by Maj C. P. Moore, DOOPOP, "'Sky Shield II' Low Level Analysis," 1 Nov 61.

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63. SAC Ops Order 60-60, "Castle Gate," 19 May 60.

64. Hist of SAC, Jan-Jun 61, pp 134-142, 264; Interview, J. W. Dennison, Historian, with Lt Col J. E. Thome, DOCORM, 16 Apr 62; Hist of 55 SRW, Aug 61, p 9.

65. IOM, Maj J. E. Brooks, DOCORS to DXIH, "U-2 Operations Jul-Dec," 18 Apr 62; Hist of 4080 SW, Aug, Sep, Oct, Nov-Dec 61.

66. Ltr, Maj Gen J. P. Rodenhauser, Chief AF Technical Applications Center, DCS/O, to SAC, "Letter of Appreciation," 12 Feb 62; Hist of 55SRW, Sep, Oct, Nov, and Dec 61; IOM, Lt Col J. E. Thome, DOCOR, to DXIH, "R-47 Operations 1 Jul 61 through 31 Dec 61," 18 Apr 62; IOM, Maj J. E. Brooks, DOCORS to DXIH, "U-2 Operations," 18 Apr 62; Ltr, Gen Frederic H. Smith, VCofS USAF, to SAC, "Letter of Appreciation," 22 Nov 61; Ltr, Gen Curtis E. LeMay, CofS USAF, to Gen Thomas S. Power, CINCSAC, "Letter of Appreciation," 7 Dec 61.

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69. Interview, Mr. J. W. Dennison, Historian, with Maj J. E. Brooks, DOCORS, 18 Apr 62.

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73. Briefing, "One Year's Operation Under the Incentive System, What the System Has Accomplished," prepared by DOT and presented to CINCSAC circa 20 Jan 62.

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75. Inspector General Reports on file in the office of the IG, Hq SAC, for the year.

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93. Ltr, Lt Gen A. J. Old, Comdr, 15AF, to Gen T. S. Power, CINCSAC; Ltr, Gen T. S. Power, CINCSAC, to Lt Gen A. J. Old, n.s., 13 Apr 61; Ltr, Col W. R. Smith, Ch, DOT, to Brig Gen F. M. McGoldrick, ACofS, G-3, USARADCOM, n.s., 21 Apr 61.

94. Ltr, Col W. R. Smith, Ch, DOT, to Brig Gen F. M. McGoldrick, ACofS, G-3, ARADCOM, n.s., 21 Apr 61; Ltr, Brig Gen F. M. McGoldrick, ACofS, G-3, to Col W. R. Smith, Ch, DOT, n.s., 5 May 61; Ltr, Gen T. S. Power, CINCSAC, to Gen G. H. Decker, CofS USA, "NIKE Bomb Scoring," 11 Nov 61; Ltr, Gen G. H. Decker, CofS USA, to Gen T. S. Power,

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97. IOM, DO to C, "1961 Combat Competition," 20 Oct 61.

98. Final Report, "1961 Combat Competition," pp 10-12; see also Section II.

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Chapter IV

MISSILES AND SPACE

Introduction

During 1961 this command devoted the greater part of its efforts to building an operational intercontinental ballistic missile (ICBM) force. It emphasized testing, training, and construction programs; and planning for future missile and space systems. (U)

Regarding the intermediate range ballistic missile (IRBM), SAC retained support responsibilities for the Jupiter, although negotiations were imminent with the RAF over continued support of the Thor system after October 1964. The U.S. desired that the United Kingdom (UK) retain an operational Thor system until such time as an advanced weapon system became available in quantity, but the British had the final decision. ~~(S)~~ U

Planning for an advanced Minuteman system received impetus from the recommendations of the Advanced Minuteman Study Military Steering Committee. The Committee delineated specific range, yield, and CEP requirements for the advanced SM-80. At the end of December, USAF and SAC were analyzing requirements for an advanced system. ~~(C)~~ U

Command interest in space continued during the period, although a SAC space mission had not been recognized or defined. The DOD assigned

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the space mission to the Air Force in March 1961. SAC visualized this as an opportunity for development of operational capabilities in strategic intelligence, warning, communications, and delivery systems. ~~(S)~~ (U)

In its endeavors to bring the missile force to the highest degree of operational effectiveness, SAC sought to complement its existing strategic bomber fleet. (U)

The ICBM Force

The SAC ICBM force during 1961 manifested two paramount trends of significance to future force structure. Department of Defense approval was given to build plant capacity that could double production of Minuteman, with special emphasis upon the hardened and fixed configuration. By order of the Secretary of Defense, the three mobile SM-80 squadrons were deferred, although planning went ahead for eventual railroad deployment. Clearly, the Administration had decided in favor of hardening over mobility for Minuteman. Another unmistakable sign was that the Atlas was not being counted on for a paramount role in the future strategic force.[1] Further, there was a possibility that early Atlas squadrons would be phased out beginning in 1965. This would coincide with availability of Minuteman in large numbers.[2] (S) (U)

Penetration aids for ICBMs became a subject of increasing importance during 1961. Phase I included development and incorporation of decoys which would simulate the radar cross section and ballistic coefficient of the re-entry vehicle. For the Atlas and Titan the penetration aid pod would be equipped with vacuum (balloons) and re-entry (darts) decoys. No specific decoys were planned for the Minuteman, although a low radar cross section re-entry would be used. The Atlas and Titan I facilities and missiles would require modifications to utilize penetration aids effectively. Future aids for the Phase II and III programs were under study late in 1961.[3] ~~(S)~~ U

At the close of 1961, SAC continued to plan and weigh requirements for an advanced SM-80 which would meet range, yield, and CEP needs in the 1965-1970 period. Thus, this command labored in an entire spectrum of ICBM activities which included present and future systems and operations. ~~(S)~~ U

As of December 1961, the missile alert force was made up entirely of Atlas ICBMs. ~~(S)~~ U

Atlas

The SM-65 was termed, in part at least, an interim ICBM. In early 1961, the DOD proposed phaseout of the four soft radio-inertial Atlas

squadrons following availability of the Minuteman. Although the SM-80 was scheduled to become operational late in 1962, this was also the period in which SAC would possess only a limited number of missiles to counter the enemy threat. For this reason, SAC felt the Atlas essential during the 1962-1964 period. The command predicated long range planning on a Minuteman force of 1500 missiles (hardened and mobile) by 1965-1966, at which time it would be feasible to begin phasing out early SM-65 units.[4] ~~(S)~~ U

Production Rate. An increased Atlas production rate had been advocated by the command late in 1960. The rationale behind the suggested rise from 10 to 14 missiles each month was the predicted impact upon the operational program as well as the need for additional missiles for operational sites and training. On 6 January 1961 USAF approved a production capacity of 12 missiles per month.[5] ~~(S)~~ U

Atlas "F". One of the outstanding accomplishments in the SM-65 program in 1961 was the first "F" series launching from the AMR on 8 August. The flight accomplished all major objectives.[6] As the final Atlas configuration, the "F" was superior to its predecessors in several ways. Like the "E", the "F" series contained all-inertial guidance and the same engine system, but "F"s were located in hardened silos of 150-200 psi dispersed approximately 18 NM apart. Also, it could react faster because of storable rocket fuel.[7] ~~(S)~~ U

At the end of 1961, therefore, the SM-65 was on alert and coming into the force inventory in increasing numbers. ~~(C)~~ U

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Titan

The SM-68 Titan program was affected by the defense reappraisal of the new Kennedy Administration in early 1961. On march 28, 1961, President Kennedy announced deletion of two Titan II units at a saving of $100 million. This meant reduction from 14 to 12 squadrons, with 6 squadrons each of Titan I and 6 of the later Titan II. Thus, the program which originated with 4 squadrons in June 1958, was redirected to 11 units in November 1958, and then to 14 squadrons at the close of 1959, settled to a combined Titan I and II program of 12 squadrons by the end of 1961. ~~(S)~~ (U)

Distinguishing features of the Titan II system - a single block change improvement to the weapon system - included in-silo launch and all-inertial guidance system. One missile per launch complex was programmed with complexes 7-10 NM apart.[8] In general, a larger missile than its predecessor, Titan II (SM-68B) possessed a gross weight of 330,000 pounds to 221,500 pounds for Titan I (SM-68). Whereas the SM-68 used RP-1 and liquid oxygen, SM-68B employed hydrazine and nitrogen tetroxide as fuel, thereby making possible the storing of non-cryogenic fuel and oxidizer in the missile tanks. The II also had greater yield (9.0 MT to 4.5 MT) and propulsion than the I. The SM-68B produced 430,000 pounds of thrust in its first stage and 100,000 pounds in the second stage compared to 300,000 and 80,000 for the SM-68. The later model employed the Mark 6 ablative nose cone; Titan I used the Mark 4.[9] ~~(S)~~ (U)

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During the last six months of 1961, the Titan I received the major attention in the SM-68 program. According to the Designated Systems Management Group, "an overall program indicates that the missile (Titan I) is performing better than anticipated in reliability and CEP."[10] Planning, testing, and construction progressed for deployment of Titan II, while studies were initiated for a Titan III vehicle in support of the space booster mission. ~~(S)~~ U

Minuteman

This command moved forward on a number of fronts during the first six months of 1961 in attempting to accelerate the SM-80 program. Special attention was devoted to site construction and selection, increased production rate, flight testing, gaining support for an enlarged objective force structure, and emphasizing the importance of - and problems connected with - the mobile Minuteman force. ~~(S)~~ U

President Kennedy recommended a doubled production capacity and FY 1961 and 1962 funds were authorized to meet this objective. Following guidance from the President, OSD directed postponement of the mobile SM-80 program, although development efforts continued on a reduced level. Money was available only until October 1961 to support the reduced scope of Minuteman mobility; research would be discontinued unless funds were approved for FY 1962.[11] ~~(S)~~ U

Continuing as the top priority SAC ICBM weapon system, Minuteman was a three stage solid propellant missile with a range of approximately

5500 NM. Either salvo or ripple launch could be utilized. Each squadron would have five launch control centers (LCC) with any two capable of launching all 50 missiles, and one LCC capable of launching after a time delay. With simplicity and reasonable cost emphasized from the beginning, studies were being conducted at the end of June to achieve an advanced version incorporating greater range and payload.[12] ~~(S)~~ U

Many significant events, decisions, and trends occurred in the Minuteman program which promised to have far-reaching ramifications for future force structure and SM-80 system characteristics. Foremost were cancellation of a mobile system; recommendations of the Fletcher Committee; planning for an advanced version of the SM-80; and developments in siting. ~~(C)~~ U

Termination of mobile Minuteman was not unexpected and came in the wake of President Kennedy's announcement of 28 March 1961 that the program was being deferred in favor of accelerated hardening and dispersal. The Fletcher Committee recommended incorporating a selective launch capability, a launch enable system, and dual targeting provisions in early SM-80 wings. This command had opposed integration of selective launch and dual targeting in early fixed Minuteman wings, arguing that the system should be kept simple and effective through its essential components.[13] Nevertheless, the Secretary of the Air Force directed incorporation of these features in the first wings.[14] ~~(S)~~ U

Since early 1961, SAC's position had been that costly modifications to the Minuteman system should not be introduced on a piecemeal basis at the cost of non-standardization. It supported integration of improvements in a single or "block" change simultaneously with an advanced version of the SM-80, but opposed a dual targeting capability without an increase in range, guidance accuracy, and warhead yield. While improvements were desirable, of more importance to SAC was the necessity of keeping cost and complexity to the absolute minimum, lest scheduled operational dates be jeopardized.[15] ~~(S)~~ U

Despite approval of selective launch and dual targeting, General Power summarized his position on 8 November:[16] ~~(S)~~ U

> A great challenge facing the Air Force is to keep the Minuteman simple, so as to be able to afford the large numbers that make the concept valid . . . . As you know, I vigorously resisted incorporating the selective launch and dual targeting features in the early fixed wings. Facility changes to provide increased . . . hardness and survivability were made without consulting me. ~~(S)~~ U
>
> I point these facts out to indicate that I not only agree with you in principle in the need for austerity, but have pursued this policy vigorously in all our dealings. ~~(S)~~ U

The following month CINCSAC made clear that he considered the new BSD schedule - based on the work of the Committee - unrealistic because the turnover date of 10 October 1962 for the initial flight at Malmstrom AFB had not been changed. This was true despite delays of five and one-half months in initial deliveries of operational equipment to Malmstrom

and Vandenberg. In addition, turnover of ORT facilities at Vandenberg had been delayed one to two months with delivery of crew procedures trainers expected to be postponed six months. General Power called the schedule unrealistic; programmed operational dates should be realigned to conform to the existing situation which grew out of the Fletcher recommendations.[17] (S) U

In late August, the DOD approved a $15 million outlay for the mobile SM-80 and $5 million per month from October through December 1961 for development of electronic components. Development and testing of a pre-prototype missile car continued. Thus, during the summer of 1961, industry's capability to support mobility was being preserved in lieu of a decision to definitely move ahead.[18] (S) U

However, informal information indicated in late November that the DOD had decided to cancel mobile Minuteman.[19] On 7 December 1961 Secretary of Defense Robert McNamara decided to cancel the mobile SM-80 program. He directed AFSC and BSD to terminate development of the program and acquisition of materiel.[20] Thus, a program which received strong support from this command from its inception was cancelled outright. Up to the time of termination, SAC supported mobile Minuteman. It wanted a 300 operational mobile missile force by the end of FY 1965.[21] (S) U

This command then directed inactivation of the 4062nd Strategic Wing at Hill AFB, effective 20 February 1962, and termination of planning by

the 1st Strategic Aerospace Division.[22] At the same time, SAC continued to press for eventual development of a mobile SM-80, the only existing ICBM system adaptable to this concept.[23] ~~(S)~~ U

Despite termination of the mobility concept, the Minuteman program moved along well through the final months of 1961. The Fletcher Committee proposals were presented; site explorations at northern bases began; great activity was underway in exploring the requirements and objectives for advanced Minuteman; and the test flight cycle went forward. At the same time, Secretary of Defense McNamara indicated a tentative plan outlining 600 hardened and dispersed SM-80s by the close of FY 1964, with an additional 100 during each succeeding fiscal year up to a total of 1000 by the end of FY 1968. Fifty mobile missiles in fiscal years 1965 and 1966 would be planned for a total of 100.[24] ~~(S)~~ U

The IRBM Force

The entire IRBM program consisted of seven squadrons: Four Thor units deployed in the United Kingdom (UK), and three Jupiter squadrons, two in Italy and one in Turkey. At the close of June 1961, 24 of 60 Thor missiles were on 18-minute alert, 15 were on 25-minute alert, and 8 could be launched in six hours. Eleven more possessed an emergency combat capability (ECC).[25] Installation and checkout of the first two Jupiter squadrons was scheduled for completion by July 1961. Equipment and missiles for the third unit would be shipped by air during July.[26] ~~(S)~~ U

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Although work in the Jupiter program centered on problems connected with installation and checkout, training, and shipment of equipment and missiles, the Thor syndrome was concerned with the future of a system that had already demonstrated operational capability. The question facing the UK and United States during the January-June period was how long would the Thor system represent a valid deterrent capability, given its reaction time during the 1961-1965 period? On the answer to this question resided a decision for or against continued support of the Thor by the UK and US. During the first six months of 1961 both nations began reappraising the status of Thor in the overall retaliatory mission. ~~(S)~~ U

Command responsibility in the IRBM program involved maintenance of warheads and replacement training in the SM-78 Jupiter program, and negotiations with the Royal Air Force (RAF) for continued support of the Thor weapon system after October 1964. The Air Force position on negotiations with the RAF - as evolved during the summer of 1961 - was to persuade the RAF to accept total support of the system, not including the warhead, after the above date. ~~(S)~~ U

As far as USAF was concerned, then, military and political considerations dictated continuance of Thor as an operational system, at least until an improved weapon became available in quantity. The ultimate decision, of course, rested with the United Kingdom (UK). An RAF decision to accept all support except warhead responsibility would be ideal for the U.S. Any modifications to the system would be based upon the

ultimate UK decision and should be open to separate negotiations, although changes to provide a quick reaction capability were impractical. Should the English be unwilling to assume total support, talks would be initiated at the governmental level designed to conclude an agreement satisfactory to both parties.[27] ~~(S)~~ U

Snark

Long considered by SAC as marginal at best, the SM-62 Snark was phased out of the operational inventory along with deactivation of the 702d Strategic Missile Wing (SMW) at Presque Isle AFB on 25 June 1961. The Eighth Air Force had recommended to SAC Headquarters on 12 January 1961 that the 702d be deactivated in April 1962 rather than July 1963 as programmed. This command then proposed early deactivation to USAF, noting curtailment of the program because of a lack of funds and the marginal capability of the weapon system. ~~(S)~~ U

In late February, USAF replied that SAC's suggestion of phaseout in April 1962 would be considered,[28] but a decision on the April 1962 date was never made. In his budget message of 28 March, President Kennedy directed phaseout of the Snark. The increase in second generation solid fuel missiles (Minuteman and Polaris) made it obsolete. Therefore, one of six Air Force bases to be closed in the US would be Presque Isle AFB, Maine. The President observed in his message that phaseout would save $6.9 million. (U)

A recommendation by the command that phaseout be accelerated from 30 June to 1 May was disapproved by USAF. However, the date was changed to 25 June to enable SAC to comply with personnel accounting procedures.[29] Headquarters USAF had no operational requirement for the SM-62 after 30 June 1961.[30] The Snark Weapon System Manager therefore authorized "demilitarization" of the 27 missiles as they became excess to the command's operational requirements.[31] ~~(S)~~ (U).

Thus, SAC's subsonic air-breathing missiles were phased out of the operational inventory as the command looked forward to an era of solid fuel missile reliability and accuracy. (U)

Air-to-Surface Missiles

During the first six months of 1961, SAC continued to recommend complete equipage of the B-52 fleet with ASMs. The command position was predicated upon increased capability, flexibility, and versatility of the heavy fleet with a corresponding lengthening of B-52 service life. At the end of June, however, only 29 B-52 squadrons were scheduled for GAM-77 Hound Dog equipage, 11 less than the command objective of 40 squadrons. Funding restrictions continued to hamper the GAM-87A Skybolt program; the 1964 operational date remained beyond reach, with plans centering on 1966. In his special message on the defense budget of 28 March 1961, President Kennedy recommended an additional $50 million in the FY 1962 budget for the Skybolt "to enable this program to go forward at an orderly rate."[32] The President observed that successful development and production of the GAM-87A would extend the life of heavy bombers into the missile age. ~~(S)~~ (U)

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Developments within the ASM program during the later 1961 period seemed to justify an optimistic outlook toward development and eventual operational deployment of the GAM-77 Hound Dog and the GAM-87A Skybolt. Category II and III launches in October, November, and December were highly successful. ~~(S)~~ U

The SAC supported an ASM-B-52 program which called for 22 squadrons of B-52F, G, and H models equipped with the Skybolt (46 UE) and 17 squadrons of B-52C, D, and E aircraft with the Hound Dog (23 UE).[33] ~~(S)~~ U

The Vandenberg/Point Arguello Complex

In 1958 SAC made its initial proposal to consolidate Vandenberg AFB and Point Arguello. Since that time, the Secretary of Defense spelled out specific service responsibilities for space systems. In the DOD directive of 28 March 1961, the Air Force took over responsibility for research, development, and operation of all reconnaissance satellite systems.[34] The new Secretary of Defense assigned space operations to the Air Force. ~~(S)~~ U

The Air Force and the Navy had long feuded over Vandenberg AFB and Point Arguello missile facilities. This command maintained that separate management and operation (USAF at Vandenberg and the Navy at Point Arguello) resulted in duplication in many activities. That the Navy had spent over $5 million for assorted facilities at Point Arguello "against no known requirement" was pointed out by SAC to USAF. Perhaps

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more pointedly, despite DOD directives of 6 March and 28 March which gave the space mission to the USAF, the Navy continued to propose expansion of Arguello facilities. Those plans included relocation of the Southern Pacific Railroad and acquisition of Sudden Ranch, ostensibly for installation of launch complexes capable of supporting up to nine million pounds of thrust.[35] ~~(S)~~ U

In once again suggesting the combining of Vandenberg and Arguello, General Power argued that the programs supported at Point Arguello - except range safety - were primarily Air Force. "I wish to make it quite clear," he declared, "that SAC does not desire to usurp any of the Navy designated functions or responsibilities concerning the Pacific Missile Range."[36] But CINCSAC suggested that the PMR range safety function should be carried out in a tenant status at Point Arguello. The command's position was summed up as follows:[37] ~~(S)~~ U

> Today I am more convinced than ever that the VAFB/ Point Arguello area should be combined at the earliest possible date and assigned to the Strategic Air Command. This area, along with Sudden Ranch, will become increasingly important for the operational employment of future space systems. For the most effective employment of a weapon system, the operational command must be vested with full control of all facilities that comprise the system. ~~(S)~~ U

Therefore, it was recommended that the two bases be consolidated under SAC's 1st Strategic Aerospace Division. ~~(S)~~ U

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FOOTNOTES

1. Msg, C 219, SAC to CofS USAF, to Gen LeMay from Gen Power, 10 Jan 61.

2. Msg, DPL 2023, SAC to CofS USAF, 16 Mar 61.

3. IOM, DPLCM to CINCSAC, "Penetration Aids Program," 21 Aug 61.

4. Msg, DPL 2023, SAC to CofS USAF, 16 Mar 61.

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Chapter V

AIRCRAFT

Introduction

Although SAC's missiles increased in number and reliability during 1961, the most powerful military force in the free world remained SAC's manned aircraft fleet. The two systems, manned and unmanned, comprised the strategic weapon systems mix. The missile provided speed and penetration capability. The manned aircraft provided human judgment. In addition, the manned aircraft was in many cases the most economical means of target destruction. It could deliver a number of weapons. It was recoverable and reusable. It could select and observe. It could be in the air or on the ground maintaining an alert or performing a show of force. These advantages of the bomber over the missile caused Senator Richard B. Russell, Chairman of the Senate Armed Services Committee, to declare:[1] "I think it is still too early to abandon manned aircraft in favor of missiles." ~~(S)~~

B-70

In January 1961, the B-70 Valkyrie program appeared to have a brightening future. It had been restored to full weapon system status in August 1960 when Congress appropriated $265 million specifically for the fiscal year (FY) 1961 program. An additional $100 million was made available for either the B-70 or fighter production.[2] This was enough

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to schedule 12 Valkyries (one XB-70 and 11 YB-70s*) for production.[3] ~~(S)~~ (U)

President J. F. Kennedy reappraised the entire defense strategy, capacity, commitments, and needs in the light of current and future dangers. As a result, on 28 March 1961 he asked for certain changes in defense policy. In a nation-wide speech on that date, the President requested an increase in funds for strengthening and protecting the strategic deterrent. But he would strengthen the ability to deter or confine limited war by reducing funds for a number of programs including the B-70. The President recommended that the B-70 be reduced to a research and development prototype program to explore the problems of flying at three times the speed of sound with an airframe potentially useful as a bomber.[4] Fiscal Year 1963 and 1964 funding would be $280 million and the total spending for the B-70 program from inception was set at $1.3 billion. Thus, the B-70 funding program was as follows:[5] ~~(S)~~ (U)

Previous Years	$800 million
FY 62	$220 million
FY 63 and 64	$280 million
Total	$1.3 billion

Congress subsequently reduced the funds for the B-70, and the B-70 program reverted from weapon status to research and development status. (U)

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* The YB-70 configuration could be easily converted to operational aircraft and added to the first operational wing when operational force funds were provided.

On 31 March 1961, USAF redirected the B-70 Valkyrie program from full weapon system status to prototype (air vehicle development). Objectives became demonstration of the functional operation of a prototype bombing-navigation system.[6] ~~(S)~~ U

It was the responsibility of the System Program Director in the Aeronautical System Division (ASD) to manage, plan, organize, coordinate, control, and direct the B-70 system program and the efforts of the functional agencies and industries participating in the program. The Air Force Systems Command (AFSC) was the responsible organization with other USAF organizations supplying support.[7] Strategic Air Command monitored the overall program, but did not at this stage actively participate.[8] ~~(S)~~ U

On 18 August 1961 the B-70 System Program Plan (SPP) for the prototype program was presented to the Designated Systems Management Group.*[9] The program received full SAC support, but General Power warned that the XB-70 should not be considered an end in itself, but rather a supporting program for the B-70.[10] ~~(S)~~ U

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* The Secretary of the Air Force redesignated the Air Force Ballistic Missiles and Space Committee (AFBM&SC) as the Designated Systems Management Group (DSMG), effective 25 July 1961. The basic purpose, responsibilities, functions, and membership of the group had not been changed. The DSMG continued to consider developments in Atlas, Titan, Minuteman, B-70, GAM-87, Midas, 465L, SAINT, Discoverer, Dyna Soar, and boosters. The USAF Weapons Board was also redesignated the Systems Review Board (SRB) and its membership was modified to include a general officer from AFSC. Air Staff membership on the SRB remained at Directorate level and the Chairman was appointed by and reported to the Vice Chief of Staff, USAF.

It was about this time - following a 26 July 1961 briefing by North American - that General Power felt that SAC's need for the aircraft should be given a different emphasis. Instead of presenting the potential value of the B-70 primarily as a bomber, SAC began to emphasize the Valkyrie as primarily a strike-reconnaissance platform and only incidentally as a bomber. Because of change in orientation, a new briefing was given to the Secretary of Defense on 5 October 1961.[11] Its main points concerned the reconnaissance-strike B-70 utilizing a 75 per cent strike configuration with varied dispersal, command control, and penetration capabilities. After the briefing, Secretary McNamara indicated an interest in the reconnaissance-strike configuration and requested additional information.[12] Thus, the B-70 began to take on more and more the appearance of a reconnaissance-strike vehicle. General Power recommended that the B-70 System Package Program be redesignated the RSB-70 System Package Program since the primary mission of the Valkyrie was now reconnaissance-strike, reconnaissance, bomb damage assessment, and restrike.[13] ~~(S)~~

On 27 October 1961, USAF approved the reconnaissance-strike concept of the RSB-70 and directed SAC to prepare a preliminary test plan.[14] Within a week SAC finished an outline of the RSB-70 Operational Plan and a Concept of Operations for the RSB-70.[15] The primary role of the RSB-70 now became one of performing reconnaissance-strike missions, reconnaissance, bomb damage assessment, and restrike missions. In these missions, highly accurate guided air missiles would be used in conjunction with high resolution sensors for economical destruction of hardened

and imprecisely located targets. The Valkyrie would operate as a part of the strategic force by exploiting the capabilities of the manned weapon systems to perform missions and functions which other systems such as missiles could not. The aircraft would also have the capability to bomb pre-planned targets. ~~(S)~~ U

The RSB-70 would be deployed in a combat configuration at all times. An alert strike team composed of one RSB-70 and one KC-135 to provide refueling, maintenance, spares, and expendables would provide the ready strike potential. The RSB-70 would be equipped with a support pod. This pod would provide simultaneous engine starts and carry limited aircraft spares. Each RSB-70 wing would have a main operating base for providing maintenance, supply, training, and housing; and four military bases for dispersal. Approximately five alert strike teams would operate from each main base and five from each primary dispersal base in peacetime. About 65 per cent of all RSB-70s assigned to combat units would be maintained on ground and air alert at all times. During periods of tension, the alert strike teams would be deployed to pre-selected dispersal bases. The RSB-70 strike teams would be directed to loiter under positive control, in selected areas, enroute to the secondary dispersal bases.[16] ~~(S)~~ U

In the new concept, the roles and missions of the RSB-70 were reoriented to complement the capabilities of ballistic missiles and to augment the strategic command and control systems. The RSB-70 became the eyes of the strategic force - providing accurate, timely, and selective reconnaissance. In the RSB-70 concept, the ballistic missile itself

became more valuable because it was permitted greater economy of commitment and more intelligence trans-attack force management instead of blind reaction. Moreover, the qualities of precision of force application, discriminate destruction, positive force control, and intelligent force management were the necessary ingredients to a non-escalatory force. The more restrained the level of conflict, the more important these characteristics became. This was the RSB-70's contribution to the strategic force.[17] ~~(S)~~ U

B-52

The mainstay of the SAC bomber force during 1961 continued to be the B-52 Stratofortress. In the Stratofortress inventory as of 31 December 1961 there were 572 aircraft, 510 available,* assigned to 21 strategic wings (15 UE), and 13 bomb wings (9 with 15 UE, 2 with 30 UE, and 2 with 45 UE).[18] ~~(S)~~ U

The B-52 Stratofortress would represent the core of the strategic strike force in the 1960s. With the approaching phaseout of the B-47 and the uncertain future of the B-70, it was important that the life span of the aircraft be accurately predicted. How long could the B-52 remain in the aircraft inventory as an effective weapon system? Previous SAC bombers (B-29, B-50, and B-36) had served about 10 years. The B-47 was already that old in 1961. The command, however, anticipated

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* Available aircraft were those aircraft that could be made ready or generated within timing of the war plan to perform their combat mission. There were 41 B-52Bs, 31 B-52Cs, 157 B-52Ds, 78 B-52Es, 64 B-52Fs, 148 B-52Gs, and 53 B-52Hs.

a requirement for the B-52 through the mid-70s (approximately 14 years), based on the forecast of usage and assumed phase-out schedules. This figure was arrived at by assuming a five-year airborne alert posture at a flying rate of 1,767 hours per aircraft a year and a ground alert posture for the remainder of the calendar time at a flying rate of 408 hours per aircraft a year. Therefore, the expiration date of service life for the B-52 was determined to be 1968 for the "B," 1969 for the "C," 1971 for the "D," 1972 for the "E," 1973 for the "F," 1974 for the "G," and 1976 for the "H."[19] ~~(S)~~ (U)

Following a USAF request for proposals to improve the Stratofortress, SAC submitted 13 modifications to increase the B-52's service life and to enhance penetration and strike capabilities.[20] The command also recommended one additional wing of B-52Hs and two more KC-135 (20 UE) squadrons. It was SAC's belief that the procurement of two additional KC-135 squadrons - to give added flexibility and range to the B-52s - would provide the greatest single improvement to the B-52 capability.[21] ~~(S)~~ (U)

If the service life of the B-52 was to be extended, certain modification programs were necessary. Two of these, Hi-Stress I and II, consisting of nine structural fixes to improve service life, had been completed on 292 aircraft by 1 January 1962. Hi-Stress fixes were still required on 172, but under the current accelerated rate 90 per cent of the B-52B through F fleet would be completed by 31 March 1962.[23] (U)

The B-52 aircraft modification and maintenance program for FY 61 was completed on 1 December 1961: Boeing completed 63, OCAMA completed 29, and SAAMA completed 93. In the fiscal year 62 program, Boeing had completed 9, OCAMA had completed 4, and SAAMA had completed 9. The FY 62 program consisted of 127 aircraft: 5 B-52Cs, 22 B-52Ds, 20 B-52Es, 29 B-52Fs, and 51 B-52Gs. The work package consisted of Advanced Capability Radar, GAM-87 provisions, and ECM Phase I and II and low-level modifications.[23] (U)

B-58

Strategic Air Command's B-58 Hustler program consisted of two 40 UE wings. The 43d Bombardment Wing, the training unit, received the first Hustler in August 1960 and possessed 39 aircraft on 31 December 1961. The 305th Bombardment Wing, which began to receive B-58s in May 1961, had 23 Hustlers by 31 December 1961.[24] ~~(S)~~ (U)

Late delivery of B-58 aircraft continued into 1961. But on 9 February 1961 a schedule for increased deliveries in February, March, and April 1961 was published, permitting delivery to get back on schedule in April 1961.[25] In June, assignment was on schedule in both the 43d Bombardment Wing and the 305th Bombardment Wing.[26] Four were delivered in January 1961, 2 in February, 4 in March, 4 in April, 3 in May, and 3 in June. Between July and December 1961, 21 B-58s were added to the inventory.[27] ~~(S)~~ (U)

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From the time SAC had been designated as the user of the B-58, it had attempted to obtain improvements in range and payload. Originally, the aircraft carried one weapon in the MB-1 pod and it could be delivered only from high altitude. The SAC recommended adding four weapons plus the pod, all with a high or low level delivery capability. Neither wind tunnel testing nor actual flight testing disclosed any change in the physical handling characteristics of the aircraft when it carried the increased number. ~~(S)~~ ( )

Warly successes in the multiple weapons tests led the contractor to propose two additional modifications which would substantially increase the range and operational flexibility. These modifications were the installation of improved nacelle inlets and the use of a centerline fuel tank in combination with the wing mounted Class D warheads.[30] ~~(S)~~ ( )

To increase the operational gross weight of the B-58 to a design limit of 163,000 pounds (the present limit was 143,000), a heavyweight modification program was developed incorporating seven time-compliance technical orders (TCTO). Thirty-six B-58s were to be modified at Fort Worth.[31] The modification started in October 1961 and by 29 December 30 aircraft were completed.[32] ~~(S)~~ ( )

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In order to determine structure and structural material capabilities for prolonged service at supersonic speeds, a B-58 (aircraft number 29, serial number 58-1022) underwent cyclic fatigue testing at Convair, Fort Worth. The test was completed on 27 December 1961. There were no major failures. Loosening of rivets around the secondary structure, small cracks in the vertical fin sandwich panel, and loosening of the striker plate for the forward pod hook support fitting were listed as minor failures.[33] ~~(S)~~ U

During 1961, the B-58 progressed to the point where additional operational commitments could be planned. In March, a requirement to conduct B-58 reflex operation to Moroccan bases starting in 1963 was established.[34] By July, a staff study had been completed determining requirements, costs, and lead times needed to support a 12 B-58 aircraft alert at a single base for operating periods up to 30 days.[35] The study results indicated reflex operations were feasible, and in September SAC requested USAF permission to establish a reflex capability to overseas areas during the 1963 to 1970 time period.[36] ~~(S)~~ U

One B-58 problem solved during the period by a change to non-frangible wheels was the disintegration of wheels when a tire blew out. The non-frangible wheel demonstrated it could support a maximum gross weight take-off and landing on a hot day with blown tires. Following this success, modification of the fleet began in May. By October all SAC aircraft had been modified and all production aircraft were being equipped with the modified wheels prior to delivery.[37] ~~(S)~~ U

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B-47

The B-47 Stratojet continued to be the most numerous aircraft in the SAC inventory. At the end of December 1961, 889 B-47s (819 available) were assigned to 17 wings of 45 UE and one wing of 70 UE. There were 94 E-47s* (87 available) in two wings, the 301st and 376th Bomb Wings. Five R-47Es, 22 R-47Hs, 3 ER-47Hs, and 14 R-47Ks, a total of 44 aircraft (39 available), were in the 55th Strategic Reconnaissance Wing.[38] The R-47s and the E-47s were the old RB-47s redesignated. ~~(S)~~ U

The redesignation was necessary to clearly distinguish reconnaissance Stratojets from bombers to lessen the propaganda potential should another one be shot down by the Russians.[39] The modified B-47s were redesignated in August 1961 as follows: ~~(S)~~ U

RB-47H to R-47H
RB-47K to R-47K
RB-47E to E-47
ERB-47H to ER-47H ~~(S)~~ U

The 70th Reconnaissance Wing, scheduled for inactivation by 15 October 1961,[40] transferred its aircraft in September. Then on 18 October USAF rescinded the order and substituted the 321st Bomb Wing at McCoy AFB.[41] The 70th was to become a bombardment wing, losing its reconnaissance designation. Under the new change, the wing began to build up a 45 UE inventory. By 31 December, it had 32 B-47s.[42] ~~(S)~~ U

* The E-47 was a specially equipped aircraft with greater effectiveness in electronic detection.

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In July 1961, following increased Russian pressures on Berlin, USAF requested a re-evaluation of the early phase-down of the medium force, particularly as to the reconstituting of the 321st BW and the 301st Air Refueling Squadron.[43] The 321st BW had begun early in June 1961 to phase out its activities and transfer its B-47s as the unit's inactivation date of 15 September neared.[44] On 1 July the bomb wing discontinued its nine aircraft alert and on 15 July ended its reflex operations at Sidi Slimane AB, Morocco. At this time, General Power learned from General LeMay that due to the Berlin situation USAF contemplated a force buildup rather than a force reduction. To delay further deterioration of the unit's strength, General Power froze all personnel and materiel phase-down actions of the 321st BW, 301st ARS, and the 347th Bombardment Squadron on 17 July.[45] For a time, the 321st BW was scheduled to move to Little Rock AFB and combine its assets with those of the 70th Strategic Reconnaissance Wing, which was also in the process of being inactivated. But the decision concerning the 321st BW was reversed again, and the unit was inactivated on 25 October 1961.[46] ~~(S)~~ (C)

The Berlin tension of 1961 affected other units. Those programmed to be phased out in FY 62, but extended beyond FY 62, included the 2d BW, Hunter AFB; 22d BW, March AFB, 68th BW, Chennault AFB; 306th BW, MacDill AFB; and 310th BW, Schilling AFB. Similarly, six refueling squadrons, the 2d, 90th, 301st, 306th, and 340th, were retained to service the B-47 units.[47] ~~(S)~~ (C)

To extend the ultra high frequency (UHF) coverage of the airborne command post (ABNCP), SAC planned to modify 36 B-47s with automatic UHF airborne radio relay equipment and recorders. They would be used to increase the line-of-sight coverage of the command and control element of the KC-135 ABNCP.[48] Two prototype B-47 aircraft from McConnell AFB were undergoing modification at TEMCO, Greenville, Texas, and were due to be completed for the airborne test (KC-135 ABNCP) by January 1962. ~~(S)~~ (U)

KC-135

On 31 December 1961, the Strategic Air Command's KC-135 Stratotanker force consisted of 444 aircraft (431 available) in 29 squadrons (twelve 20 UE and seventeen 10 UE).[49] It could carry more fuel and attain speeds and altitudes more compatible with the B-52 and B-58. Considered ancillary to strategic operations was refueling support of Tactical Air Command (TAC) fighters and increased transport airlift capability for the Military Air Transport Service (MATS). ~~(S)~~ (U)

The ability of the KC-135 to do many things well was a handicap to SAC. For instance, delivery of the KC-135 aircraft to SAC was slowed to provide MATS with 30 production transport aircraft. These C-135s were to be delivered at the rate of two per month beginning in June 1961.[50] In addition, TAC wanted the aircraft to refuel its fighters. TAC's propeller driven KB-50 was not equal to the needs of the new

supersonic century series fighters (the F-100, RF-101, F-104, and F-105). But under current force structure there were not enough KC-135s to support both TAC and SAC. In this regard, SAC estimated that it would need for training and operational missions, 34 (20 UE) KC-135 squadrons and one squadron for the post-attack command control system (PACCS) to support the FY 65 programmed bomber force. Tactical Air Command estimated that it would need seven (20 UE) squadrons. Yet USAF programmed only 37 and in December reduced the number to 31 refueling units and one PACCS unit.[51] ~~(S)~~ U

A project in progress during the July through December 1961 period was "Looking Glass." Its purpose was to modify five KC-135 aircraft from the 34th Air Refueling Squadron used for airborne command posts (ABNCP).[52] The aircraft were to be modified one at a time with the first aircraft entering OCAMA on 26 October 1961. The work would take 54 days. The first aircraft was due out of the modification on 12 January 1962, the second out on 13 March, the third on 7 May, the fourth on 27 June, and the fifth on 15 August 1962.[53] ~~(S)~~ U

As of 28 December 1961, 67 KC-135s had been to the FY 62 modification and maintenance program established at OCAMA. Major items of the program were the sealing of honeycomb surfaces, replacement of main landing gear pins and retainer nuts, fuel tank, boost pump supports, corrosion rework, structural analysis, and the 707 wing fix. During FY 62, 183 aircraft were scheduled; each would be in repair about 44 days.[54] ~~(S)~~ U

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KC-97

The KC-97 force, like the B-47 force, was affected by the re-evaluation of the medium force due to political implications and an increased emphasis on conventional capabilities.* As a result, phase-down activities of the six air refueling units, previously marked for inactivation, were delayed through FY 62. These units were the 2d, 90th, 98th, 301st, 306th, and 340th squadrons.[55] Therefore, at the end of 1961, the number of KC-97 20 UE squadrons was the same as on 30 June 1961: 30. The aircraft inventory was also approximately the same: 647 KC-97Is with 642 available on 30 June 1961 and 653 KC-97s with 645 available on 31 December.[56] ~~(S)~~ (U)

Oklahoma City Air Materiel Area established a project to provide engine and propeller preheater covers for the KC-97 force in September. The purpose of the covers was to improve the KC-97 propeller oil system reliability when operating in cold climates. The first prototype cover was manufactured in November 1961 and beginning in January 1962, 30 per week were to be produced until a total of 350 covers was reached.[57] ~~(S)~~ (U)

As of 28 December 1961, 36 aircraft had been serviced in the FY 62 modification and maintenance program established at Hayes Aircraft Corporation, Birmingham, Alabama. The major items of the program were

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* For additional information relating to the retention of B-47 and KC-97 units during this period, see section on B-47, this chapter.

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engine conditioning, quick engine change overhaul, detailed inspection of the refueling system, and periodic and special inspections.[58] (U)

FOOTNOTES

1. Los Angeles Times, 30 Jan 62, p 1.

2. Hist of SAC, Jul-Dec 60, pp 251-256; IOM, DORQA to DXIH, "Comments of B-70 Portion of SAC History," Jul-Dec 60, 31 May 61.

3. IOM, Maj Gen Edwin B. Broadhurst to DAS, et al., "Brochure for General Power," 7 Jun 61, w/1 Atch; IOM, DPLB to DCR, et al., "B-70 Operational Plan," 13 Feb 61, w/2 Atch, "B-70 Ops Plan Format," "B-70 Ops Concept Proposed," 1 Oct 60.

4. Speech, President J. F. Kennedy, Special Message on Defense Budget, 28 Mar 61.

5. IOM, Maj Gen Broadhurst to DAS, et al., "Brochure for General Power," 7 Jun 61, w/1 Atch.

6. Msg, SAFS 98373, USAF to ARDC, AMC, Info SAC, et al., "B-70 Program," 31 Mar 61; Hist of SAC, Jan-Jun 61, pp 240-247.

7. Memo for the Chief of Staff, USAF, Eugene M. Zuckert, Sec of the AF, "B-70 Program," 26 Jul 61.

8. Plan, "XB-70 Joint Category I Flight Test Plan," Air Force Flight Test Center, 1 Nov 61.

9. Current Status Rpt, Sep 61, pp 1-18; Ltr, Gen Frederic H. Smith, Jr., Vice CofS USAF, to Gen Power, "B-70 Program Management," 21 Aug 61; Msg, DPL 10371, SAC to ALFA, 1st Missile Div, "Designated Systems Management Group and Systems Review Board," 8 Aug 61; IOM, DPLCM to DAS, et al., "Designated Systems Management Group and Systems Review Board," 8 Aug 61.

10. Ltr, Gen Power to Gen Frederic H. Smith, Jr., "B-70 Program Management," 18 Sep 61.

11. IOM, Col E. G. Mulling, DPLBC, to Col D. I. Liebman, DPLB, "Items of Interest, 31 Jul-18 Aug 61," circa 18 Aug 61; Msg, CS 4391, SAC to CofS USAF, "USAF Commanders Conference," 13 Jun 61; Msg, C 4479, SAC to USAF, for LeMay from Power, "B-70 Redirected Program (Schedule 61-4-1)," 23 Jun 61; Msg, AFCCS 84647, USAF to SAC, for Power from LeMay, "The B-70 Program," 11 Jul 61; Current Status Rpt, USAF, Nov 61, pp 1-16.

12. IOM, DPLC to DPL, "Trip Report, Headquarters USAF, B-70," 7 Oct 61.

13. Ltr, Gen Power to B-70 Systems Program Office, ASD, "RSB-70," 13 Oct 61.

14. Msg, AFOOP 73870, USAF to SAC, "B-70 Concept," 27 Oct 61.

15. IOM, DPLBC to DCR, et al., "RSB-70 Operational Plan," 3 Nov 61, with 2 Atchs: (1) Outline of RSB-70 Operational Plan, and (2) Concept of Operations RSB-70 Weapon System.

16. Ibid.

17. Ltr, Maj Gen James H. Walsh, CofS, SAC, to DAS, et al., "RSB-70," 26 Dec 61; Ltr, Gen Frederic H. Smith, Jr., VCofS USAF, to SAC, et al., "B-70," 15 Dec 61, with 2 atchs.

18. Rpt, SAC Aircraft Project Status as of 31 Dec 61, 3 Jan 62; Rpt, 1-SAC-V1, 31 Dec 61.

19. Msg, DORQ 1887, SAC to AMC and AFFR, "B-52 Usage Forecast," 10 Mar 61.

20. Msg, AFORQ 79329, USAF to SAC, "Improvement of B-52 Fleet," 18 Nov 61.

21. Msg, C 3875, SAC to CofS USAF, "Reference AFORQ Secret Message 79329," 20 Nov 61.

22. Minutes, B-52A through G Weapon System Phasing Group, Boeing Co., Wichita, Kansas, 30 Nov-1 Dec 61; IOM, DM4B to Gen Wilson, "B-52B through F Aircraft Hi Stress Program," 29 Dec 61.

23. IOM, DM4B to Gen Wilson, "B-52 Aircraft Mod/Maint Program FY 62," 29 Dec 61; IOM, DM4B to Gen Wilson, "B-52 Aircraft Mod/Maint Program FY 61," 29 Dec 61.

24. Rpt, SAC Aircraft Project Status as of 31 Dec 61, 3 Jan 62; Rpt, 1-SAC-V1, 31 Dec 61; Memo for Record, DPLBC, "B-58 Program," Jul 61; Hist of SAC, Jan-Jun 61, p 257.

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27. Rpt, "Aircraft Project Status," Jul-Dec 61.

28. Brochure, "B-58A Multiple Weapon Capability," Convair, 15 May 61; Briefing with Charts, "B-58 Multiple Weapon Capability," DORQ, Jul 61.

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30. Ltr, General Dynamics, Fort Worth, to ASD, "B-58 Weapon System - Performance Improvement Through Incorporation of Improved Inlets and Centerline Fuel Tank," 10 Jul 61; Msg, ASZH-11-8-50, ASD to SAC, "B-58 Range Improvement," 14 Aug 61.

31. Memo, IM4B to Gen Wilson, "B-58 Heavyweight Modification Program," 29 Dec 61.

32. Ibid.

33. Memo, IM4B to Gen Wilson, "B-58 Cyclic Fatigue Test," 27 Dec 61.

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42. Rpt, SAC Aircraft Project Status as of 31 Dec 61, 3 Jan 62; Hist of 70 SRW, Jul 61, p 2; Hist of 70 SRW, Oct 61, pp 1-4.

43. IOM, DPL to DO, et al., "Retention of Medium Force," 17 Jul 61.

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46. SAC SO G-135, 7 Nov 61; Hist of 321 BW, Oct 61, pp 1-4.

47. Current Status Rpt, USAF, 1 Sep 61, pp 1-3.

48. Current Status Rpt, USAF, 1 Jul 61.

49. Rpt, SAC Aircraft Project Status as of 31 Dec 61, 3 Jan 62; Rpt, 1-SAC-V1, 31 Dec 61.

50. Hist of SAC, Jan-Jun 61, p 264; Memo for the Record, "KC-135 Program," DPLBC, 15 Jul 61.

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52. IOM, IM4B to Gen Wilson, "KC-135 'Looking Glass' IRAN and Modification," 29 Dec 61.

53. Ibid.

54. IOM, IM4B to Gen Wilson, "KC-135 FY 62 Mod/Maint Program," 29 Dec 61.

55. Msg, C 343, SAC to CofS USAF, LeMay from Power, "Phase-Down of B-47 and KC-97 Force During FY 62," 17 Jul 61; IOM, DPLCA to DO, "Retention of Medium Force," 17 Jul 61; Memo for the Record, "Retention of B-47 and KC-97 Units," by Col R. G. Dupont, DPLB, 18 Jul 61; Chief of Staff Weekly Activities Digest Number 31, SAC, 31 Jul 61; Chief of Staff Weekly Activities Digest Number 36, SAC, 1 Sep 61; Current Status Rpt, USAF, Sep 61, pp 1-3.

56. Rpt, SAC Aircraft Project Status as of 31 Dec 61, 3 Jan 62; Rpt, 1-SAC-V1, 31 Dec 61.

57. Msg, IM4B 33162, SAC to OCAMA, "KC-97 Propeller and Engine Pre-heater Cover," 23 Oct 61; Msg, IM4B 430537, SAC to OCAMA, for Gen Mundell from Gen Wilson, "Engine and Propeller Pre-heater Covers, KC-97 Aircraft," 24 Nov 61; Msg, IM4B 34757, SAC to OCAMA, "KC-97 Propeller and Engine Pre-Heater Cover," 13 Nov 61; Memo, IM4B to Gen Wilson, "KC-97 Propeller Pre-Heater Covers," 5 Jan 62.

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Chapter VI

PERSONNEL

Introduction

During 1961 the Strategic Air Command faced familiar problems of securing, holding, and most efficiently using high quality personnel. The problems were old, but the context was new - for in this period the personnel picture was badly distorted by the pressure of external events. Abnormal conditions created unusual needs, and extraordinary exertions were necessary to cope with them. (U)

Officers

The command's problem of officer body manning was new in this period, but concomitant problems of skill and grade manning were of long standing. Various SAC and USAF actions - such as involuntary extension, reduced retirement rates, AF-wide inputs to the manned and missile force, and the increase in Regular commissioned strength - helped to meet the needs, but abnormal expansion which characterized the period outstripped all efforts to reach a balance. (U)

Announcement by Headquarters USAF in April 1961 that the aircrew to aircraft ratio would be increased from 1.6:1 to 1.8:1, effective 1 July, brought SAC at once from an overage officer manning condition to one of very tight manning.[1] The increased ratio created additional

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requirements for FY 62 of 855 pilots, 342 navigators, and 169 Electronic Warfare Officers.[2] USAF authorized use of personnel from the six B-47 wings and the six KC-97 squadrons scheduled for inactivation in FY 62 to build toward the 1.8:1 ratio,[3] but even with this resource the Vice Commander in Chief (VCINCSAC) though it would be "extremely difficult" to attain and hold the new ratio.[4] ~~(S)~~

When the deepening Berlin crisis led Air Staff in July to order retention of the medium units, SAC's manning situation became critical. Coupled with the 1.8:1 ratio and the continuing missile buildup, the USAF order brought an increase in authorized strength of 3,158 officers and 6,550 airmen, or a total of 9,708 military spaces in the command by the end of 1961.[5] (U)

As an interim measure, Air Staff directed SAC to cannibalize most of the retained units as necessary to achieve the 1.8:1 ratio in those medium units which had not been marked for deactivation.[6] (U)

The manning crisis called for extraordinary measures. First, emergency actions had to be taken to solve the problems of the present and near future; only then could the command turn again to consideration of long-range solutions. (U)

It met the immediate need by involuntary extension of certain officers and airmen; reduction of retirement rates, both voluntary and involuntary; easing of some restrictions on reenlistment; and voluntary

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extensions of overseas tours. In addition, Congressional relief with regard to the Officers' Grade Limitation Act (OGLA) helped the command achieve a more equitable grade manning. (U)

On 16 August, USAF extended, for as much as 12 months past their normal separation dates, personnel in certain critical skills with date of separation (DOS) between 1 September 1961 and 30 June 1962.[7] Under this directive, 148 SAC officers and some 10,000 airmen were extended, voluntarily or involuntarily.[8] (U)

Reduction in officer retirements was drastic. Of 785 who retired during calendar year 1961, only 92 left the service after 30 June.[9] Headquarters USAF advised in August that certain officers scheduled for retirement between 31 August 1961 and 30 September 1962 under Project 20/10* would be retained for two years. Ultimately, 431 of the 1,013 so scheduled were extended.[10] Applications for voluntary retirement increased appreciably during the first half of FY 62, but few were granted.[11] (U)

The rapid increase in officer manning requirements stemming from the Berlin crisis made the normal sources of officer procurement inadequate. The SAC and USAF personnel officers combined their efforts to

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* A non-statutory USAF program, begun in 1960, in which career reserve officers with at least 20 years total and 10 years commissioned service are considered for involuntary retirement.

devise a program adequate to meet the command's end-FY 62 officer manning authorization of more than 40,000.[12] The program called for increased inputs from Zone of the Interior (ZI) and world-wide resources during the two subsequent manning cycles, as well as several measures aimed at retaining officers already assigned.[13] Air Staff agreed to provide inputs to meet most of SAC's missile requirements by directing nominations from the other major commands. After 1 December 1961, Air Staff said it would fill up the missile classes over and above what SAC wanted to put in. The Officers Division, Directorate of Personnel, believed, however, that SAC would want to put in a "goodly number" of personnel "so that we have a base of SAC know-how."[14] Between 1 July and 30 September, Air Staff provided 195 of the 334 officers who entered the Basic Missile Course, or 58 per cent of the total; between 1 October and 31 December, the USAF input of 131 officers was only 46 per cent of the 285 total.[14] During this period, 663 missile officers graduated.[16] (U)

The command officer retention rate had been set at 35 per cent. Of the 1090 officers eligible during 1961, 460 assumed career status - a 42 per cent rate for the period. Of the total eligible, 656 were in the medical career field. Two hundred and eleven of this number were retained - a 32 per cent medical rate.[17] (U)

The extension of certain DOS officers in August 1961 affected 148 in SAC, adding to the command's officer inventory for the period. However, as SAC pointed out to the subcommands on 8 September, these officers represented only about 10 per cent of the command's total DOS officer inventory. Career motivation efforts thus were continued in all areas, including legal and medical.[18] (U)

The USAF also promised several measures to help SAC meet its officer manning requirements. These included a decrease in overseas levies for SAC officers; increased retention of officers slated for 20/10 retirement of up to 75 per cent in some career fields; and authority to train reserve officers with over 16 years total active Federal military service for missile assignments.[19] The first two measures had been suggested by VCINCSAC in April 1961 when the 1.8:1 ratio was announced.[20] The latter was put into effect on 15 September, when USAF extended eligibility for missile training courses for reserve officers from 16 to 18 years active service.[21] (U)

Best Man

In January 1961 the increased crew-to-aircraft ratio and the missile manning increase necessitated that General Power initiate Project Best Man.[22] Previously, as an officer moved up the promotion career ladder, the tendency was to take him out of the combat crew and place him in a staff position. With the ever-increasing responsibility of a

B-52 crew, General Power wanted the tendency to fill staff positions with newly promoted majors and lieutenant colonels reversed and emphasis placed upon retaining them in crews. In June 1960, he requested that combat crew manning receive priority.[23] After waiting six months and not seeing a noticeable change, he froze lieutenant colonels and majors on crews. He also ordered that they not be removed unless approved by this headquarters.[24] At that time, January 1961, there were only 51 temporary lieutenant colonels assigned to combat crews out of 350 lieutenant colonel authorizations; yet SAC had 89.5 per cent of its lieutenant colonel positions filled - not counting spot promotions.[25] (U)

A number of rated field grade officers were shifted from staff to crew positions. Yet so drastically did authorizations change during the year that manning percentages shifted significantly in the opposite direction.*[26] (U)

The Directorate of Personnel, recognizing the abnormal conditions behind these temporary reverses, continued its Best Man efforts, and resisted all attempts to compromise the program.**[27] It pointed out

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* Rated Lt Cols on staff duty declined from 894 to 807 and Majors from 2,122 to 1,788, yet the percentage manning increased from 81 to 170 and from 11 to 115, respectively; on crews, Lt Cols increased from 135 to 175 and Majors from 2,165 to 2,258, yet those percentages declined, respectively, from 34 to 18 and from 72 to 62.

** For example, requests from Second Air Force for exemption of units in a state of buildup, and of the rated staffs of air divisions, were not approved by SAC.

that the program aimed at promotions within as well as returns to the crew force.[28] Although CINCSAC expressed satisfaction with the progress made during the period when the program was administered at subcommand level, SAC resumed control of Best Man assignments on 1 January 1962 as part of the centralization of officer assignments directed by USAF.[29] (U)

Airmen

Measures taken by USAF and SAC during 1961 to meet the anticipated shortage in overall airman body manning were so effective that a unique situation existed by 31 December. In contrast to officer body manning, in which increased authorizations outstripped assignments, airman body manning surpassed authorized strength. Such a situation had not occurred since FY 56.[30] (U)

Yet in a period of increasing weapon system complexity, mere numbers meant little when vital skills were undermanned. Besides, the favorable body manning situation was due largely to involuntary extensions and reduced retirements. Consequently, the command took measures to assure adequate manning of all critical skills and to assure that future needs could be met when conditions returned to normal. (U)

Retention of the medium units created a shortage of some 40,000 airmen spaces in SAC. One-fourth of these were in direct, the rest in indirect, support specialties. Considering normal attrition rates for

FY 62, the command anticipated a shortage of some 40,000 airmen by 30 June.[31] This approximated 20 per cent of total enlisted strength. (U)

Under the circumstances, CINCSAC on 28 July asked Air Staff to stop voluntary retirements and to extend for a year all airmen with DOS in FY 62.[32] Air Staff subsequently extended some 10,000 airmen, principally in the electronics, mechanical, and crafts skills.[33] (U)

Even with this, the Directorate of Personnel foresaw continuing shortages in many skills not included in the extension program.[34] Nor did involuntary extension completely solve the problem in the area of electronics specialties. Command objectives for selective reenlistment during the first half of FY 63 exceeded 100 per cent in two electronics career fields.[35] (U)

Personnel representatives visited USAF to try to get assistance from other commands in the remaining areas of critical shortage. Air Staff, however, after analyzing Air Force manning, informed SAC in October that its skill manning was as complete as that of any major command.[36] Air Staff dropped a tentative plan to move to command some 82 electronics specialists because of excessive moving costs, but it promised to help alleviate SAC's manning troubles by increasing the overseas returnee pipeline and assigning additional technical school graduates.[37] (U)

The shortage of missile technicians had prompted Air Staff earlier to approve ATC retraining for certain SAC personnel in the grade of Airman First Class (A1C) and below.* That resource, plus the overseas and tech school input - many of whom had come from SAC in the first place[38] - allowed the command to put 2,376 airmen into ATC missile classes during this period, toward a forecast FY 62 need of 4,889.[39] (U)

In December 1961, Air Staff conceded major shortages still existed in several electronics career fields as well as in mechanical, other technical, administrative, and clerical skills. Since most of the crafts and services skills were overmanned, Air Staff urged full use of the "First Term Reenlistment for Retraining Program" which had been instituted in March 1961.[40] (U)

Despite the rapid increase in airman body manning during the period, Individual Proficiency Training (IPT) for skill level upgrading of airmen within their specialties increased. On 31 December, 52,190 airmen, or 24.1 per cent of assigned strength, were in an upgrade training status, as compared with 23.1 per cent at the end of the preceding period. A total of 27,662 airmen were awarded a skill level of proficiency through IPT between 1 July and 31 December 1961.[41] (U)

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* See Hist of SAC, Jan-Jun 61, p 363.

55/45 Program

International events dictated a temporary but significant modification of the Selective Reenlistment Program ("55/45").* In July, USAF suspended until 31 October that portion of the program which prohibited first-term airmen from reenlisting once they had declined the opportunity. It cautioned commanders to make clear that this modification was due to the international situation and was not to be construed as a "breach of faith" with first termers who had committed themselves under previous instructions.[42] Three hundred seventy SAC airmen took advantage of the opportunity.[43] The 55/45 program was further modified by elimination of overweight and below-minimum aptitude scores as disqualifying factors in considering first-term airmen for reenlistment.[44] (U)

The command objective for the second half FY 62 cycle of the 55/45 program was 2,315, or approximately 56 per cent of the first-term airmen with DOS in that period. Despite the high objective, the command met 99.9 per cent of its quota with 2,313 reenlistments. Actually the showing was even more impressive, because an additional 1,087 airmen reenlisted for whom objectives had to be requested from USAF. Total 55/45 reenlistments for the cycle thus were 147 per cent of the assigned objective.[45] (U)

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*. The USAF goal under this program is to maintain a ratio of 55 career airmen to 45 first termers, in order to provide enough trained men while avoiding an excess of non-commissioned officers.

Initially, the SAC percentage objective for the First Half FY 63 cycle, which began 1 November 1961, was slightly lower than that of the preceding cycle, but subsequent adjustments made it approximately the same. By 31 December, the command had achieved 2,478 of its 5,135 objective, which was 48.3 per cent of the goal and 27.2 per cent of the total eligible.[46] (U)

"Aerospace Career" Proposal

On 16 September 1961, CINCSAC outlined to USAF a program to stabilize the career airman force and improve personnel retention and management effectiveness. The basic element, that of providing a long-term reenlistment contract, was not new, but the context was.[47] (U)

Under the new program, airmen with no previous service would be enlisted for four years. After the airman had completed 24 months service and before he had completed 40, he would be considered for reenlistment into the career force, reenlistments being limited to USAF objectives in the 55/45 program. If not selected, the airman would be discharged on his DOS and be ineligible for further Air Force service. If selected, he would be guaranteed reenlistment for a total of 20 years service; at the end of that time, he might be selected for an additional 10 years service. Career airmen would be permitted to resign, on nine months notice, between 6 and 8, 10 and 12, 14 and 16, or 18 and 20 years service.[48] (U)

Upon reenlisting for the career force, the first-term airman would be immediately promoted to A1C, regardless of his length of service or time in grade. He would also become eligible for all career airman benefits, including movement of dependents and household goods at government expense.[49] (U)

Reenlistment bonuses would be paid for each four year period at the end of the period, thus eliminating the necessity for repayment of bonus money by resigning airmen. They would be paid on a sliding scale, based on the individual airman's performance, skill level, and individual improvement efforts, and on the complexity of his job. Between 20 and 30 years service, the bonus would be paid at the rate of $500 for each two years. The maximum paid an individual under this plan would be $5,000 for 20 years, or $7,500 for 30 years.[50] (U)

This bonus system, which would "help to fill the pay gap between military pay-by-grade philosophy and the time-tested civil practice of paying for value received," would have numerous advantages. It would reduce losses in critical skills, encourage high performance while recognizing technical training and skill in complex jobs, provide the commander with a flexible management tool, and encourage highly qualified and needed specialists to remain on active duty for 30 years service.[51] (U)

The longevity pay system would be replaced by a step-in-grade system to eliminate many existing inequities. One feature of the new pay

method would be establishment of a greater spread between E-3 (A2C) and E-4 (A1C) to give the first-term airman more incentive to seek career status.[52] (U)

Finally, the program would provide for Central "Aerospace Career" Management Boards to be set up at numbered air force level. They would meet annually to recommend necessary personnel actions such as promotions, demotions, discharges, retirements, retraining, or entry into officer training programs.[53] (U)

USAF found the proposal "very timely," since the reenlistment and promotion program was under review at the time of its receipt.[54] Members of SAC's Directorate of Personnel briefed a USAF committee on the proposal on 24 October, and their presentation was "favorably received."[55] Inasmuch as the proposal would require some Congressional action, USAF still was studying it on 31 December 1961.[56] (U)

Incentive Programs

To make a service career more attractive, SAC continued to press for responsibility pay. Authorized under the Career Compensation Act of 1958, it provided for additional compensation for certain officers as follows:[57] (U)

$150 for 10 per cent of the colonels.
$100 for 10 per cent of the lieutenant colonels.
$50 for 10 per cent of the majors.
$50 for 5 per cent of the captains.

Command recommendations on manned aircraft positions were presented to the Air Staff in May 1958 and on missile positions in May 1959. They were as follows:[58] (U)

	Manned Aircraft (USAF Approved)	Missiles
Colonel	82	13
Lt Colonel	543	31
Major	1330	166
Captain	1304	198
	3259	408

Total - 3667

But throughout FY 61, there was no progress made because of President Dwight D. Eisenhower's opposition[59] and lack of Army and Navy support.[60] Then with the change in Administration and in Navy attitude,[61] there was every indication that it might be implemented in FY 62.[62] (U)

The SAC also favored alert pay. Under this proposal, combat crew members would receive an additional $10 for each day spent on alert duty. General Power wanted the extra pay for crews in recognition of the hardships of alert duty. The Department of the Air Force agreed with SAC, but other air force commands and the Army and Navy consistently opposed the measure and it was not included in the FY 62 budget.[63] Although the Secretary of Defense continued to withhold approval,[64] General Power intended to pursue every opportunity to gain Department of Defense acceptance of the additional pay.[65] (U)

The command also supported proficiency pay, but maintained that the present reduced rates of $30 and $60* per month were not fulfilling the program's objectives; e.g., no appreciable increase in retention, incentive, or personnel effectiveness had resulted from it.[66] This prompted Secretary of Defense Robert S. McNamara to ask General Power, "If it was not working, why increase it?"[67] General Power, with USAF concurrence, replied that the present experimental rate of $30 and $60 should be raised to the maximum rates authorized by law of $50, $100, and $150.[68] It could then be determined whether the program was beneficial or not.[69] Furthermore, although 75,000 Air Force personnel were eligible to receive proficiency pay, only 58,000 in the Air Force and about 14,000 in SAC were receiving it. Thus, SAC felt that the number was too small to accomplish program objectives. In the event that the maximum amounts authorized by law could not be paid, General Power wanted the proficiency pay program to revert to the pay grade method. This method provided for a pay grade increase (promotion) of only the most highly qualified individuals. In this manner, the mediocre individual would not receive additional pay solely because he possessed the appropriate grade and AFSC.[70] (U)

Despite emphasis on incentive programs such as spot promotions, alert pay, proficiency pay, accrual flight pay, and responsibility pay, the command made no significant gains during the period. (U)

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* During the experimental four-year phase-in period from 1958 to 1962, the full amount of $50, $100, and $150 was not authorized and only $30 and $60 could be received.

Mechanics of Personnel

The Directorate of Personnel made notable improvements during 1961 in its machinery for controlling SAC manpower. A new branch for the coordination of personnel data processing began operation; plans were completed for the centralization of officer assignments at Headquarters SAC; and the conversion to electronics data processing (EDP) continued. (U)

A Systems Management Branch, created primarily to plan for automatic data processing of personnel at base level, was activated on 10 September. Operating as a unit of the Plans and Programs Division, the Branch also served as the "single point of contact" for all personnel data processing within SAC and between this command, USAF, and other major commands.[71] (U)

Centralization of officer assignments, an interim measure recommended by the Top Star Committee in May 1961,[72] had been directed by USAF on 8 June, to take effect by 1 January 1962.[73] Minimal controls to be established were assignment of individual officers to operating locations within SAC, the intra-command PCS assignment of officers, and the assigning or revision of duty AFSC's. Ultimately, officer assignment will be centralized in USAF.[74] (U)

When airman assignments were centralized at SAC in October 1959, the process was dependent on "a keypunch, a sorter, and 30 dedicated people."[75] Conversion to EDP began the following year and was continuous, as new equipment was added and new programs developed and tested. (U)

A major accomplishment during this period was the initial trial of the NCR 304 computer to fill overseas levies, though deficiencies rendered the selections invalid. A Base/AFSC listing (SD-P114) of a new design was produced from the computer which played an important part in auditing the command personnel strength. A program generator (BAPTEFAT) was used for the first time to obtain special information from the Airman Master File and proved quite effective.[76] (U)

Manpower and Leadership

A consideration of SAC personnel statistics for the period points up the two issues discussed previously; i.e., the accelerated overall manpower expansion generated by the Berlin crisis, and the continuing rapid shift from manned aircraft to missiles. (U)

Between 30 June and 31 December 1961, personnel assigned to SAC increased by 12,168,[77] or 4.5 per cent. During each of the preceding two six-month periods it had increased less than one per cent.[78] (U)

The extent of the missile shift is indicated by the disproportionate increase in personnel assigned to Fifteenth Air Force to which most of the newly activated missile units belong, and the 1st Strategic Aerospace Division. Well over half of SAC's total increase* was in those subcommands, raising their percentage increases to 8.5 and 12.0, respectively. (U)

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* 6,876 out of 12,168.

Key Staff Changes

A number of key staff changes occurred in Headquarters SAC during 1961. (U)

Lieutenant General Francis H. Griswold, VCINCSAC since 3 May 1954, left on 1 July to become Commandant of the National War College. He was succeeded by Lieutenant General John P. McConnell, former commander of the Second Air Force.[79] (U)

Major General Edwin B. Broadhurst, Chief of Staff since 15 December 1957, was reassigned to command the 7th Air Division on 1 August. Major General James H. Walsh, former Assistant Chief of Staff for Intelligence, USAF, assumed the position.[80] (U)

Major General William H. Blanchard, Director of Operations since 21 January 1960, was reassigned to USAF as Assistant to the Chief of Staff on 7 September. His successor was Major General Keith K. Compton who had been Deputy Director since 22 July 1958.[81] (U)

Major General William K. Martin, Director of Personnel since 1 August 1959, left to become Deputy Director of Information, USAF, on 14 July. His successor was Major General Austin J. Russell, former commander of the 822d Air Division. On 7 September, General Russell replaced General Compton as Deputy Director of Operations, and Brigadier General William B. Kieffer, former commander of the 45th Air Division, succeeded him as Director of Personnel.[82] (U)

Brigadier General K. R. Powell, formerly Chief of Staff, 1st Strategic Aerospace Division, became Deputy Director of Materiel effective 9 July 1961.[83] (U)

On 10 January 1961, Colonel John B. McGraw replaced Brigadier General T. C. Bedwell as SAC Surgeon.[84] Prior to being assigned to Headquarters SAC, Colonel McGraw (subsequently promoted to Brigadier General) was Eighth Air Force Surgeon at Westover AFB. General Bedwell was transferred to the School of Aerospace Medicine in San Antonio, Texas. General McGraw was transferred to the USAF Hospital at Lackland AFB on 14 August. His successor was Colonel Alonzo A. Towner, former Second Air Force surgeon.[85] (U)

Colonel Robert R. Dickey, Staff Judge Advocate since 14 April 1960, retired on 1 December. The new SJA was Brigadier General Paul W. Norton, former SJA at Headquarters United States Air Force in Europe.[86] (U)

Statistics

Civilian and military personnel assigned to SAC as of 31 December 1961 totalled 280,582 (authorized 279,142). Of the assigned total, officers accounted for 36,791 (38,999 authorized); warrant officers for 764; airmen for 216,148 (213,721 authorized); and civilians for 26,879 (26,422 authorized).[87] (U)

Personnel assigned to Hq SAC at the end of the period included 849 officers (971 authorized); 24 warrant officers; 1,180 airmen (1,146 authorized); and 499 civilians (497 authorized).[88] (U)

Summary

Accomplishments in the field of personnel management during this period were, on the whole, creditable to the command. The badly distorted manning picture obscured any clear sign of progress in that field, but retention, both of officers and of airmen, seemed likely to surpass objectives set for FY 1962. Though some slight relaxation of physical and mental standards occurred, SAC kept up its active efforts in the field of quality control. Two new measures advocated by the command in the period were distinctly promising: the Minuteman Missile Combat Crew Educational Program, aimed at counteracting the monotony of service at isolated missile installations; and the Aerospace Career Proposal, a variegated program for long-range stabilization of the career airman force. (U)

FOOTNOTES

1. Ltr, Lt Gen F. H. Griswold, VCINCSAC, to Lt Gen T. H. Landon, Dep CofS Pers, USAF, n.s., 14 Apr 61.

2. Memo for the Record, "Alert Force Posture," Maj W. E. Griffin, DPSPP, 21 Apr 61.

3. Msg. AFCVC 60262, USAF to SAC, "Increased Alert Posture for B-52/47 and KC-135/97 Force," 7 Apr 61; Msg, AFCAV 65301, USAF to SAC, n.s., Apr 61.

4. Ltr, Lt Gen F. H. Griswold, VCINCSAC, to Lt Gen T. H. Landon, Dep CofS Pers, USAF, n.s., 14 Apr 61.

5. Hist of SAC, Jan-Jun 61, p 362; Chart, Section II.

6. Ltr, Col R. D. Butler, DPO, to Col C. N. Dreier, DP 2AF, "Manning Status," 16 Sep 61. Two of the retained B-47 units also were to be built up to 1.8.

7. Msg, DP 12859, SAC to ALFA TWO et al., "Personnel Actions to Support Build-up Announced in AIMAJCOM Message (Secret) AFCVC 1157/61, 13 Aug 61," 16 Aug 61.

8. Atch 2, "Retention of Medium Force," to IOM, Col G. W. Johnson, DPD, to DXIH, "Hist of SAC, Jul-Dec 61," 20 Apr 62; Reports, RCS AF-P642 (OT), "Extension of Dates of Separation for Certain DOS Reserve Officers," 25 Sep and 2 Oct 61, prepared by DPOR.

9. Card File, "SAC Officer Retirements," maintained by CWO B. Taylor, DPMPS.

10. Atch 3, "Project "20/10," to IOM, Col G. W. Johnson, DPD, to DXIH, "Hist of SAC, Jul-Dec 61," 20 Apr 62.

11. Interview, F. B. Sarles, Historian, with CWO B. Taylor, DPMPS, 5 Apr 62.

12. Ltr, Col R. D. Butler, DPO, to Col C. N. Dreier, DP, 2AF, Manning Status," 16 Sep 61.

13. Ibid.

14. Ibid.

15. Table, "Inputs to Officer Missile Training Classes, 1st Half FY 62," prepared by CWO G. E. McClymonds, DPOMOM, Jan 62.

16. Ltr, DPOPT, Lt Col A. R. Grimm, DPOPT to ALFA TWO, "Officer Missile Training Schedule," 29 Mar 62, with Master Working File Copy maintained by CWO G. H. Thomas.

17. IOM, Maj F. E. Weimer, DPOR, to DPO, "DPO FY 62 Objectives," 20 Nov 61; Quarterly DOS Officer Retention Report," 1st and 2d Quarter FY 62, prepared by DPOR.

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42. Msg, DPAR 7143, SAC to ALPHA et al., n.s., 26 Jul 61.

43. Table, "Final Report - 2d Half FY 62 Selective Reenlistment Program," prepared by SMS R. E. Michael, DPAR, Dec 61.

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47. Ltr, Gen T. S. Power, CINCSAC, to Lt Gen E. J. Timberlake, Dep CofS Pers, USAF, "Long Term Reenlistment Proposal," 16 Sep 61; Atch 6, "'Aerospace Career' Proposal," to IOM, Col G. W. Johnson, DPD, to DXIH, "Hist of SAC, Jul-Dec 61," 20 Apr 62.

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57. IOM, DPO to DPP, "Items for Programs Review Book," 6 Jun 61.

58. Ibid.

59. Army, Navy, Air Force Journal, 27 May 61

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74. Ibid.

75. Briefing, "SAC Manning Under the Centralized Assignment System," Lt Col J. T. Allen, DPAM, to numbered air forces, 23 Aug 60.

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77. Table, RCS, SD-P2, "SAC Personnel Assigned As Of 31 December 1961"; Ibid., "SAC Personnel Assigned As Of 30 June 1961."

78. Hist of SAC, Jul-Dec 60, p 379; Table, RCS SD-P2, "SAC Personnel Assigned As Of 30 June 1961."

79. DAF Special Orders AA-1085, 14 Jun 61. See Chart, Section II.

80. Headquarters SAC SO G-100, 4 Aug 61.

81. DAF SO AA 1534, 31 Aug 61.

82. Ibid.; DAF SO AA-834, 18 May 61.

83. DAF SO AA-655, 28 Apr 61.

84. SAC SO G-9, 30 Jan 61.

85. 2AF SO A-541, 7 Aug 61; Hq SAC SO P-166, 18 Oct 61.

86. Hq SAC SO P-184, 21 Nov 61.

87. Chart, "SAC Personnel -- Authorized and Assigned."

88. Ibid.

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Chapter VII

INTELLIGENCE

". . . what enables the wise sovereign and the good general to strike and conquer, and achieve things beyond the reach of ordinary men, is foreknowledge."

-- Sun Tzu Wu

Introduction

This chapter explains how intelligence supports the SAC mission. It contains a general discussion of the national intelligence community, production of target intelligence and target materials, and acquisition and use of intelligence data handling equipment. (U)

Intelligence Structure

Intelligence was divided into two general categories: strategic and tactical. Strategic intelligence was of most concern to the military planners and policy makers of national governments or high level commands. The intelligence community in the United States was centrally controlled by the Central Intelligence Agency (CIA).* The Army, Navy, and Air Force had their own intelligence services; and there were other agencies which dealt with various aspects of intelligence. (U)

Creation of the Defense Intelligence Agency (DIA) modified the nation's intelligence system. This organization, established 1 August

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* Established in 1947 to work under the National Security Council (NSC), whose chairman is the President.

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1961 to be effective 1 October,[1] "aimed at achieving full integration of intelligence resources and functions assigned to control of Director, DIA, on a graduated basis with full recognition given necessity to avoid disruption or degradation of vital intelligence efforts."[2] The activation plan provided for a military board comprised of service intelligence chiefs and the Joint Staff's Director for Intelligence, as members to advise and assist the Chairman, Director of DIA.[3] ~~(S)~~ U

The DIA, superimposed over Army, Navy, and Air Force Intelligence, had four major responsibilities:[4] (U)

1. Determined what intelligence was required. (U)
2. Assigned priorities, i.e., determined which information was most urgently needed. (U)
3. Assigned intelligence-gathering tasks to the three services. (U)
4. Studied the assembled intelligence and made a final estimate as to what it all meant. (U)

On 1 January 1962 it would absorb the J-2 Joint Staff Estimates Division and eventually assume responsibility for all estimative intelligence functions previously performed by the Director of Intelligence, Joint Staff.[5] Officials at this headquarters believed SAC's intelligence functions would remain relatively unchanged by the new agency.[6]

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At the head of Air Force intelligence, and directly under the Chief of Staff, USAF, was the Assistant Chief of Staff, Intelligence, who served the entire Air Staff. In logical sequence, all major air commands maintained intelligence organizations to serve their particular needs. Their commanders were responsible for the collection and production of the air intelligence needed in performing their organizational missions and in assisting the ACS/I. To meet their own needs, major air commanders made use of the information available to them from the entire national intelligence community. (U)

The major requirement of SAC Intelligence was to gather and to assimilate the maximum amount of operational intelligence (which included as much advanced warning as possible of planned attacks and offensive intentions), to analyze this data, and to make it available to the CINC for use in preparing countermeasures to meet potential enemy aggression. The SAC Warning Center (operated by DI) provided the intelligence required for this task through continuous surveillance of information from all sources.* This data enabled the CINCSAC to decide the alert status of his force. Because rapid analysis was vital, DI used machines such as the 7090 computer, Minicard, FINDER, and other electronic systems to speed processing of intelligence data. (U)

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* In this man and machine system, information gained from electronic intelligence (ELINT) Ballistic Missile Early Warning System (BMEWS), attache reports, message-type communications, reconnaissance systems, and collateral reports provided by other intelligence agencies became a principal weapon of the "Cold War."

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To carry out its functions of warning, targeting, analysis of selected foreign weapon systems, production of targeting materials, and trajectory computation, the Intelligence Directorate operated four divisions and the missile trajectory center with the following responsibilities:[7] Air Estimates Division (DIE) provided warning, capabilities, ELINT, and penetration information; Targets (DIT) produced target and weapon requirements for command EWO and SIOP documents; Target Materials (DIM) provided these items for the SAC weapon systems; Collections (DIC) obtained and disseminated the varied items produced by the entire directorate; and the Trajectory Center, operated by the 544th Reconnaissance Technical Group (RTG), under DI's supervision, computed target trajectories for the command's missiles and those belonging to our allies. (U)

Target Materials and Targeting

The DI developed target and navigational materials for SAC air and missile crews. These materials were revised and refined as fresh intelligence became known, as targeting objectives changed, and as new techniques were developed. (U)

High/Low Level Chart Specifications

As a result of increased emphasis on low level bombing, early in 1960 SAC began to modify the Series 200 Air Target Charts* used by its crews. During 1961 refinement of the charts continued. The objective

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* The 200 referred to the scale of the map; a ratio of one inch to 200,000 inches: 1:200,000. The 200 series was designed especially for use at high altitudes.

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was to design a single chart for high and low level use. Charts were modified to include low altitude radar and visual significant items, and they were brought up to date in the Target Materials Positional Reliability Improvement Program.[8] The entire process would take about two years because of the work of preparing the map base. ~~(S)~~ (U)

Jet Navigation Charts, Scale 1:3,000,000

The command's combat crews possessed a standardized EWO execution package, termed the "Combat Mission Folder" (CMF), containing a Jet Navigation Chart (JNC), an Operational Navigation Chart/World Aeronautical Chart (ONC/WAC), and the Series 200 Air Target Chart (ATC).[9] (U)

A typical EWO mission beginning at high altitude required the use of the JNC. As the sortie progressed, and if the aircraft descended, the navigator changed to the ONC. Under current conditions, however, in the transition the navigator experienced a change in scale and an abrupt difference in chart appearance. The SAC needed to adjust the two charts to express similarity of design which would help crew members to perform more efficiently.[10] (U)

Also needed was a more suitable chart for use on long-range missions, especially those in polar regions. The JNCs of scale 1:2,000,000 which were in use at the time of SAC's June 1959 request to convert them to 1:3,000,000,[11] did not provide satisfactory coverage in the northern areas for aircraft using a polar mode of navigation. Grid presentations

did not match on adjacent charts and separate charts had to be joined for many routes through the polar and sub-polar chart overlap area. This resulted in heavy chart consumption and an extra work load in EWO planning and preparation.—~~(C)~~ (U)

On 18 June 1959,[12] Headquarters SAC requested USAF to approve production of an experimental 1:3,000,000 scale chart. It would be a modification of the JN-7 chart with a scale of 1:2,000,000 for test and evaluation.[13] In early September 1959, USAF directed the Aeronautical Chart and Information Center (ACIC) to produce such a chart. After evaluation, SAC units determined a large majority preferred the 1:3,000,000 scale to the 1:2,000,000 JNC polar series.[14] There was no loss of significant details in the smaller scale chart and the greater coverage in the same sheet size provided definite advantages in flight planning. Also, publication of the 1:3,000,000 scale chart would reduce the volume of material handled, stored, and distributed. The convenience of using one sheet rather than piecing several together was obvious. In addition, the possibility of errors caused by mismatching of adjacent charts would be eliminated.[15] (U)

In November 1960, Headquarters USAF approved SAC's request to convert the 1:2,000,000 scale charts to 1:3,000,000, and suggested the 1:3,000,000 scale be projected to subpolar (continental United States) areas. This command had previously, in October 1960, submitted this requirement to USAF. In response, USAF said ACIC had been directed to

proceed with the experiment of domestic charts.[16] Headquarters SAC wanted these charts produced and distributed to field units for test and evaluation by 1 March 1962.[17] (U)

Meanwhile the ONC polar series, scale 1:3,000,000 (3A and 4A) were produced and distributed to the field on 21 December 1961.[18] (U)

As 1961 closed, this headquarters and ACIC continued their joint efforts to complete projects initiated earlier. Based on the evaluation of the domestic chart experiments, other scale 1:2,000,000 charts would be converted to scale 1:3,000,000 based on the commander's operational requirements.[19] (U)

The T-10 Trainer Progra..

The T-10 Trainer System Project called for the development of a new bombardier/navigator radar training system to be used in simulated B-52/B-47 tactical missions. (U)

For the past several years SAC had used the T-2A Ultrasonic Trainer. In addition to air crew training, T-2A photography was used for combat mission folders.[20] But it was essentially an electronic system based upon the propagation of radio waves from a reflecting surface, and could be used to simulate only high altitude flying. To fulfill low altitude flight simulation and to meet increased speed and range of aircraft, the command initiated the T-10 Trainer Project. These factors required that the scale ratio of ultrasonic maps be increased to accommodate the extended coverage of terrain. This posed an increasing requirement for

larger terrain maps. Training maps, using the ultrasonic principle, were no longer adequate from a size standpoint.[21] ~~(S)~~ U

The major advantages of the T-10 over the T-2A would be:[22] ~~(S)~~ U

1. Both a high and low altitude capability. ~~(S)~~ U
2. A realistic (more so than the T-2A) training medium for bombardier/navigator radar training. ~~(S)~~ U
3. Aid the strategic force in penetrating enemy targets by actual practice of tactics to be used. ~~(S)~~ U

The Air Force awarded a contract to the Marquardt Corporation to develop a prototype T-10 trainer in May 1961,[23] and another letter contract followed in September.[24] The AFSC's Aeronautical Systems Division, Wright Air Development Division, was responsible for the overall T-10 program, with this command providing the requirements and monitoring their development.[25] (U)

This command believed that if Marquardt Corporation could modify the T-2A Ultrasonic Trainer to provide a realistic high and low altitude capability using a light optical system, the entire trainer development program could be expedited. An important feature of the light optical system was its ability to simulate large areas on a relatively small plate, thus eliminating the need for large numbers of plates currently used in the T-2A.[26] ~~(S)~~ U

As 1961 closed, no major problems had evolved and all aspects of the T-10 program preliminary to actual production were complete. (U)

Program "Black Light"

Starting in April 1960,[27] this command subsequently produced and flight evaluated fluorescent overprinted charts (Project "Black Light") in its efforts to develop a low-altitude radar prediction system that would be applicable to available target and navigational materials. (U)

On 1 August 1961, the command conducted an inflight test and evaluation of two types of "Black Light" overprinted operational navigational charts (ONCs). The first, produced by the 544th Reconnaissance Technical Group, consisted of actual radarscope photos printed on permacel material and adhered to a plain ONC. The second, produced by ACIC, consisted of a radar prediction printed directly on an ONC. The SAC determined it had no requirement for charts of this nature, believing that the use of a fluorescent overprint depicting a directional radar prediction was not the ideal approach for low altitude radar navigation,[28] mainly because of navigational problems and eye fatigue from the black light. This substantiated an earlier Fifteenth Air Force evaluation.[29] Work on the project was terminated.[30] (U)

JCS/SIOP-62 Charts

The JCS/SIOP-62 Charts (Series 1:2,000,000 Jet Navigation Chart) were designed and produced for combat mission folders, target study aids, and staff planning purposes. They graphically portrayed enemy air defenses and specific applicable operational data related to them. Foreign editions of this coordinated JNC series (18 sheets) covered the entire Sino-Soviet bloc.[31] ~~(C)~~ U

The Target Materials Division (DIMG) monitored the distribution and periodic updating of JCS/SIOP-62 Charts. The division maintained some 240,000 copies during their currency. It also distributed guides and quarterly revisions to the charts. ~~(C)~~ U

In updating the charts, DIMG forwarded changes from the responsible SAC and JSTPS agencies to the 544th RTG, which in turn produced the required negative overlays. These materials were then taken to ACIC for production. After publication, DIMG distributed them to the appropriate units. During the last six months of 1961, the division distributed an additional 27,500 charts because the initial distribution of the JCS/SIOP-62 charts was not sufficient to meet unit needs.[32] ~~(S)~~ U

Extension of JCS/SIOP-62 and SIOP-63 Pre-Planning

The work of the Targeting Division (DIT) consisted mainly of preparing intelligence relative to enemy targets and defenses as they pertained to the SAC EWO and the JCS SIOP. ~~(C)~~ U

Because of the National Strategic Target List (NSTL), DGZ (Desired Ground Zero) changes reflected in targeting adjustments and application of additional commitment of forces, due to updated intelligence, revision of JCS/SIOP-62 was necessary.[33] This project mainly involved applying weapons on new USSR ICBM sites.[34] The extension to SIOP-62 and its Option 1A was completed 15 September,[35] with an effective period of 1 December 1961 through 30 June 1962.[36] ~~(S)~~ U

In addition to its contribution to SIOP-62, DIT was also engaged in SIOP-63 pre-planning.[37] ~~(S)~~ U

Intelligence Automation Programs

Computer Systems

Digital computers and other Electronic Data Processing (EDP) systems supported the SAC mission by increasing the efficiency of processing the voluminous amount of data received by this headquarters into operational intelligence and making it available to the CINC and DI analysts in a form which enabled them to rapidly assimilate and comprehend its contents. On the average, DI received an electrical type message every one and one-half minutes, 24 hours a day, seven days a week, and nearly 40 miles of electronic magnetic tape monthly.[38] ~~(C)~~ U

With its increasing missile inventory, the command expanded its use of digital computers for the considerable computation required to establish missile guidance system instructions. The 544th Reconnaissance Technical Group (RTG) performed these tasks in the Ballistic Trajectory Computing Center under the supervision of DI. (U)

There was also a continuous growth and refinement of EDP programs used in preparing and analyzing war plans. The IBM 7090 intelligence data processing system could store 32 million words on 32 magnetic tape handlers. It correlated fresh intelligence information received from a

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variety of sources with data already stored. In addition to the 7090 which analyzed the numerous factors involved in war planning, the IBM 1401, with a high speed print-out capability, assisted the Intelligence Directorate in its targeting functions.[39] ~~(S)~~ U

438L - Background for Establishment

The capability to respond to the Soviet threat with maximum speed, and to forecast as far in advance as possible any impending hostile action, were critical requirements for SAC Intelligence.[40] ~~(S)~~ U

The USAF Intelligence community established requirements for improving data handling capabilities after the successful completion of studies performed for the Air Force during the early 1950s. In January 1954 Headquarters ARDC initiated a project sponsored by Rome Air Development Center. The latter negotiated a contract with the Ramo-Wooldridge Company which produced several proposals during the 1954-1957 period. They culminated in a 15 June 1957 report on the Intelligence Data Handling System (assigned the project number 438L*). The USAF decided to develop one of the report's major recommendations which was to provide a system composed of a complex of mutually supporting subsystems installed

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* The concept of the Air Force Intelligence Data Handling System, also referred to as the Aerospace Intelligence Data System, established a plan for satisfying the problems of warning, penetration, and targeting in a single computer complex. (IOM, DIE to DIC, "Review of Document," 4 Dec 61.)

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at the several Headquarters USAF intelligence activities and at the major air force commands, with each subsystem designed to serve the specialized requirements of the activity it was to support.[41] ~~(S)~~ U

The USAF made funds available for SAC's 438L in October 1958. The subsequent prebidders conference held at SAC Headquarters in February 1959 resulted in the selection of International Business Machines (IBM) Corporation. It began work at SAC in April 1959. The initial effort emphasized research in warning.[42] This experimental phase continued until April 1961 when the project was placed in Research and Development (R&D) status with the objective of achieving the earliest possible operational capability. At that time the command prepared an SOR for an integrated Intelligence Data Handling System.[43] Its most recent version was published 22 August 1961.[44] ~~(S)~~ U

As required in a 28 June work statement, IBM submitted a subsystem concept comprising all data derived from the DOD experiment and experience during this effort. This document, incorporating SAC DI's views and guidance, included for the first time the integration of products from the three key areas of data reduction: Message, ELINT, and photography; a concept accepted by SAC on 2 January 1962.[45] ~~(S)~~ U

In early 1961, the Air Staff directed the functions performed in the 438L and 465L be reviewed to identify areas of possible conflict or duplication between the two systems. The Intelligence and Operations Directorates resolved the division of responsibilities on 26 September:[46] ~~(S)~~ U

1. Force applications will be accomplished within 465L. ~~(S)~~ U
2. Defense Analysis inputs will be provided within 465L. ~~(S)~~ U
3. Feed-back from 465L and 438L for Defense Analysis purposes will be provided. ~~(S)~~ U
4. Interim support in the Penetration Analysis area will be provided by 438L. ~~(S)~~ U

As 1961 closed, DOD and USAF had approved development of 438L into a completely operational system and the AFSC, IBM, and SAC's DI staff were attempting to achieve this objective.[47] ~~(S)~~ U

FINDER and the ELINT Program

This command translated ELINT (electronic intelligence) information into data used in the EWO/SIOP - a combination of SAC's war plans and JSTPS targeting. The activities of the 55th Strategic Reconnaissance Wing and the 4080th Strategic Wing comprised the command's ELINT program.[48] Raw ELINT data collected by these wings were processed by FINDER (Ferret Intelligence Data Evaluator), a special purpose computer system, into final operational intelligence.[49] The SAC also intended to process information related to the defense analysis problem.[50] Following its installation in the SAC Control Center during April 1961, Phase II Development and Testing by ARDC began 11 May.[51] At the end of the year equipment was operating satisfactorily.[52] Plans called for Phase II testing to end and Phase III Operational Test and Evaluation early in 1963.[53] The 544th RTG, under DI supervision, would be assigned responsibility for the system.[54] ~~(S)~~ U

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Minicard System

The Minicard system,* essentially an element of the SAC 438L subsystem, would be used to support planning for the EWO. Its major function consisted of indexing, coding; filing, storing, retrieving, viewing, and reproducing a wide range of intelligence documents and photographs. Minicard supported 438L, which lacked this capability.[55] It also photographed and microfilmed graphic material and its related code, and stored the miniature film record in a compact space (estimated at 1000 to 1 reduction in the amount of storage space required).[56] (S)

Following the conclusion of Category I testing at Eastman Kodak Company on 8 January 1961, Rome Air Development Center began Category II tests at SAC Headquarters. Between January and March, the 544th RTG coded and processed intelligence material into Minicard record form. Category III evaluated the system in an operational environment from 15 March to 30 June. At the conclusion of Category III, with the system functioning satisfactorily, it was considered operational and accepted by SAC as an inventory item on 1 July 1961.[57] During the last six months of 1961 Minicard was incorporated with 438L.[58] (S)

Summary

Intelligence supported SAC's mission by providing warning for force survival, preparing targeting systems and materials, producing defense

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* Its official title was Document Data Processing Central (AN/GSQ-11A). (U)

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analyses for force application and assisting the JSTPS in the completion of the NSTL and SIOPs. ~~(S)~~ U

Intelligence data channeled into the CIA, NSA, and DIA was received simultaneously by DI at SAC Headquarters. The results of the 55th and 4080th Strategic Reconnaissance Wings' ELINT activities and data from military theaters and attaches (through USAF) were also included in the intelligence obtained by DI. ~~(S)~~ U

The SAC intelligence function worked smoothly in its relationships with the Joint Intelligence Staff (J-2) and the JSTPS. And, although its mission was not immediately affected, the Intelligence Directorate was much interested in the creation of the DIA. On 1 January 1962 the DIA was scheduled to absorb the J-2 Joint Staff Estimates Division and would eventually assume responsibility for all estimative intelligence functions previously performed by the Director of Intelligence, Joint Staff, in accordance with the approved plan for activation of the DIA. However, the SAC intelligence functions would remain relatively unchanged by the new agency, but would provide information to DIA as required. ~~(S)~~ U

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FOOTNOTES

1. DOD Directive 5109.21, 1 Aug 61; Following the review by the JCS on 22 Sep 61, the SecDef approved the activation of DIA on 29 Sep 61. (Encl E, "Facts Bearing on the Problem," to JCS Memo 2031/204, "Strengthening the Intelligence Capabilities of the Unified Commands," 30 Nov 61.)

2. Msg, JCS 1881, JCS to CINCEUR (Info CINCSAC), 14 Oct 61.

3. Ibid.

4. JCS Memo 2031/204, "Strengthening the Intelligence Capabilities of the Unified Commands," 30 Nov 61, with Encls thereto.

5. Msg, JCS 2471, JCS to CINCAL (Info CINCSAC), "Defense Intelligence Agency," 29 Dec 61.

6. Interoffice Memo, Comment by Col G. W. Thorpe, Dep DI, to Brig Gen R. N. Smith, DI, on Msg, JCS 1881, JCS to CINCEUR (Info CINCSAC), 14 Oct 61; Interview, E. R. Caywood, Historian, with Lt Col T. S. Ryan, DIEW, 13 Apr 62.

7. Hist of SAC, Jan-Jun 61, pp 334-336, provides a detailed list of functions which remained unchanged through December 1961; See also Chart Book, "Organization and Functions," Hq SAC, October 1960 (which remained unchanged through Dec 61); AFR 23-12 sets forth SAC's peacetime and EWO intelligence mission.

8. Interview, E. R. Caywood, Historian, with Maj F. A. Dierksmeier, DIMR, 20 Apr 62; Hist of SAC, Jan-Jun 61, pp 344-346.

9. Ltr, Col J. H. Bogert, Ch DIM, to USAF (AFOOP), "Navigation Chart Uniformity," 1 Jul 61.

10. Ibid.

11. Ltr, Col J. H. Bogert, Ch, DIM, to Hq USAF (AFOOP), "Experimental JN Chart," 18 Jun 59.

12. Ibid.

13. The only modifications of JN-7X from the standard JN-7 was the change in scale from 1:2,000,000 to 1:3,000,000 and change in the direction of the long axis of the sheet from paralleling the 0° (Greenwich) meridian to paralleling the 90° West meridian. As the sheet of JN-7X and JN-7 were identical, the inherent increase in area coverage exceeds 100 per cent. (Final Report of SAC Test and Evaluation of JN-7X, Scale 1:3,000,000, July 1960, prep by Aeronautical Chart Development Br, Rqmts Div, DO, Hq ACIC, St. Louis.)

14. Ltr, Col J. H. Bogert, Ch, DIM, to Hq USAF (AFOOP-SV-PC), "Experimental JNX-7 Polar Chart," 22 Jun 60.

15. Ltr, Col J. H. Bogert, Ch, DIM, to Hq USAF (AFOOP-XV-CG), "Requirement for Domestic Chart Coverage," 28 Oct 60.

16. Msg, AFOOP-SV-CG 670491, USAF to SAC, "Conversion of JN Chart Scale from 1:2,000,000 to 1:3,000,000," 2 May 61.

17. Ltr, Col J. H. Bogert, Ch, DIM, to Hq USAF (AFOOP), "1:3,000,000 JN Charts --Polar Series and Experimental Domestic of the U.S.," 7 Oct 61.

18. Msg, DIMR 38598, SAC to ACIC, "JNC 3A and JNC 4A," 7 Nov 61; Interview, E. R. Caywood, Historian, with Lt Col L. E. Sutton, DIMR, 5 Apr 62, and records maintained by Col Sutton.

19. Interview, E. R. Caywood, Historian, with Lt Col L. E. Sutton, DIMR, 3 Apr 62.

20. Interview, E. R. Caywood, Historian, with Maj F. A. Dierksmeier, 19 Apr 62.

21. Interview, E. R. Caywood, Historian, with Capt L. C. Endsley, DIMG, 19 Apr 62; T-10 Trainer Reports (Jul-Dec 61), maintained by Capt L. C. Endsley, DIMG.

22. Ibid.

23. Memorandum for the Record, "Present AN/APQ-T10 (T-2A Modification) Status," 21 Jun 61, prep by Lt Col L. E. Sutton, DIMR.

24. Msg, AFCIN-3K1 73661, USAF to RJEDBG/ACIC, St. Louis, Mo., 23 Oct 61.

25. Interview, E. R. Caywood, Historian, with Maj F. A. Dierksmeier, DIMR, 19 Apr 62.

26. Trip Report, "Marquardt Corporation, Pomona, Calif.," by 1st Lt R. E. Hamilton, Intel Off, DIMR, 22 Mar 61.

27. Ltr, Lt Col L. E. Sutton, DIMR, to ACIC (ACORC), "Black Light ONC," 11 Apr 60.

28. Ltr, Lt Col L. E. Sutton, DIMR, to ACIC (ACORC), "Black Light ONC," 13 Sep 61.

29. Ltr, Lt Col L. E. Sutton, DIMR, to 15AF (DITP), "Black Light Chart," 1 Mar 61; Ltr, 15 AF (DITP) to SAC (DIMR), "Black Light Chart," 27 Jun 61.

30. Ltr, Lt Col L. E. Sutton, DIMR, to ACIC (ACG), "Black Light ONC," 10 Oct 61.

31. DI Planning Guide, "Guide for JCS/SIOP-62 Charts," Apr 62, by DIM, pp 1-2; Rpt, "SAC Production Specifications for JCS/SIOP JN Charts," 3d Ed., Apr 62, by DIM.

32. Memo for the Record, "Requirements and Distribution of JCS/SIOP-62 Charts (Reprinting)," by SMSgt E. E. Beasley, DIMG, 1 Nov 61.

33. DIT Weekly Activity Report for Period Ending 4 Aug 61, 8 Dec 61, and 22 Dec 61.

34. Ibid., 3 Nov 61.

35. Ibid., 22 Sep 61.

36. Ibid., 27 Oct 61; Interview, E. R. Caywood, Historian, with Col C. E. Becker, DSTPLT, 18 Apr 62.

37. DIT Weekly Activity Report for Period Ending 17 Nov 61.

38. Interview, E. R. Caywood, Historian, with Col H. F. Nau, Ch, Programs Br, DITP, 16 Apr 62; See also following documents for background and current status of 7090: IOM, Col D. H. Ainsworth, Comdr, 544th RTG, to DICD, "AIDS Program System," 8 Nov 61; 1st Ind (TRGXD), 544th RTG, to DICD, 18 Sep 61, to Ltr, Lt Col H. J. Rogers, Dep Ch, DICD, to DIEW, et al., "System Availability," 8 Sep 61; Ltr, Capt R. Newsome, Dep Dir, AIDS/SAC Subsystem (ESSIF), to DIC, "Conversion of Programs," 1 Sep 61; 1st Ind, Lt Col H. J. Rogers, Dep Ch, DIC, to DIT, same subj, 6 Sep 61; IOM, Lt Col W. P. Binks, Ex Off, DI, to DCR, et al., "AIDS Computer Usage," 1 Aug 61; IOM, Col F. R. Cappelletti, Ch, DIT, to DIC, "Computer Usage Scheduling and Priorities," 8 Jan 62.

39. Interview, E. R. Caywood, Historian, with Col H. F. Nau, Ch, Programs Br, DITP, 16 Apr 62; IOM, Col A. L. Pearl, DCR, to DI, et al., "Base Level EDP Equipment Demonstration," 29 Dec 61; DIT Weekly Activity Reports for Period Ending 13 Oct and 20 Oct 61.

40. Study, "SAC Subsystem, Technical Operational Employment (TOE) Aerospace Intelligence Data System (AIDS-SOR 188)," DI, Hq SAC, 1 Mar 62, hereafter cited SAC TOE, 1 Mar 62.

41. Ibid., p 2.

42. Ibid., p 3.

43. Ibid., p 4.

44. Ibid., p 4; Study, "Specific Operational Requirement for an Air Force Intelligence Data Handling System," (SOR No. 188) 22 Aug 61, by Dept of Air Force.

45. SAC TOE, 1 Mar 62, p 5.

46. Agreement. "438/465L Interface," by DI and DPL, 26 Sep 61; IOM, DICD to ESSIF (AIDS Field Office), "Review of IBM Document, 'AIDS/SAC Subsystem Concept,'" 17 Nov 61. An interface meeting was held at IBM/Omaha with personnel of SAC DO, DI, IBM, SDC, IEC, and the respective 438L and 465L SPOs in attendance. The prime purpose of the meeting was to detail terms of the 438L/465L Interface Agreement. Agreement was reached on all major points. (Memo for the Record, "DICD W.A.R. for the Period Ending 1200 Hours, 8 Dec 61," 8 Dec 61.)

47. Interview, E. R. Caywood, Historian, with Maj R. W. McFerrin, DICD, 4 Apr 62.

48. Interview, E. R. Caywood, Historian with Capt J. B. Marks, DIEP, 16 Apr 62; See Chapter III, this history, for additional details regarding reconnaissance operations of the 55th and 4080th wings; 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, same subject, DXIH to DI, 25 Jun 62 (B-83682).

49. Interview, E. R. Caywood, Historian, with Capt J. B. Marks, DIEP, 16 Apr 62; 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, DXIH to DI, same subject, 25 Jun 62 (B-83682).

50. 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, DXIH to DI, same subject, 25 Jun 62 (B-83682).

51. Ibid., Hist of SAC, Jan-Jun 61, Vol II, pp 354-355.

52. DIE Activities Summary for Week Ending 15 Dec 61; 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, DXIH to DI, same subject, 25 Jun 62 (B-83682).

53. DIE Activities Summary for Week Ending 28 Jul 61; 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, DXIH to DI, same subject, 25 Jun 62 (B-83682).

54. Hist of SAC, Jan-Jun 61, Vol II, pp 354-355; 1st Ind, DI to DXIH, "Review of Chapter VI of SAC History for Jul-Dec 61," 6 Jul 62, to IOM, DXIH to DI, same subject, 25 Jun 62 (B-83682).

55. Hist of SAC, Jul-Dec 60, Vol II, pp 360-361.

56. Hist of SAC, Jan-Jun 61, Vol II, p 352.

57. Hist of SAC, Jan-Jun 61, Vol II, pp 353-354.

58. 1st Ind (IOM, DICD to DIE, "AIDS Subsystem Package Program," 10 Oct 61), DIM to DICD, 23 Oct 61.

CHARTS

STATEMENT OF CONDITION

31 December 1961

Aircraft

Heavy Bombardment[1]	
B-52 Bomb Wings	
15 UE	10
30 UE	2
45 UE	2
B-52 Strategic Wings	
15 UE	21
Medium Bombardment, Training, and Reconnaissance Wings[1]	
B-47 Bomb Wings	
45 UE	18
30 UE	1
B-47 Recon Wings	1
B-47 Training Wings	1
B-58 Bomb Wings	2
Aerial Refueling Squadrons[1]	
KC-135 Squadrons	29
KC-97 Squadrons	29
Total Aircraft Assigned[2] (B-52, B-47, B-58, KC-135, KC-97, C-123, U-2)	2,816
Combat Crews Assigned[3]	4,320
Total Hours Flown by Tactical Aircraft[4]	1,266,920

Missiles

Atlas Squadrons[5]	7
Combat Ready Missile Crews Assigned[5]	155

Personnel

Total Number of Officers, Airmen, and Civilians Assigned[6]	280,582

SOURCES:

1. Report, 1-SAC-V1, 31 Dec 61; Report, 2-SAC-V1, 31 Dec 61; Report, 2-SAC-T12, as of 31 Dec 61, 10 Jan 62.

2. Report, SAC Form 466, "SAC Aircraft/Missile Project Status Report," 31 Dec 61.

3. Report, 1-SAC-V1, 31 Dec 61.

4. Report, SD-A3, "Report of Aircraft and Missile Data," Jul-Dec 61; Report, 1-AF-A1, "Report of Aircraft/Missile Operational Data," Jul-Dec 61.

5. Report, 1-SAC-V1, 31 Dec 61; Report, 2-SAC-T12, as of 31 Dec 61, 10 Jan 62.

6. Report, SD-P-21, SAC, 31 Dec 61; Report, SD-P-38, SAC, 31 Dec 61; Report, SD-P2, 31 Dec 61.

CLUTCH PEDAL DISPERSAL BASES*

July-December 1961

SAC Base	Unit	Dispersal Base	Status
2AF			
Forbes	40 BW	Atlantic City, N. J.	Civ
		Andrews AFB, Md.	Hq Comd USAF
Lincoln	307 BW	Chicago O'Hare, Ill.	Civ
		Gen Mitchell, Wisc.	Civ
Lincoln	98 BW	Phelps Collins, Mich.	Civ
		Niagara Falls, N. Y.	Civ
		Bradley, Conn.	Civ
Little Rock	384 BW	Memphis, Tenn.	Civ
		Hulman, Ind.	Civ
Whiteman	340 BW	Lambert, Mo.	Civ
		Langley AFB, Va.	TAC
		Minn.-St. Paul, Minn.	Civ
Chennault	68 BW	England AFB, La.	TAC
		Birmingham, Ala.	Civ
		Dobbins AFB, Ga.	CONAC
8AF			
Homestead	19 BW	Patrick AFB, Fla.	ARDC
Hunter	2 BW	Charleston AFB, S.C.	MATS
		Philadelphia, Pa.	Civ
		Suffolk Co. AFB, N.Y.	ADC
Lockbourne	801 AD	Hancock, N.Y.	Civ
		Philadelphia Inter., Md.	Civ
MacDill	306 BW	Hulbert, Fla.	ARDC
		Brookley AFB, Ala.	AMC
		Darnelly, Ala.	Civ
		New Hanover Co., N.C.	Civ
		Palm Beach, Fla.	Civ
McCoy	321 BW	Olmstead AFB, Pa.	AMC
Pease	509 BW	Logan, Mass.	Civ

SAC Base	Unit	Dispersal Base	Status
15AF			
Davis-Monthan	303 BW	Hill AFB, Utah	AMC
		Luke AFB, Arizona	TAC
Dyess	96 BW	Tinker AFB, Okla.	AMC
		Tulsa, Okla.	Civ
		Truax AFB, Wisc.	ADC
March	22 BW	McCellan AFB, Calif.	AMC
		Oxnard AFB, Calif.	ADC
Mountain Home	9 BW	Portland, Ore.	Civ
		Spokane Muni., Wash.	Civ
Schilling	310 BW	Detroit-Wayne Co., Mich.	Civ

* OpOrd 38-61, SAC, 15 Aug 60, updated Jan 62.

AIRBORNE ALERT INDOCTRINATION TRAINING

Cover All

15 Jan - 31 Mar 61

Bomb Units	Refueling Squadrons	Rates* B-52		Rates* KC-135	
11, Altus AFB	96, Altus AFB	1	2	2	4
4126, Beale AFB	903, Beale AFB	2	0	4	0
4130, Bergstrom AFB	910, Bergstrom AFB	1	2	2	4
95, Biggs AFB	93, Castle AFB	1	2	2	4
28 BW, Ellsworth AFB	28, Ellsworth AFB	1	2	2	4
4039, Griffiss AFB	41, Griffiss AFB	1	0	2	0
72, Ramey AFB	915, Ramey AFB	1	0	2	0
4241, Seymour Johnson AFB	911, Seymour Johnson AFB	1	0	2	0
5, Travis AFB	916, Travis AFB	1	0	2	0
4043, Wright-Patterson AFB	922, Wright-Patterson AFB	1	2	2	4
4134, Mather AFB	904, Mather AFB	0	2	0	4

During this exercise 867 sorties were scheduled, 829 were launched, and 735 were flown as briefed. There were 1724 refuelings scheduled and 1547 completed. Effectiveness was 91.3%.**

* Column 1 indicates the original requirement; Column 2 indicates the requirement after 3 February 1961.

** Per Cent effectiveness is the percentage of sorties versus those scheduled.

SOURCE: Air Operations Schedule FY-61; Msg, DOOPOP 3093, SAC to CofS USAF, 25 Apr 61.

Clear Road

1 Apr - 30 Jun 61

4134, Mather AFB	904, Mather AFB	2	1	4	2
4170, Larson AFB	92, Larson AFB	1	2	2	4
4135, Amarillo AFB	28, Ellsworth AFB		1		2
4238, Barksdale AFB	913, Barksdale AFB		1		2
4123, Clinton-Sherman AFB	902, Clinton-Sherman AFB		1		2
7, Carswell AFB	34, Offutt AFB		1		2
11, Altus AFB	96, Altus AFB		1		2
4043, Wright-Patterson AFB	922, Wright-Patterson AFB		2		4
4228, Columbus AFB	901, Columbus AFB		1		2
4130, Bergstrom AFB	910, Bergstrom AFB		1		2

During the exercise 1088 sorties were scheduled, 1060 were airborne, and 882 were flown as briefed. There were 2176 refuelings scheduled and 1875 completed. Effectiveness was 97.2%.

SOURCE: Air Operations Schedule FY-61; Msg, DOOPOP 0768, SAC to JCS, 2 Aug 61.

Keen Axe

1 Jul - 30 Sep 61

Bomber Unit	Refueling Squadron	No. of Sorties Bomber	Tanker
4228, Columbus AFB	901, Columbus AFB	1	2
4123, Clinton-Sherman AFB	902, Clinton-Sherman AFB	1	2
7, Carswell AFB	34, Offutt AFB	1	2
4133, Barksdale AFB	913, Barksdale AFB	1	2
4043, Wright-Patterson AFB	922, Wright-Patterson AFB	1	2
4130, Bergstrom AFB	910, Bergstrom AFB	1	2
99, Westover AFB	99, Westover AFB	2	4
4138, Turner AFB	919, Turner AFB	1	2
4134, Mather AFB	904, Mather AFB	1	2
4170, Larson AFB	43, Larson AFB	1	2
4128, Amarillo AFB	28, Ellsworth AFB	1	2
		12	24

During Keen Axe 1104 sorties were scheduled and 1063 were airborne. There were 2208 refuelings scheduled and 1934 completed. The effectiveness was 96.1%.

SOURCE: Air Operations Schedule (Peacetime) FY 62, as amended to 3 Nov 61; Msg, DOCPOP 2864, SAC to JCS, 17 Oct 61.

Wire Brush

1 Oct - 5 Nov 61

4123, Clinton-Sherman AFB	902, Clinton-Sherman AFB	1	2
7, Carswell AFB	34, Offutt AFB	1	2
2, Wright-Patterson AFB	2, Wright-Patterson AFB	1	2
99, Westover AFB	99, Westover AFB	2	4
4138, Turner AFB	919, Turner AFB	1	2
92, Fairchild AFB	92, Fairchild AFB	1	2
28, Ellsworth AFB	28, Ellsworth AFB	1	2
4170, Larson AFB	43, Larson AFB	1	2
95, Biggs AFB	93, Castle AFB	1	2
4141, Glasgow AFB	22, McChord AFB	1	2
4043, Wright-Patterson AFB	922, Wright-Patterson AFB	1	2
		13	26

In Wire Brush 422 sorties were scheduled and 388 sorties were airborne. In refuelings, 844 were scheduled, and 721 completed. The effectiveness was 92.1%.

SOURCE: Air Operations Schedule (Peacetime) FY 62, as amended to 3 Nov 61; Msg, DOCPOP 4528, SAC to JCS, 11 Dec 61.

Chrome Dome

6 Nov 61 -

Unit	Base	Sortie	Route
4141 SW	Glasgow AFB, Montana	1	North
28 SW	Ellsworth AFB, S. D.	1	North
4245 SW	Sheppard AFB, Texas	1	North
7 BW	Carswell AFB, Texas	1	North
4123 SW	Clinton-Sherman AFB, Okla.	1	North
4170 SW	Larson AFB, Washington	1	North
99 BW	Westover AFB, Mass.	2	BMEWS Monitor
4043 SW	Wright-Patterson AFB, Ohio	1	South
4138 SW	Turner AFB, Georgia	1	South
4047 SW	McCoy AFB, Florida	1	South
4228 SW	Columbus AFB, Miss.	1	South

SOURCE: Air Operations Schedule (Peacetime) FY 62, as amended to 3 Nov 61.

SAC 1961 BOMB COMPETITION

Statistical Analysis of Equipment - Bombardment

High Altitude

Type	First Release			Second Release		
	Runs	R/F	CEA	Runs	R/F	CEA
MA7A	12	100%	888	12	91.7%	1227*
ASQ-38	11	100%	1000	11	100%	1359

Low Altitude

MA7A	11	81.8%	1883*	11	72.7%	1747*
ASQ-38	12	100%	1183	12	100%	873*

* Unreliable Scores Excluded

The MA7A and ASQ-38 equipment revealed an excellent high altitude bombing capability. Analysis shows that the MA7A and ASQ038 had similar high altitude bombing results and that the first release was the better of the two releases on a synchronous, Large Charge bomb run. The ASQ-38 indicated a much better capability than the MA7A during low altitude bombing. (U)

SOURCE: Extract, from Final Report, 1961 Combat Competition, in DXIH.

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Crew Performance - Bombing

High Altitude

	Release #1			Release #2		
Type Crew	Runs	R/F	CEA	Runs	R/F	CEA
Select	12	100%	948	12	91.6%	2879
Senior	11	100%	934	11	100%	964
Type Acft						
B-47	12	100%	888	12	91.6%	2517
B-52	11	100%	1000	11	100%	1359

Low Altitude

Type Crew						
Select	13	92.3%	1810	13	9 .3%	4067
Senior	10	90%	1580	10	[illegible]%	2900
Type Acft						
B-47	11	81.8%	2234	11	72.7%	6491
B-52	12	100%	1183	12	100%	873

SOURCE: Extract, from Final Report, 1961 Combat Competition, in DXIH.

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Crew Performance - Navigation

	High				Low		
		Corridor	Termination				
Crew	Legs	CEA	CEA	R/F	Legs	CEA	R/F
Select	13	8.0	17.8	84.6%	13	1.36	100%
Senior	11	8.4	12.3	90.9%	11	1.64	100%
Crew Acft							
B-47	12	8.3	18.3	83.3%	12	1.70	100%
B-52	12	8.0	12.2	91.7%	12	1.28	100%

SOURCE: Extract, from Final Report, 1961 Combat Competition, in DXIH.

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Air Refueling Times

	Minimum	Maximum	Average
B-47/KC-97	3:53	11:30	5:23
B-47/KC-135	7:45	9:48	8:36
B-52/KC-97	5:40	8:57	6:37
B-52/KC-135	9:10	11:38	9:59
B-47 Crossover	1:45	5:33	4:01
B-52 Crossover	3:31	5:03	4:16

Disconnects

(Number of disconnects experienced by bomber crews with each type tanker)

	0	1	2	3	4 or more
B-47/KC-97	5	4	2	1	0
B-47/KC-135	2	4	0	0	0
B-52/KC-97	0	8	2	1	0
B-52/KC-135	3	1	1	1	0

SOURCE: Extract, from Final Report, 1961 Combat Competition, in DXIH.

MAJOR SUBORDINATE COMMANDS

31 December 1961

Headquarters Strategic Air Command, General Thomas S. Power, CINC

Offutt AFB, Nebraska (Command Headquarters)

Second Air Force - Lieutenant General J. D. Ryan, Commanding

Barksdale AFB, Louisiana (Headquarters)
Altus AFB, Oklahoma
Bergstrom AFB, Texas
Blytheville AFB, Arkansas
Bunker Hill AFB, Indiana
Carswell AFB, Texas
Chennault AFB, Louisiana
Clinton-Sherman AFB, Oklahoma
Columbus AFB, Mississippi
Forbes AFB, Kansas
Laughlin AFB, Texas
Lincoln AFB, Nebraska
Little Rock AFB, Arkansas
McConnell AFB, Kansas
Whiteman AFB, Missouri
Wurtsmith AFB, Michigan
Churchill RCAF Station, Canada
Frobisher Airport, Canada (RCAF)

Tenant Bases
Kincheloe AFB, Michigan (ADC)
K. I. Sawyer AFB, Michigan (ADC)
Randolph AFB, Texas (AFC)
Selfridge AFB, Michigan (ADC)
Sheppard AFB, Texas (AFC)
Wright-Patterson AFB, Ohio (AFLC)
Sondrestrom AB, Greenland

Eighth Air Force - Lieutenant General Hunter Harris, Jr., Commanding

Westover AFB, Massachusetts (Headquarters)
Dow AFB, Maine
Ernest Harmon AFB, Newfoundland*
Goose AFB, Labrador**
Homestead AFB, Florida
Hunter AFB, Georgia
Lockbourne AFB, Ohio

Loring AFB, Maine
MacDill AFB, Florida
McCoy AFB, Florida
Pease AFB, New Hampshire
Plattsburgh AFB, New York
Ramey AFB, Puerto Rico
Turner AFB, Georgia

Tenant Bases
Dover AFB, Delaware (MATS)
Eglin AFB, Florida (AFSC)
Griffiss AFB, New York (AFLC)
Kindley AFB, Bermuda (MATS)
McGuire AFB, New Jersey (MATS)
Otis AFB, Massachusetts (ADC)
Robins AFB, Georgia (AFLC)
Seymour Johnson AFB, North Carolina (TAC)

Fifteenth Air Force - Lieutenant General A. J. Old, Jr., Commanding

March AFB, California (Headquarters)
Beale AFB, California
Biggs AFB, Texas
Castle AFB, California
Davis-Monthan AFB, Arizona
Dyess AFB, Texas
Ellsworth AFB, South Dakota
Fairchild AFB, Washington
F. E. Warren AFB, Wyoming
Glasgow AFB, Montana
Larson AFB, Washington
Malmstrom AFB, Montana
Mountain Home AFB, Idaho
Schilling AFB, Kansas
Walker AFB, New Mexico
Cold Lake RCAF Station, Canada
Namao RCAF Station, Canada

Tenant Bases
Amarillo AFB, Texas (ATC)
Grand Forks AFB, North Dakota (ADC)
Hill AFB, Utah (AFLC)
Lowry AFB, Colorado (ATC)
Mather AFB, California (ATC)
McChord AFB, Washington (ADC)
Minot AFB, North Dakota (ADC)
Travis AFB, California (MATS)
Elelson AFB, Alaska (AAC)
Elmendorf AFB, Alaska (AAC)

Sixteenth Air Force - Major General David Wade, Commanding

Torrejon AB, Spain (Headquarters)
Moron AB, Spain
Zaragoza AB, Spain
Benguerir AB, Morocco
Nouasseur AB, Morocco (Hq 4310 AD, Brig Gen R. B. Miller, Commanding)
Sidi Slimane AB, Morocco

Tenant Base
Lajes AB, Azores (MATS)

1st Strategic Aerospace Division - Major General J. J. Preston, Commanding

Vandenberg AFB, California

3rd Air Division - Major General W. C. Kingsbury, Commanding

Andersen AFB, Guam

7th Air Division - Major General E. B. Broadhurst, Commanding

(Headquarters at High Wycombe USAB, UK)***
Brize Norton RAF Station, UK
Fairford RAF Station, UK
Greenham Common RAF Station, UK
Upper Heyford RAF Station, UK

RECAP:	ZI Bases	Overseas
SAC Owned	46	16
SAC Tenanted	22	4
	68	20

TOTAL - 88

* Base designated ZI because a POS unit was stationed there.

** No POS unit stationed on the base.

*** High Wycombe not included in operational base totals because it had no airfield.

SOURCE: SAC Manual 20-14, "Directory of SAC Organizations," revised 10 Aug 61, 31 Dec 61.

HEAVY BASE STRUCTURE

Second Air Force

Command Base	Dispersal Base
Barksdale AFB, Louisiana Hq 4th Air Div 4238th SW	Blytheville AFB, Arkansas 97th BW Columbus AFB, Mississippi 4228th SW
Carswell AFB, Texas Hq 19th Air Div 7th BW	Bergstrom AFB, Texas 4130th SW
Altus AFB, Oklahoma Hq 816th Air Div 11th BW	Clinton Sherman AFB, Oklahoma 4123d SW Sheppard AFB, Texas (ATC) 4245th SW
Wurtsmith AFB, Michigan Hq 40th Air Div 379th BW	K. I. Sawyer AFB, Michigan (ADC) 4042d SW Kincheloe AFB, Michigan (ADC) 4239th SW Wright-Patterson AFB, Ohio (AFLC) 4043d SW

Eighth Air Force

Westover AFB, Massachusetts Hq 57th Air Div 99th BW	
Dow AFB, Maine Hq 6th Air Div 4038th SW	Griffiss AFB, New York (AFLC) 4039th SW
Loring AFB, Maine Hq 45th Air Div 42d BW	
Turner AFB, Georgia Hq 822d Air Div 4138th SW	Eglin AFB, Florida (AFSC) 4135th SW Robins AFB, Georgia (AFLC) 4137th SW Seymour Johnson AFB, North Carolina (TAC) 4241st SW
Homestead AFB, Florida 823d Air Div	McCoy AFB, Florida 4047th SW
Ramey AFB, Puerto Rico 72d BW	

Fifteenth Air Force

Biggs AFB, Texas
Hq 810th Air Div
95th BW

Beale AFB, California
Hq 14th Air Div
4126th SW

Castle AFB, California
Hq 47th Air Div
93d BW

Ellsworth AFB, South Dakota
Hq 821st Air Div
28th BW

Fairchild AFB, Washington
Hq 26th Air Div
92d BW

Amarillo AFB, Texas (ATC)
4128th SW

Travis AFB, California (MATS)
5th BW
Mather AFB, California (ATC)
4134th SW

Walker AFB, New Mexico
6th BW

Grand Forks AFB, North Dakota (ADC)
4133d SW
Glasgow AFB, Montana
4141st SW
Minot AFB, North Dakota (ADC)
4136th SW

Larson AFB, Washington
4170th SW
McChord AFB, Washington (ADC)
22d AREFS (H)

SOURCE: SAC Manual 20-14, "Directory of SAC Organizations," Revised 10 Aug 61, 31 Dec 61.

MEDIUM BASE STRUCTURE

Second Air Force

Command Base and Units	Assigned Base and Units
Whiteman AFB, Missouri Hq 17th Air Div 340th BW (M) 340th AREFS (M)	Selfridge AFB, Michigan (ADC) 4045th ARW (M)
McConnell AFB, Kansas Hq 42d Air Div 4347th CCTW	Randolph AFB, Texas (ATC) 4397th ARW (Training)
Forbes AFB, Kansas Hq 21st Air Div 55th SRW (M) 55th ARS (M) 40th BW (M) 90th ARS (M)	
Lincoln AFB, Nebraska Hq 818th Air Div 96th BW (M) 98th ARS (M) 307th BW (M)	
Little Rock AFB, Arkansas Hq 825th Air Div 384th BW (M) 70th BW (M) 70th ARS (M)	Chennault AFB, Louisiana 68th BW (M)
Carswell AFB, Texas Hq 19th Air Div 43d BW (M) (B-58s)	Bunker Hill AFB, Indiana 305th BW (M) (B-58s) 68th ARS (H)

Eighth Air Force

Plattsburgh AFB, New York
Hq 820th Air Div
380th BW (M)
4108th ARW
26th ARS (M)
380th ARS (M)

Pease AFB, New Hampshire
Hq 817th Air Div
100th BW (M)
100th ARS (M)
509th BW (M)
509th ARS (M)

Homestead AFB, Florida
  823d Air Div

Westover AFB, Massachusetts
  Hq 57th Air Div
    4050th ARW
    384th ARS

Lockbourne AFB, Ohio
  Hq 801st Air Div
    301st BW (M)
    321st ARS (M)
    376th BW (M)
    91st ARS (M)

Dow AFB, Maine
  Hq 6th Air Div
    Hq 4038th SW
    71st ARS (M)
    341st ARS (M)

MacDill AFB, Florida
  306th BW (H)
Hunter AFB, Georgia
  2d BW (H)

McGuire AFB, New Jersey (MATS)
  305th ARS (M)
Kindley AFB, Bermuda (MATS)
  303d ARS (M)
Dover AFB, Delaware (MATS)
  11th ARS (M)

Otis AFB, Massachusetts (ADC)
  19th ARS (M)

Fifteenth Air Force

Davis-Monthan AFB, Arizona
  Hq 12th Air Div
    303 BW (M)

Mountain Home AFB, Idaho
  Hq 813th Air Div
    9th BW (M)
    9th ARS (M)

Dyess AFB, Texas
  Hq 819th Air Div
    96th BW (M)

Castle AFB, California
  47th Air Div

Malmstrom AFB, Montana
  97th ARS (M)

Schilling AFB, Kansas -
  310th BW (M)
  40th ARS (M)
  310th ARS (M)

March AFB, California
  22d BW (M)
  320th ARS (M)

SOURCE: SAC Manual 20-14, "Directory of SAC Organizations," Revised 10 Aug 61, 31 Dec 61.

PERSONNEL AUTHORIZED, ASSIGNED

31 December 1961

TOTAL SAC	
Officers[1]	
Auth	38,999
Ass'd	36,791
Effectively Ass'd	36,752
Warrant Officers[2]	
Ass'd	764
Airmen[3]	
Auth	213,721
Ass'd	216,148
Civilians[4]	
Auth	26,422
Ass'd	26,879
HQ SAC	
Officers[5]	
Auth	971
Ass'd	849
Warrant Officers[6]	
Ass'd	24
Airmen*[7]	
Auth	1,146
Ass'd	1,180
Civilians[8]	
Auth	497
Ass'd	499

* Includes personnel assigned to 3902d Support Squadron.

1. Rept, SAC SD-P-38, Jul-Dec 61; Rept, SAC SD-P2, Jul-Dec 61.
2. Ibid.
3. Rept, SAC SD-P-21, Jul-Dec 61; Rept, SAC SD-P2, Jul-Dec 61.
4. Rept, SAC SD-P2, Jul-Dec 61.
5. Rept, SAC SD-P4, Dec 61.
6. Ibid.
7. Ibid.
8. Rept, SD-Q2, SAC, Dec 61.

ROSTER OF KEY PERSONNEL, HEADQUARTERS SAC

1961

Position	Name	Inclusive Dates of Command From	To
Commander in Chief	General Thomas S. Power	1 Jul 57	
Vice Commander in Chief	Lt Gen Francis H. Griswold [1]	3 May 54	1 Jul 61
	Lt Gen John P. McConnell	1 Jul 61	
Chief of Staff	Maj Gen Edwin B. Broadhurst [2]	15 Dec 57	1 Aug 61
	Maj Gen James H. Walsh	1 Aug 61	
Director of Operations	Maj Gen William H. Blanchard [3]	21 Jan 60	7 Sep 61
	Maj Gen Keith K. Compton	7 Sep 61	
Deputy Director of Operations	Maj Gen Keith K. Compton [4]	22 Jul 58	7 Sep 61
	Maj Gen Austin J. Russell	7 Sep 61	
Operations Plans Division	Maj Gen Charles M. Eisenhart	3 Aug 59	
Communication-Electronics Div	Brig Gen Gordon T. Gould, Jr.	1 Jul 60	
Director of Plans	Maj Gen Hewitt T. Wheless	24 Sep 60	
Deputy Director of Plans	Brig Gen Seth J. McKee [5]	8 Oct 59	
Director of Personnel	Maj Gen William K. Martin [6]	1 Aug 59	14 Jul 61
	Maj Gen Austin J. Russell [7]	14 Jul 61	7 Sep 61
	Brig Gen William B. Kieffer	7 Sep 61	
Director of Materiel	Maj Gen James W. Wilson	5 Jul 60	
Deputy Director of Materiel	Brig Gen K. R. Powell [8]	9 Jul 61	
Director of Civil Engineering	Brig Gen James B. Knapp	1 Jul 57	
Director of Intelligence	Brig Gen Robert N. Smith	Jul 52	
Director of Information	Col Donald C. Foster	31 May 57	

Position	Name	Inclusive Dates of Command From	To
Surgeon	Brig Gen T. C. Bedwell[8]	1 Sep 59	10 Jan 61
	Brig Gen John R. McGraw	10 Jan 61	14 Aug 61
	Colonel Alonzo A. Towner[9]	14 Aug 61	
Staff Judge Advocate	Colonel Robert R. Dickey	14 Apr 60	1 Dec 61
	Brig Gen Paul W. Norton[10]	1 Dec 61	

1. DAF SO AA-1085, 14 Jun 61.
2. Hq SAC SO G-100, 4 Aug 61.
3. DAF SO AA-1534, 31 Aug 61.
4. Ibid.
5. Hq SAC GO 92, 22 Oct 59.
6. DAF SO AA-834, 18 May 61.
7. DAF SO AA-1534, 31 Aug 61.
8. SAC SO G-9, 30 Jan 61.
9. 2AF SO A-541, 7 Aug 61; Hq SAC SO P-155, 18 Oct 61.
10. Hq SAC SO P-184, 21 Nov 61.
11. DAF SO AA-655, 28 Apr 61.

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AIRCRAFT - MISSILE INVENTORY AS OF 31 DECEMBER 1961

AIRCRAFT	UNITS																								
	2	9	22	40	55	68	70	96	98	100	301	303	306	307	310	340	376	380	384	509	4347	3 AD	7 AD	16 AF	TOTAL
B-47 E	46	49	49	48		49	32	49	48	48		46	50	47	48	48		48	50	46	83	1	2	2	889
ER-47 H					3																				3
E-47 E					2						46						46								94
R-47 E					2																	1	1	1	5
R-47 H					22																				22
R-47 K					14																				14
TOTALS	46	49	49	48	43	49	32	49	48	48	46	46	50	47	48	48	46	48	50	46	83	2	3	3	1027

AIRCRAFT	UNITS																																		
	5	6	7	11	28	42	72	92	93	95	97	99	379	4038	4039	4042	4043	4047	4123	4126	4128	4130	4134	4135	4136	4137	4138	4141	4170	4228	4238	4239	4241	4245	TOTAL
B-52 B									24	17																									41
B-52 C												31																							31
B-52 D					18			18										16			18	17					17	18	17					18	157
B-52 E		37		14													14		13																78
B-52 F			12						14														12							12	14				64
B-52 G	14					24	15				13			13	14					14				12		14							14		147
B-52 H													16			15									15							7			53
TOTALS	14	37	12	14	18	24	15	18	38	17	13	31	16	13	14	15	14	16	13	14	18	17	12	12	15	14	17	18	17	12	14	7	14	18	571

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AIRCRAFT - MISSILE INVENTORY AS OF 31 DECEMBER 1961

AIRCRAFT	2	9	11	19	26	40	44	55	70	71	90	91	97	98	100	301	303	305	306	307	310	320	321	340	341	376	380	384	509	4082	4392	4397	16 AF	TOTAL
KC-97 F						11											12		12		11	22		13						1	1	28	1	112
KC-97 G	22	21	22	22	23	11	21	22	22	22	22	21	22	20	23	11	10	21	10	22	10	—	21	9	21	22	22	22	22	—	—	—	—	539
TOTALS	22	21	22	22	23	22	21	22	22	22	22	21	22	20	23	11	22	21	22	22	21	22	21	22	21	22	22	22	22	1	1	28	1	651

UNITS

AIRCRAFT	6	22	28	34	41	42	43	46	68	92	93	96	99	901	902	903	904	905	906	910	911	913	915	916	917	919	920	922	924	TOTAL
KC-135 A	22	16	20	23	20	20	20	21	21	20	21	20	21	12	10	11	12	11	11	11	10	11	10	11	11	11	11	10	16	444

UNITS

AIRCRAFT	43	305	340	824	825	4080	2	42	306	820	6	9	92	95	310	TOTAL
B-58 A	39	23														62
TB-58 A	3	1														4
C-123 B		2	3	3	2	2	2	4	3	3	2	2	3	2	2	35
TF-102A	3															3
U-2						26										26

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AIRCRAFT - MISSILE INVENTORY AS OF 31 DECEMBER 1961

UNITS

Type of Missile	5	6	11	42	72	97	379	395	548	549	546	545	566	567	576	4038	4039	4043	4126	4134	4135	4136	4137	4221	4228	4238	TOTAL
GAM-72A QUAIL	11		32	64	32	32										32	32	32	6		41	20	32	31			397
GAM-77 HOUND DOG			12	24	14	14										11	12	12			14		12	16		12	153
GAM-77A HOUND DOG	12	2					11												20	11		1			20		77
SM-65D ATLAS										10	7	10			3												30
SM-65E ATLAS									10				10	10	2												32
SM-68A TITAN								1																			1
TOTALS	23	2	44	88	46	46	11	1	10	10	7	10	10	10	5	43	44	44	26	11	55	21	44	47	20	12	690

SOURCE: SAC AIRCRAFT PROJECT STATUS REPORT, AS OF 31 DECEMBER 1961, 3 JANUARY 1962

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TOTAL HOURS FLOWN

1961

B-58	8,815
B-52	334,462
B-47	476,557
KC-97	250,675
KC-135	190,450
Total Tactical Hours Flown	1,266,920
Total Non-Tactical Hours Flown	323,488
Overall Hours Flown	1,590,408

SOURCE: SD-A3, "Report of Aircraft and Missile Data," Jan-Jun 61; Ibid., Jul-Dec 61; 1-AF-A1, "Report of Aircraft and Missile Operational Data," Jul-Dec 61.

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AIRCRAFT ACCIDENT RATE

January-June 1961

Aircraft Type	Accidents	Destroyed	Fatalities	Rate
B-52	4	4	14	2.53
B-47	9	8	21	3.51
B-58	1	1	3	27.83
KC-135	1	0	0	1.16
KC-97	1	1	5	.79
L-20	1	0	0	3.66
T-33	6	3	2	13.29
TF-102	2	1	1	208.77
C-54	1	0	0	7.31
H-43B	1	0	0	53.08
	27	18	46	

Cumulative Accident Rate for January-June 1961 - 3.39

SOURCE: The SAC Safety Memo, July 1961, published by DOSD.

AIRCRAFT ACCIDENT RATE

July-December 1961

Aircraft Type	Accidents	Destroyed	Fatalities	Rate
B-52	1-1/2*	1	8	.83
B-47	4	4	9	1.82
B-58	1	1	0	19.15
KC-135	1-1/2*	0	0	.48
KC-97	0	0	0	0
L-20	0	0	0	0
T-33	1	1	0	2.44
TF-102	0	0	0	0
C-54	0	0	0	0
H-43B	1	0	0	253.16

Cumulative accident rate for July-December 1961 - 1.25

* A B-52 and a KC-135 shared equally in the responsibility for a mid-air collision.

SOURCE: Chart, "Aircraft Accidents," Jul-Dec 61, DOSDF; Rpt, SAC Form 284, "Safety Analysis Work Sheet," 31 Dec 61.