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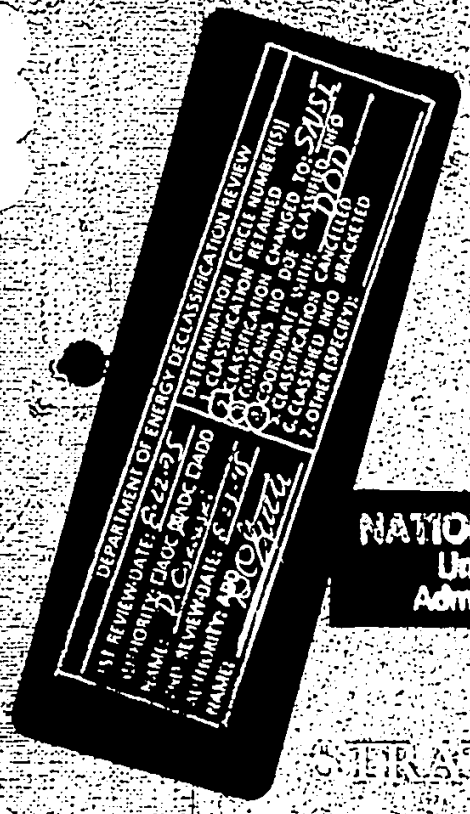
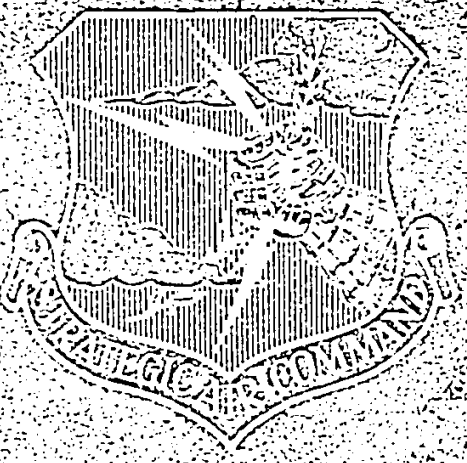
STRATEGIC AIR COMMAND





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Offutt Air Force Base, Nebraska

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CHAPTER III

AIRBORNE ALERT, 1958 - 1959

A force had to be secure to be effective. How secure it was depended upon the type of threat it faced during a particular time period. Before 1950 the threat to SAC's strike force was almost negligible. It consisted of Russia's copy of the U. S. B-29, the TU-4, carrying conventional weapons. By 1956 the threat had become more formidable with the appearance of Soviet jet bombers such as the Bison and Bear. By that time Russia also had the atomic bomb in its weapons inventory. During fiscal year 1959 the intercontinental bomber threat still held the center of the stage. But a new "player" which had received much advanced publicity waited in the "wings," the ballistic missile. (U)

The ground alert force insured survival of a potent retaliatory force if warning could be guaranteed. But warning could not be guaranteed during the crucial 1961-63 period when Soviet missiles would pose a threat not equalled by the United States. This situation created the much publicized "missile gap." (S)
U

National intelligence estimates for these years credited the Soviet Union with 200 to 300 intercontinental missiles

and 700-800 intermediate range missiles.[183] Strategic Air Command War Games for 1961-62 concluded this stockpile was sufficient to destroy all SAC and other United States and Allied nuclear retaliatory forces even if these forces were on a ground alert.[184] In this connection, the Ballistic Missile Early Warning System (BMEWS), designed to give early warning of missile launchings, would not be completely operational by 1961. But even when it did become operational it could not guarantee "clear and unequivocal" warning.[185] (S) U

Since it was doubtful the United States would have as many operational missiles as the Soviet Union during the 1961-63 time period, General Power strongly advocated maintaining a portion of the manned bomber force on an airborne alert. During FY-59 operational tests proved that such a posture could become a routine weapon in SAC's deterrent arsenal. (S) U

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183. Brochure, "SAC Airborne Alert Concept," prep by Maj J. D. Elliott, DPLBP, 4 Nov 58, in DPL Central Files; TWX, C 3947, personal from Gen T. S. Power, CINCSAC, to Gen T. D. White, CofS, USAF, "SAC Force Structure," 8 Oct 58, Ex 6, Chap II, Vol I, History of SAC, Jul 58-Jun 59.

184. "SAC War Games of Programmed 1962 Force," n.d., (B-69437), p 59, in DXIH.

185. TWX, C3947, personal from Gen T. S. Power, CINCSAC, to Gen T. D. White, CofS, USAF, "SAC Force Structure," 8 Oct 58, Ex 6, Chap II, Vol I, History of SAC, Jul 58-Jun 59.

Background. Airborne alert was a giant step forward in SAC's program to insure survival of a retaliatory force, but the program did not evolve overnight. For several years prior to 1958 SAC had some form of airborne alert in mind, but the state of the art precluded its introduction into the command's arsenal of tactics.[186] (C) U

Brigadier General K. K. Compton* made the first formal recommendation for implementation of a form of air alert when he held the position of Commander, 823rd Air Division. It was part of his "Simplex" proposal made in September 1956. In October 1957 a study group within the Combat Operations Branch, Directorate of Operations, Headquarters Second Air Force, headed by Major R. W. Daniels, began a study of the concept.[187] (S) U

In early November the results of their research, called CURTAIN RAISER, were presented by Major Daniels to the Commander,

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* Since promoted to Maj Gen, and in July 1959 was Deputy Director of Operations, Hq SAC.

186. Info from Maj W. B. Kamp, Special Projects Officer, Mission Branch, DO, Hq SAC, 15 Aug 58.

187. Info from Lt Col R. W. Daniels (subsequently promoted from Major and assigned to Hq SAC), DOPLM, 30 Aug 58; Info from Maj F. G. Lester, DPLBC, 7 Oct 58. The "Simplex" presentation by Gen Compton contained the basic proposal for REFLEX ACTION. "Simplex" also stated that aircraft on their way to the forward base could be configured so as to have an immediate EWP capability (airborne alert.)

Second Air Force, and the Director of Operations. Later in the month, Major Daniels brought the proposal to Headquarters SAC, where he presented it to the FY-59 EWP Planning Board. Initially, airborne alert tests were considered for four bomb wings--the 72nd (B-36), 2nd (B-47), 340th (B-47), and 92nd (B-52). Subsequently, however, it was decided to test only the 72nd Bomb Wing portion of the proposal.[188] (S) (U)

On 2 December 1957 the Second Air Force sent the 72nd Bomb Wing, Ramey AFB, Puerto Rico, advanced information on the CURTAIN RAISER concept. The wing was directed to work up the details for beginning the operation.[189] In the meantime,

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186. SAC was authorized to maneuver only atomic weapons on its own authority. The B-36 was the only command aircraft for this weapon. SAC's jet bombardment fleet was normally configured to carry only hydrogen (TN) weapons, and could maneuver these weapons only with Presidential authority. A modification could be made to allow delivery of atomic weapons from B-47s and B-52s, but it required time consuming maintenance, numerous changes in the SAC war plan, and it would preclude realistic combat crew training deemed very necessary by the command. As of the end of June 1958 SAC had not received the authority to maneuver TN weapons (Info from Maj W. B. Kamp, Special Projects Officer, DOPLM, 27 Aug 58.)

189. TWX, DODPS 14885, Comdr 2AF, to Comdr 72nd BW, "Airborne Alert," 2 Dec 57, Ex 37, Chap II, Vol IV, History of SAC, Jan-Jun 58.

in early Jan 1958, Maj Gen J. P. McConnell, Commander, Second Air Force, and Major Daniels presented a briefing to the CINCSAC in which they proposed only the 72nd Bomb Wing test.[190] General Power quickly gave his approval to the project, and on 10 January the 72nd Bomb Wing received an order to begin the operation three days later. Operations Order 17-58 called initially for a 60-day test, but results of the test were excellent and the operation was extended to 1 June 1958.[191] (S) U

The first tactical aircraft of the 72nd Bomb Wing took off on schedule at 1700Z, 13 January 1958. The wing was to maintain a strike aircraft on airborne alert 24 hours a day, seven days a week, for the duration of the operation. One aircraft provided alert coverage by deploying daily from Ramey AFB to Nouasseur AB, and one aircraft returned daily from Nouasseur to Ramey. (S) U

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190. Briefing, Second Air Force to SAC, presented by Maj Gen J. P. McConnell, Comdr 2AF, CURTAIN RAISER, 8-9 Jan 58, Ex 38, Chap II, Vol IV, History of SAC, Jan-Jun 58.

191. Final Report, "Operation CURTAIN RAISER," 72nd Bomb Wing, 27 Jun 58, in DXIH.

During the four and one-half month operation all combat crews of the 72nd Bomb Wing flew five alert cycles, and more than half flew six cycles.[192] Officers and key supervisors rotated every 30 days. Support personnel served 60 days.[193] (8) 4

The B-36 proved an excellent vehicle for the test. Only 14 hours (.004 percent) during the 139 day period of CURTAIN RAISER were not covered by an airborne B-36.[194] The short duration of TDY and the high morale of personnel involved were two other strong points of the operation. Although crews knew

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192. The exact cycle was:
a. One aircraft took off from Ramey AFB at 1700Z and maintained an airborne alert capability until 1030Z.
b. Another aircraft took off from Nouasseur AB at 1030Z and maintained airborne alert until 1900Z.

Alert crews adhered to a weekly schedule as follows;
a. 1700Z Monday-Depart Ramey on Airborne Alert
b. 1030Z Tuesday-Airborne off alert (landing at Nouasseur)
c. 1330Z Tuesday-Crew rest and maintenance
d. 0930Z Thursday-Ground Alert (Reflex, 30 minutes)
e. 0930Z Saturday-Stations and take-off procedures
f. 1030Z Saturday-Airborne Alert (Ramey bound)
g. 1700Z Saturday-Airborne off Alert
h. 0500Z Sunday-Land Ramey

(Final Report, "Operation CURTAIN RAISER," 72nd Bomb Wing, 27 Jun 58, in DXIH.)

193. Ibid.

194. Second Air Force Monthly Analysis, RCS: SAC-U54, 20 Jul 58, in DXIH.

they could get a "Go" word and thereby be involved in combat, they believed in the purpose and practicality of the mission, and they knew that they were performing a vital function. For these same reasons, maintenance personnel knew that the aircraft had to be in the best of condition. Also contributing to high morale was the consistent work cycle and the absence of long, drawn-out TDY. The incentive inspired in those participating in the airborne alert test was one of the most valuable lessons learned. (S)
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Notwithstanding the overall success of the operation, there were numerous problems encountered at the outset of the exercise. One of the weakest areas of the CURTAIN RAISER exercise was the lack of airborne alert coverage at 1030Z (landing and take-off at Nouasseur.) In subsequent operations this problem could be resolved by insuring a scheduled overlap at both ends of the flight. Another problem encountered was the inadequate alerting facilities at Nouasseur. Initially, only telephones were used to notify crews of an alert. Later, Klaxon horns were installed. These partially solved the problem; however, the high background noise level made this system only marginally acceptable. Other problems were the necessity of manning two command posts, poor personnel facilities at the forward base, and a periodic maintenance cycle too short

to permit generation of the required amount of flying hours. The latter problem was successfully resolved by extending the periodic cycle from 150 to 200 hours.[195] (S) U

The Struggle for Recognition. Even before the beginning of the CURTAIN RAISER test, on 23 December 1957, General Power indicated a desire to establish some form of permanent airborne alert. Soon after the introduction of sealed pit weapons into the SAC inventory, he envisioned the alert force flying off in the direction of the target as a routine rather than an exceptional operation. The CINCSAC planned to apply this concept to all Unit Simulated Combat Missions (USCMs) and other large scale exercises.[196] (S) U

The Operations Plans Division in the Directorate of Operations, Headquarters SAC, was the agency responsible for coordinating the planning for airborne alert. On 3 February 1958 it formed an Ad Hoc committee to formulate plans and procedures for the establishment of a form of airborne alert throughout SAC.[197] (S) U

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195. Final Report, "Operation CURTAIN RAISER," 72nd Bomb Wing, 27 Jun 58, in DXIH.

196. Memo for the Record, Maj Gen R. H. Terrill, Dir of Ops, Hq SAC, 27 Dec 58, Ex 39, Chap II, Vol IV, History of SAC, Jan-Jun 58.

197. Memo for the Record, Maj W. B. Kamp, Ops Plans Div, D/Ops, Hq SAC, 3 Feb 58, Ex 40, Chap II, Vol IV, History of SAC, Jan-Jun 58.

During the Committee's meetings numerous concepts were advanced. These were all studies from the viewpoint of how they would fit into the war plan and physical situation of individual SAC units. The committee determined that no one concept would serve the needs of the whole command. For some units CURTAIN RAISER procedures would suffice. In other units a "round robin" type of operation (launching from and returning to the same base) was in order.[198] (S) U

On 4 June 1958 the work of the Ad Hoc committee and the Operations Plans Division evolved into the proposal for a new airborne alert service test nicknamed HEAD START. This was to be a test using the 42nd Heavy Bomb Wing (B-52/KC-135.) The test was programmed to be conducted in three phases. Phase I would be accomplished by the complete wing at Loring AFB, Maine. Phase II would be a stand-down period in which results of Phase I would be evaluated for possible improvement of procedures. During this stand-down period the 42nd Bomb Wing was programmed to disperse one squadron to Bergstrom AFB, Texas.

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198. Info from Maj W. B. Kamp, Special Projects Officer, Missions Br, D/Ops, Hq SAC, 15 Aug 58; Appendix to SAC Briefing on Airborne Alert, presented to Gen Power, 21 May 58, Ex 41, Chap II, Vol IV, History of SAC, Jan-Jun 58.

Phase III was a test of the concept by the dispersed squadron at Bergstrom.[199] Headquarters SAC published an outline plan for the coming test on 13 June 1958.[200] (S) (U)

In the meantime, personnel of the Operations Plans Division drew up an operational plan for the test and briefed SAC and USAF staffs. The test was to consist of a non-stop "round robin" operation with one air refueling enroute. The alert sorties would have a 19.75 hour duration. Each combat ready lead and select crew would perform 3.2 sorties per month. Standardization and instructor crews would carry out one and two alert sorties per month, respectively. It was anticipated that the wing would have to accomplish 120 alert sorties for 2,370 flying hours; 100 training sorties for 950 hours flying time; and 12 test hops for 48 hours flying time. In short, the 42nd Bomb Wing would have to complete a total of 232 sorties comprising 3,368 hours of flying time. Tanker requirements were in addition to these. CURTAIN RAISER previously proved that the benefits to be derived from this type operation included: an increased sortie rate, lowered cost per sortie, lowered overtime, and higher morale.[201] (S) (U)

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199. Memo for the Record, Col J. C. Thrift, Exec Officer, DO, "Ad Hoc Committee on Airborne Alert," 4 Jun 58, Ex 42, Chap II, Vol IV, History of SAC, Jan-Jun 58.

200. Brochure, "Outline Plan for Airborne Alert Test, Nickname 'HEAD START'," 13 Jun 58, in DXIE.

201 Briefing presented by DOPL to Gen Power, 21 May 58. The same briefing was also presented to the Air Staff, and the Subcommittee of the Scientific Advisory Board in early Jun 58, Ex 41, Chap II, Vol IV, History of SAC, Jan-Jun 58.

Usually months were required before a new operational concept requiring additional funds was recognized at the highest governmental level and supported in the budget. Airborne alert was no exception. (U)

Because SAC could not be guaranteed warning, in October 1958 General Power asked that Headquarters USAF take a "candid view" toward establishing an airborne alert capability. It would maintain U.S. deterrent posture despite Russian missile supremacy during 1961-64.[202] (U)

He reiterated his position again in November. General Power saw "no alternative" but to achieve a maximum airborne alert by July 1961. Strategic Air Command could support about 75 B-52 sorties of 24-hour duration daily without additional personnel if its test program proved new maintenance and operations and training concepts to be workable. With an increase to 150 sorties daily SAC could cover 66 percent of the alert force target system (450 DGZs). Due to the large number of flying hours involved on each sortie, and extensive modification and inspection schedules, about five aircraft would be required on the ground to support one airborne sortie. This

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202. TWX, C-3947, Gen T. S. Power, CINCSAC, to Gen T. D. White, CofS, USAF, "SAC Force Structure," 8 Oct 58, Ex 6, Chap II, History of SAC, Jun 58-Jul 59.

meant a force of 900 B-52s or 20 wings. This was expensive, but even an airborne alert conducted by 12 heavy wings would cost about one billion dollars annually.[203] (S) U

The command's basic objectives for airborne alert were to achieve an initial capability by 1 January 1960, a maximum practical capability by 1 July 1961, and a further increase through the 1962-64 period. The rate at which this was achieved depended upon how successful SAC was in getting funds.[204] USAF replied that it needed the specific results of SAC studies on airborne alert to aid the Air Staff in developing cost data on the force structure for mid-1960.[205] (S) U

A team led by Major General C. B. Westover, Director of Plans, presented this command's program to the Air Staff on 18 December 1958. The briefing noted that SAC's original evaluation of the threat during the 1962 time period assumed that the BMEWS system would be operational to give retaliatory

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203. TWX, C-5287, Gen T. S. Power, CINCSAC, to Gen T. D. White, CofS, USAF, 8 Nov 58, Ex 7, Chap II, History of SAC, Jun 58-Jul 59.

204. TWX, DPLB 5288, "Telecon Between Col Boyland, HEDUSAF, and Col Clay, Ch DPLB, 8 Nov 58, Ex 8, Chap II, History of SAC, Jun 58-Jul 59.

205. TWX, AFFCS 50994, personal Gen T. D. White, CofS, USAF, to Gen T. S. Power, CINCSAC, 18 Nov 58, Ex 9, Chap II, History of SAC, Jun 58-Jul 59.

forces at least 15 minutes warning. Now that it was doubtful that the system would be ready, there was a requirement for airborne alert. The need would remain until the BMEWS was developed and could guarantee warning to ground alert forces.* The briefing team apprised the Air Council of its (SAC's) airborne alert test then in progress at Loring AFB, Maine, and of some of the early lessons learned. The briefing concluded with SAC requesting that the Air Council: [206] (S) U

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* General Power told a Congressional Subcommittee in February 1959 that "The minute any responsible person in this country says, 'I will guarantee you warning of this number of minutes, I would drop the airborne alert and tailor it to a ground alert, because it is an easier way to live." (Info, Hearings Before the Subcommittee of the Committee on Appropriations, House of Representatives, 86th Cong, 1st Session, Part 2, "Financial Statements Field Commanders," p 380, in DXIH.)

206. Incl 1, "Summary of SAC Presentation on Airborne Alert," to Ltr, Maj Gen C. B. Westover, DPL, to CofS, USAF, "SAC Presentation to Air Council," 12 Dec 58, Ex 10, Chap II, History of SAC, Jun 58-Jul 59; Memo for the Record, prep by Maj F. G. Lester, DPLBC, "Airborne Alert Presentation to Air Council, 18 Dec 58," 20 Dec 58, Chap II, History of SAC, Jun 58-Jul 59.

1. Approve the Airborne Alert Concept.

2. Approve the necessary funds for FY-1960.

3. Direct Headquarters USAF to start securing Canadian overflight authority for the proposed expanded Airborne Alert operation.

4. Give SAC authority to continue Airborne Alert tests to fully develop the command's potential in this area.

During the succeeding month several top military and civilain leaders, including the JCS J-Staff, the staff agency supporting the JCS and in turn the Secretary of Defense, and Senator Stuart Symington (Democrat, Missouri), were briefed on SAC's airborne alert requirements.[207] (S) U

Headquarters USAF indicated in early January that SAC's requests were under study by the Air Staff and action would be forthcoming by 2 February 1959.[208] Receiving no reply by that date, General Power immediately sent a message to USAF. He was concerned that the Air Staff seemed reluctant to make a decision on the matter. It would have to be made soon if funds were to be earmarked for procurement of support items needed 12-18 months hence. Recognition of airborne alert without direct action would not result in a true capability.[209] (S) U

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207. Memo for Gen Power, from Maj Gen C. B. Westover, DPL, "Briefing on Airborne Alert," 5 Jan 59, Ex 12, Chap II, History of SAC, Jun 58-Jul 59.

208. TWX, AFOOP 55075, HEDUSAF to CINCSAC, "Airborne Alert," 14 Jan 59, Ex 13, Chap II, History of SAC, Jun58-Jul 59.

209. TWX, C-1167, CINCSAC to CofS, USAF, personal Power to White, "Airborne Alert," 4 Feb 59, Ex 14, Chap, History of SAC, Jun 58-Jul 59.

General LeMay expressed USAF's position on 12 February. He approved the concept for development during the 1961-64 period, but he did not recognize the requirement for a continuous operation. He listed as "problem areas attendant upon a continuous full scale operation:" [210] (8) 4

1. The cost of one billion dollars (obviously derived from General Power's 8 November letter) might require abandonment of other high priority projects.

2. The maintenance of a continuous airborne alert effort would limit the Air Force's capability to adjust to changes in the international situation.

3. The problem of crew motivation and fatigue.

4. The capability of an airborne alert force to penetrate defenses would be limited. There would be a problem of coordinating their penetration with other forces for saturation and mutual protection.

5. It was expected that airborne alert would shorten the life of the B-52.

6. Ground alert, dispersal, and hardening were competitive with airborne alert either from the standpoint of cost or operational feasibility.

It was General LeMay's opinion that future SAC tests should be directed to the objective of developing a capability for mounting airborne alert when the international situation warranted.

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210. Ltr, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC, "Airborne Alert Concept," 12 Feb 59, Ex 15, Chap II, History of SAC, Jun 58-Jul 59.

The primary emphasis should be on flexibility. Strategic Air Command could continue its tests, using two wings and one squadron of B-52s during the period March through June 1959, and submit plans for a limited and variable airborne alert program.[211] (S) U

United States Air Force confirmed its position in a message on 17 February.[212] In another message on the same date, USAF indicated it was confused by what seemed to them a change of emphasis away from approved concepts, i.e., dispersal, on-third alert, relocation of KC-97 tankers to northern bases, and movement of B-47 wings north of the 39th parallel. It wanted a clear statement of the SAC position on these concepts.[213] (S) (U)

USSC

211. Ibid.

212. TWX, AFCVC 56684, Gen C. E. LeMay VCS, USAF, to Gen T. S. Power, CINCSAC, "Airborne Alert," 17 Feb 59, Ex 16, Chap II, History of SAC, Jun 58-Jul 59.

213. TWX, AFOOP, 56653, HEDUSAF to CINCSAC, "SAC Alert and Dispersal Concepts," 17 Feb 59, Ex 17, Chap II, History of SAC, Jun 58-Jul 59.

General Power assured General LeMay that at no time did he consider airborne alert as the only way of making the Soviet's task of destroying SAC's retaliatory force insurmountable. Elements such as ground and airborne alert, dispersal, fixed and mobile missiles, and hardening had to be regarded together, not as individual units. The Air Force could achieve true flexibility by varying the posture of its forces in a variety of ways. The CINCSAC continued by commenting, point by point, on the problem areas presented by USAF as hindering continuous, full-scale alert. He strongly urged immediate action to procure long lead time items required to support additional flying hours associated with airborne alert no matter what form it eventually assumed.[214] (S) u

Although officially, Headquarters USAF, the Joint Chiefs of Staff, and the Secretary of Defense did not find a practical or necessary need for air alert in early 1959,[215] SAC continued its campaign of persuasion. General Power used his new prerogative of going directly to the Joint Chiefs of Staff with matters involving conduct of the strategic air battle. He asked them to

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214. Ltr, Gen T. S. Power, CINCSAC, to Gen C. E. LeMay, VCS, USAF, (B-71251/4) 2 Mar 59, Ex 18, Chap II, History of SAC, Jun 58-Jul 59.

215. Baltimore Sun, 31 Jan 59, in DXIII; See also DF, Col C. T. Van Vliet, Dep Ch, OI, to All Staff Agencies, "Policy on Airborne Alert," 18 Mar 59, Ex 19, Chap II, History of SAC, Jun 58-Jul 59.

support his requirement for the operation to begin not later than January 1960 and pass it along to the Secretary of Defense for approval.[216] In the meantime, the President gave his approval for continuation of airborne alert tests* with aircraft carrying weapons.

The Joint Chief's reply was cautious. Strategic Air Command could not begin the operation immediately. Results of HEAD START II test would have to be evaluated first. Neither would they send the requirement to the Secretary of Defense until the results had been "perused."[218] (S) U

Meanwhile, USAF gave positive assurance that it was trying to fund SAC's airborne alert needs for FY-60 despite the fact that it was too late to include it in the normal request. It recognized $81.6 million for aircraft spares to provide emergency capability

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* HEAD START II.

216. Ltr, Gen T. S. Power, CINCSAC, to the Joint Chiefs of Staff, "Establishment of Airborne Alert," 6 Mar 59, Ex 20, Chap II, History of SAC, Jun 58-Jul 59.

217. TWX, AFCVC TS 3959, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC, 9 Mar 59, (B-71327) in DPL; TWX, AFCVC TS 3974, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC, 11 Mar 59, (B-71357).

218. Memo for CINCSAC, SM-448-59, prep by Brig Gen H. L. Hillyard, Sec JCS, "Establishment of Airborne Alert," 30 Apr 59, (B-71966), in DXIH; DF, Maj Gen C. B. Westover, DPL, to DO, DM, DPL, et al, "JCS Memo SM-448-59," 15 May 59, (B-72056), in DXIH.

in ten wings by 1 July 1960; $38.8 million for two airborne tests in FY 1/60 and 2/60; $24.7 million for training; and $42.4 million in contingency funds to be used if continuous airborne alert was required in an emergency. USAF believed this program". . . most nearly meets the requirements you have put forth and is that which stands the best chance for approval." [219] (S) (U)

General Power appreciated General LeMay's and Air Staff's efforts to secure FY-60 funds for airborne alert, but he was "most disappointed" that the FY-60 funding would not give SAC a B-52 air alert capability beginning 1 January 1960. The Air Staff also thought of the concept as necessary for only short periods of time during international crises. The command viewed it as most effective when flown around-the-clock varying the number of aircraft at random. [220] (S) (U)

Headquarters USAF was more pleased than SAC with its work. General LeMay noted that actions to May 1959 gave this command an emergency capability after 1 May 1959; approximately 60 percent of the force would be capable of sustained operation by 1 January 1960; and the entire force would be able to participate by 1 July 1960. This program varied from SAC's

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219. Ltr, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC 7 Apr 59, Ex 21, Chap II, History of SAC, Jun 58-Jul 59.

220. Ltr, Gen T. S. Power, CINCSAC, to Gen C. E. LeMay, VCS, USAF, 17 Apr 59, Ex 22, Chap II, History of SAC, Jun 58-Jul 59.

only with respect to the scope of activity during the latter half of FY-60. SAC tests had not provided sufficient data for USAF to evaluate the continuous operation in terms of detailed requirements and its effect on the remainder of the force. The results of HEAD START II would have to be known before USAF made a final decision on the continuous operation.[221] (S) u

The Testing Program.*

Perhaps no other test program in SAC's history received as much attention as the HEAD START I and II operations conducted during fiscal year 1959. Weighty reams of reports and materiel evaluations attested to the thoroughness with which the operation was studied. Keeping airplanes aloft 24 hours a day, seven days a week, 365 days a year would be extremely expensive. Strategic Air Command knew that this new concept would have to be proved feasible for day-to-day operation beyond a doubt before it would be sanctioned. Intensive study of every facet of the test program during the year gave the Air Staff data it needed to determine future requirements and the effect it would have on other USAF activities. (S) u

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* The historian does not intend to recount the details of the airborne alert tests and the many problems connected with it. This has been done, as amply demonstrated by the voluminous reports compiled. Rather, he intends to present only the highlights of the operation and the significant results and lessons learned from the operation.

221. Ltr, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC, 2 May 59, (B-71961), in DPL.

Original plans for the first full scale airborne alert test called for a three-phase operation to be carried out 15 September 1958 through 1 June 1959. Phase I involved the 42nd Bomb Wing at Loring AFB, Maine. It launched a combat ready B-52 every six hours daily. Phase II was a stand-down period to permit SAC to evaluate the results of the initial test. In Phase III the test was to be resumed and expanded. The 4130th SW (B-52), Bergstrom AFB, Texas, was to continue the operation until 1 June. This phase of the test was changed. Instead, the 92nd BW, Fairchild AFB, Washington, and the 28th BW, Ellsworth AFB, South Dakota, continued the operation (called HEAD START II) from 2 March through 30 June 1959.[222] On 1 April the 4238th SW (B-52), Barksdale AFB, Louisiana, joined the above wings.[223] (S) U

HEAD START I.* Specific goals of HEAD START I were:[224] (S) U

1. To test a sustained airborne alert with SAC units.

2. To obtain data necessary to estimate the costs, including personnel, materiel, and logistical requirements to support airborne alert operations of varying quantities.

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* In addition to the following narrative, the reader will find a very complete coverage of this test in History of 8th AF, Jul-Dec 58, pp 121-163.

222. 28th BW Operations Order 36-59, 13 Feb 59, Ex 12, History of 28th BW, Mar 59; 92nd BW Ops Order 36-59, 1 Mar 59, Ex 15, History of 92nd BW, Mar 59.

223. 4238th SW Operations Order 36-59, 18 Mar 59, Ex 1, History of 4238th SW, Apr 59.

224. Brochure, "Outline Plan, HEAD START, Jun 58," 13 Jun 58, in DXIH.

3. To obtain the data necessary to incorporate SAC-wide airborne alert operations in such areas as mission length, mission frequency, training requirements, scheduling effectiveness, logistic support, human factors, etc.

The operation began as scheduled on 15 September, but with no capability to deliver a weapon. The President still had not given his approval for SAC to fly with armed weapons on board.[225] But on 2 October this permission was received,[226] and the 42nd Bomb Wing flew its first actual airborne alert sortie the next day.[227] Following is a brief resume of the more important results of the three-month operation:[228] (U)

1. Operational Summary

		Percent of Scheduled
Sorties scheduled	364	93.6%
Sorties Airborne	341	
Effective hours Scheduled	5916:00	
Effective hours Realized	5471:22	92.5%
Alert (B-52 flying hours)	6442:00	
Alert (KC-135 flying hours)	1035:35	

225. Memo for Maj Gen J. V. Edmundson, DO, from Col W. B. Colson, Dep Ch DOPL, 16 Sep 58, in DOPLM.

226. TWX, AFXPD-PL 54781, USAF to CINCSAC, 7 Jan 59, in DPLBP.

227. History of 8th AF, Jul-Dec 58, Vol I, p 141.

228. Brochure, "Information for House DOP Subcommittee on Appropriations, Airborne Alert," 5 May 59, prep by Col Holstrom, Ch, DOPL, Hq SAC, (B-71934), in DXIE.

2. Air Refueling

Scheduled	335
Attempted	319
Successful	317
Average Transfer	112,500 pounds
Weather--No Factor	

3. Target Coverage	Planned	Actual
Primary (deep)	62.5%	58.7%
Secondary (shallow)	37.5%	41.3%

The Loring test employed a cyclic maintenance concept; the cycle being divided into three phases: periodic maintenance, training, and airborne alert. When an aircraft completed its periodic maintenance it was used for a series of training missions and then made combat ready for airborne alert duty. It remained in that status until rescheduled back into periodic maintenance.[229] Existing manpower supported HEAD START I .. seven days a week, producing approximately 2,800 flying hours per month.[230] Maintenance personnel acutely felt the weight of this extra burden. (U)

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229. Rpt, "Airborne Alert, Reporting Period 15 Sep-15 Dec 58," Feb 59, p 7, in DXIH.

230. Ibid., p 15. Operations Order 26-58 specified that the maintenance work would be scheduled over 7 days, but that personnel would work so that each man would work only 5 days. In practice, excessive overtime became the rule almost immediately. (Info., Staff Visit Rpt, "HEAD START," prep by Lt Col R. W. Daniels, Ch, DOPLMP, 22 Sep 58, in DOPLM.)

It is accurate to say that a normal day-to-day operation did not exist during HEAD START I. Normality was made subservient to the primary objective of testing feasibility and determining the degree to which the air alert was possible. Key specialists in critical fields and flight line maintenance personnel worked many hours overtime with little time off. Maintenance training, both formal and OJT, was greatly reduced. Skilled people were just too busy to devote much time to instruction of their apprentices. Leaves were limited to emergencies.[231] Lack of quality manning, an old specter, haunted HEAD START I. In November 1958 the commander of the test wing listed quality manning in the maintenance field as "one of the major problems." Although body manning was 99.2 percent, quality manning was only 65 percent.[232] Crews also experienced fatigue because of the extra work schedule not directly related to airborne alert, e.g., tower officer, airdrome officer, etc.[233] (8) 4

231. Final Report, "HEAD START Analysis and Review Board Visit 29-30 Sep 58," in DOPLM; See also Rpt, "Operation 'HEAD START' - Maintenance and Materiel Malfunction Study," 29 Dec 59, in DXIH.

232. Memo for Gen Wade, from Maj Gen J. V. Edmundson, DO, 28 Nov 58, in DORQ.

233. "Airborne Alert Report, 15 Sep - 15 Dec 58," Feb 59, pp 13, 29, in DXIH.

HEAD START I lacked depot support. This was made evident by the large number of cannibalizations, low depot fill rate, late delivery of items, and excessive supply overtime and long distance phone calls. After a visit to Loring in November, a SAC representative noted that only about 44 percent of B-52 requirements were being received. Stock levels on some critical items had never been met. An example of the hand-to-mouth supply situation occurred in November when a temporary two day interruption in the AMC airlift (LOGAIR) caused the cannibalization rate to jump 20 percent.[234] (S) U

From the skin out, the standard Air Force flight gear seemed ill-suited for air alert flights. The bulky cold weather flight clothing weighed 15 pounds and was developed in 1947-48. It was not designed for the crowded crew compartment of high performance bombers using ejection seats. The P-4 helmet with its oxygen mask and communication equipment became heavy and uncomfortable when worn on extensive flights. The same was true of the B-4 parachute. Neither was the B-52 itself designed for around-the-clock living. It lacked proper food storage and

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234. Memo for Col Holstrom, "Trip Report, 26 Nov to Loring AFB," prep by Maj W. B. Kamp, DOPLMP, 28 Nov 58, in DOPLM.

food preparation equipment; seats were uncomfortable and lacked arm rests; bunks were inferior in design; there was limited storage space; and the aircraft lacked adequate toilet facilities.[235] (S/U)

Other problems hampered early operations. The AN/ARC-65 radio was new equipment which had not been tested under tactical conditions. Antenna coupler problems and defective tubes caused many inflight equipment failures early in the operation. By November 1958, however, the manufacturer had serviced the equipment in the field and it was performing at 90 percent reliability. The HEAD START I Final Report noted the "high degree of effectiveness" accomplished by the AN/ARC-65. Aircraft received one Positive Control message by high frequency single sideband radio each hour of the flight 94 percent of the time. When high frequency contact could not be made, ultra high frequency was used.[236] The B-52 bombing-navigation system was a weak link because it could not be checked out while in-flight with a weapon on board, and the Armament and Electronics Squadron lacked many skilled technicians because of a low retention rate.[237] (S/U)

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235. "Airborne Alert Rpt, 15 Sep-15Dec 58," Feb 59, pp 30, 60; Final Rpt, "Operation 'HEAD START'," 16 Mar 59, p 2, Ex 22A, Chap II History of SAC, Jun 58-Jul 59.

236. Memo for Col Holstrom, "Trip Rpt, 26 Nov to Loring AFB," prep by Maj W. B. Kamp, DOPLMP, 28 Nov 58, in DOPLM; Tab 4, "Communications," Final Rpt, HEAD START I, 16 Mar 59, in DXIH; Final Rpt, HEAD START I, 16 Mar 59, p 2, in DXIH.

237. Memo for Col Holstrom, "Trip Rpt, 26 Nov, to Loring AFB", prep by Maj W. B. Kamp, DOPLMP, 28 Nov 58, in DOPLM.

A test of so short duration left much to be desired. The final report presented to the SAC Directors by the HEAD START Evaluation Team on 19 January failed to satisfy them. Major General J. D. Ryan, Director of Materiel, was concerned about the limited up-grading in the maintenance functions during the test. Major General C. B. Westover, Director of Plans, maintained the real objectives were not reached because the test was conducted as an extraordinary rather than an ordinary operation. Brigadier General K. K. Compton, Deputy Director of Operations, and Chief of the SAC Evaluation Team, was also dissatisfied with HEAD START I because SAC Headquarters could not control the test parameters. Results of the test pointed up trends not facts.[238] The Directors asked the Evaluation team to re-work the report along these guide lines:[239] (U)

1. Airborne Alert is feasible.

2. Due to limited duration, trends were observed in certain areas.

3. Further testing was required to evaluate all the ramifications of airborne alert.

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238. Memo for the Record, "Final Rpt on HEAD START I," prep by Maj R. F. Chaffee, DPLCA, 28 Jan 59, Ex 23, Chap II, History of SAC, Jun 58-Jul 59.

239. Memo for Col Clay, from Maj F. G. Lester, DPLBC, "'HEAD START' Final Rpt," 21 Jan 59, in DOPLM.

In a report of its findings to USAF, SAC listed the specific objectives reached at Loring:[240] (S) U

1. The concept proved feasible.

2. Present manning was adequate to support the flying time rates required during the test. [SAC did realize, however that adjustments would have to be made in existing manning documents to eliminate excessive overtime, cancellation of leaves, etc.]

3. An around the clock operation was possible but it was not the most effective use of support personnel.

4. Operation of KC-135 aircraft at an accelerated rate using the Yo-Yo principle was feasible. Under normal operation a KC-135 squadron flew approximately 120 sorties per month; during HEAD START I the squadron completed 193 sorties per month.

5. Control of the force using existing communications was highly satisfactory.

The following objectives were not achieved due to the short duration of the test:[241] (S) U

1. The maximum capability of SAC units to provide airborne alert sorties.

2. Sufficient information to determine degree of supply required to support a concept such as airborne alert.

3. Upgrading of non-combat ready crews.

Strategic Air Command had yet to learn:[242] (S) U -

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240. TWX DOPLM 2102, CINCSAC to CofS, USAF, for AFXPD-P-1, Attn Col Brown, 2 Feb 59, in DOPLM.

241. Ibid.

242. Ibid.

1. Effect on aircraft life of prolonged operation of heavyweight B-52s.

2. Effect of different launch schedules on maintenance capability.

3. Effectiveness of new training concepts.

4. Capability to sustain and support double refueled B-52 airborne alert sorties.

5. Adequacy of new maintenance schedules.

6. Capability of dispersed B-52 SW to operate under the concept.

7. Effect of this operation while using northern and southern U. S. bases.

8. Substantiating data with which to establish cost of future airborne alert tests.

9. Manpower costs to double KC-135 refueling sortie output.

HEAD START II. The second airborne alert test began 2 March 1959 and extended through 30 June.* Two bomb wings, the 92nd at Fairchild AFB, Washington, and the 28th, Ellsworth AFB, South Dakota, flew four B-52 sorties each day in March, five per day in April, and six per day in May and June. Beginning 1 April the 4238th SW, Barksdale AFB, Louisiana, joined the operation with one bomber sortie per day and two per day in May and June.

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* The 28th BW terminated operations on 26 June, 4 days earlier, due to the movement of the 42nd ARS from Loring on 1 Jul 59.

The 99nd was supported by its air refueling squadron; the 28th by the 42nd ARS at Loring AFB; and the 4238th by the 99th ARS, Westover AFB, Massachusetts.[243] (S) U

The overall performance of these units was outstanding. HEAD START II revealed no significant changes or trends in training. A fully objective comparison of this operation with prior accomplishments could not be made in so short a period, but neither bombing nor air refueling effectiveness was affected. Units were able to complete all training required by regulation.[244] (S) U

From HEAD START II SAC hoped to determine the cost of materiel support for the test to be used as a basis for estimating future needs. To gather this data SAC established a Materiel Data Collection and Evaluation Team, a joint AMC-SAC effort, composed of over 100 personnel from the two commands. These personnel were located on all bases connected with the HEAD START II test.

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243. Final Rpt, "Materiel Evaluation, HEAD START II, 3 Mar-30 Jan 59," Vol I, Basic Rpt, p 3, in DXIH.

244. HEAD START II Final Operations Rpt, on duplimat, n.d., in DOPLM. At the time research on this portion of the history was completed the above report had not been distributed. The historian took information from the duplinat copy on 9 Sep 59; See also Memo for Gen Westover, from Col L. D. Clay, DPLB, "Airborne Alert Tests," 17 Dec 58, Ex 24, Chap II, History of SAC, Jun 58-Jul 59, for information on the HEAD START II Training program.

The team was charged with collecting data, analyzing it, arriving at conclusions based on their findings. Their final report consisted of four prodigious volumes.[245] (S) U

The following statistics illustrate the increased scope of HEAD START II operations:[246] (S) U

Operational Summary	B-52	KC-135	Percent of Scheduled	
Sorties scheduled	1389	2174	B-52	99.6
Sorties accomplished	1384	2133	KC-135	98.2
Airborne Alert Hours				
Scheduled	29406	5891		
Accomplished	29374	5688		
Target Hours				
Scheduled	24984	2173		
Accomplished	24442	2109		
Air Refuelings				
Scheduled	2173			
Accomplished	2109			

245. Final Rpt, "Materiel Evaluation, HEAD START II, 3 Mar-30 Jun 59," Vol I Basic Rpt, Vol II, Mission Summary, Vol III, Maintenance, and Vol IV, Supply, Transportation, Special Weapons, Statistical Svs, SAC-AMC Joint Cost Analysis, in DXIH.

246. HEAD START II Final Operations Rpt, on duplimat, n.d. in DOPLM.

Data collected during the test indicated a B-52/KC-135 wing with a 45/20 unit equippage could support the HEAD START II concept of six B-52 and 12 KC-135 sorties per day with no additional manning, although adjustments in manning documents would be necessary. If the six and 12-sortie rate was increased, however, increased manning would be required.[247] The average B-52 training sortie in SAC was 10 hours. Increasing this to 24 hours during the operation did not significantly change the reliability of the aircraft or its systems.[248] No particular system limited the completion of HEAD START II sorties, but problems occurred with electrical systems and flight instruments.[249] (S) U

Despite the attention given it during the test, data collected was not accurate or complete. Only 54 percent of the Specialists Job Record forms were completed and usable. Only 73 percent of the flight crew write ups on the aircraft mission record were included in the wing's monthly summary to SAC. Errors ran as high as 50

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247. Final Rpt, "Materiel Evaluation, HEAD START II, 3 Mar-30 Jun 59," Vol I, p 4.

248. Ibid., p 3.

249. Ibid., p 53.

percent on maintenance data reviewed by Oklahoma City Air Materiel Area (OCAMA). The Air Force Manual 66-1 (Organization and Field Maintenance) was not an adequate source of data collection for either determining manhours or maintenance data.[250] (S) U

Determining flying hours costs was also difficult. The test period was not long enough to identify trends with any degree of reliability, except in petroleum and lubricants (POL). Cost figures on spare parts, depot and contractor maintenance, engine overhaul, and other items would have to be gathered for at least one year before any significant trends could be shown.[251] The AMC logistic support for B-52s was $416.46 per flying hour, or over $12.2 million for the 29,374 Stratofort flying hours accomplished. Comparison of the total cost of HEAD START II air alert with normal costs indicated an overall increase in total logistic support cost due to the accelerated flying hours. The HEAD START II cycle was also too short to determine costs of overhaul of aircraft at the depot. Future tests would provide more accurate information.[252] (S) U

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250. Ibid., pp 4,19.

251. Ibid., p 5.

252. Ibid., Vol IV, Appendix G-1; Vol I, p 5.

Problems which appeared in the first HEAD START test reappeared in the second. The 28th BW experienced considerable difficulty with the AN/ARC-65 radio, partly due to atmospheric conditions, but malfunctions had been occurring at the rate of 40 per month with 40 percent due to faulty tubes. Supply shortages also caused excessive administrative workloads and cannibalizations, at least in the 28th Bomb Wing. [253] The HEAD START II operation also began without permission to fly weapons. The CINCSAC decided on 28 February to start without bombs on board and continue the operation for 10 days. If authority had not been received by that time, he would revert to a ground alert until it was received. [254] The President was subsequently briefed on 9 March and approved the carrying of weapons. Canadian overflight had also been approved by that time. [255] Aircraft of the 92nd and 28th Bomb Wings began flying with weapons on board on 13 March 1959. [256] (S) U

The mental and physical condition of the flight crews was watched closely during HEAD START II. The 92nd Bomb Wing, and

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253. Final Mission Rpt, 28th BW, 1-31 May 59, in DOPLM.

254. Ltr, Maj Gen J. V. Edmundson, DO, to Maj Gen H. T. Wheless, DPL, DSC/P&P, USAF, 2 Mar 59, (B-71254), in DOPLM; Msg, DO B-71250, "HEAD START II," CINCSAC to COMAF 2, 8, 15, COMBWG 28, 92, 2 Mar 59, in DOPLM.

255. TWX, AFCVC TS 3959, Gen C. E. LeMay, VCS, USAF, to Gen T. S. Power, CINCSAC, 9 Mar 59, (B-71327), in DOPLM.

256. Final Rpt, "Materiel Evaluation," Vol I, p 5.

later the 4238th Strategic Wing, flew 24 hour sorties. An extra pilot and navigator were not added to the crew as recommended by the Surgeon in the HEAD START I final report because of the increased flight time. The commander of the 92nd, in his own words, ". . . kept in very close touch with the morale and mental attitude of flight crews as this operation has progressed." To combat fatigue in flight, the procedure of preflight crew rest at home proved very satisfactory. Also, crew rest periods during the flight were a major factor in alleviating fatigue. Few personnel felt the need for stimulants during flight. Also fatigue was definitely lessened by the relief from wearing the P-4 helmet and parachute, except during takeoff, landing, and refueling.[257] (S) U

Inviolate crew scheduling played a major part in maintaining high morale during HEAD START II. As one aircraft commander noted, "The scheduling . . . laid out for us at the beginning of HEAD START II looked great, but frankly we had our doubts as to whether it would be carried out. Now that it is working out exactly as scheduled, we feel it's the best operation we've ever been in."[258] The cycle flown by crews of the 92nd BW

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257. Ltr, Col D. E. Hillman, Cmdr, 92nd BW, to Maj Gen A. J. Old, Cmdr, 15 AF, 24 Apr 59, Ex 28, History of 92nd BW, Apr 59.

258. Ibid.

flying the airborne alert was four alert flights the first two weeks, two weeks off, followed by two weeks of ground training, squadron duty, and a combat crew training flight.[259] (S) U

This rigid scheduling of missions and the firm time off between missions for crews did have their complications. The 4238th SW reported a "noticeable decline" in the efficiency of the squadron as far as the performance of additional duties were concerned. Squadron personnel not on air alert duty had to perform the majority of the additional functions incident to the normal routine operation of a squadron. They were often required to be on duty 12 hours a day, seven days a week during the test period. The 4238th believed that it would be unrealistic to continue the operation permanently without additional personnel in staff positions or additional combat crews. This would permit more flexible scheduling and make new members available for additional duties.[260] (S) U

Even as HEAD START II came to a close, SAC was looking ahead to tomorrow's needs. The CINCSAC was convinced that the

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259. Ibid.

260. History of 4238th SW (H), 1 May-30 Jun 59, pp 15-17.

airborne alert concept would be approved for continuous operation sooner or later. He felt AMC was not ordering long lead time items needed to support a future operation. Ordering them meant risking future excesses, but this was not serious because they would be consumed eventually because of the long inventory life of the B-52 and the KC-135.[261] General Power used evidence of unsatisfactory supply support during HEAD START II to question the ability of the AMC system to support the B-52/KC-135 fleet. Funds were needed to overcome present deficiencies in the support program and to procure long lead time items.[262] (S) U

Air Materiel Command shared SAC's desire for an airborne alert concept during the 1960-64 period, but it had been reluctant to submit additional costs to USAF without a firm basis. Its HEAD START II report had not been "refined" by early July. Until it was, existing data was valid to support the "selling aspect" but it was not adequate enough for final funding actions. AMC's support program was predicted on the USAF approved flying hour program which depicted a SAC-wide airborne alert beginning 1 July 1960. There was already a $56 million deficit in the

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261. TWX, OCG 405, from OCAMA to COMAMC, info CINCSAC, personal Maj Gen T. P. Gerrity to Gen S. E. Anderson, 7 Apr 59, in DOPLM.

262. Ltr, Gen T. S. Power, CINCSAC, to Gen C. E. LeMay, VCS, USAF, 9 Jun 59, Ex 25, Chap II, History of SAC, Jun 58-Jul 59.

FY-59 B-52/KC-135 flying hour program. This, together with long lead time procurement requirements, made adequate support of a SAC airborne alert program prior to FY-61 doubtful. To enter the program on 1 January 1960 (the date SAC desired) premium logistic support would be required.[263] (S) (U)

At the end of June 1959 USAF supported SAC's first FY-60 test called STEEL TRAP,[264] with its increase in airborne alert sorties to nine per day. The increase would have to be compensated for, however, by reduced sorties in other units to remain within the limitation of a maximum of twelve 24-hour sorties per day which had already been approved. Any attempt to increase daily sortie rates would jeopardize or delay the program because new authorizations would have to be obtained. Also, deficiencies in supporting the heavy bomber fleet (as stated in SAC's 9 June letter) prevented USAF from approving increased flying hours. It reasoned that this would compound shortages. HEAD START II consumptions would be used to determine future needs. In any case, the long lead time of certain spares would not permit a

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263. TWX, MCG 1774, personal from Lt Gen W. F. McKee, VComdr, AMC, to Gen T. S. Power, CINCSAC, "Airborne Alert," 10 Jul 59, Ex 26, Chap II, History of SAC, Jun 58-Jul 59.

264. This test would begin 1 July and continue through 30 Sep 59. Units envolved would be the 92nd BW, Fairchild AFB, Washington; the 11th BW, Altus AFB, Oklahoma; and the 99th ARS, Westover AFB, Massachusetts. (Info, Final Rpt, "Materiel Evaluation, HEAD START II, " Vol I, p 3.)

1 January 1960 full-scale operation. This was the established Air Staff position and it did not change.[265] (S) U

The "On-the-Shelf" Program

It had become clearly evident by mid-1959 that Headquarters USAF viewed airborne alert as an extraordinary maneuver, to be called into service during times of international crisis to meet aggression with a show of strength invulnerable to surprise attack. By the end of the year funding of the program left no doubt that SAC plans for one-fourth of the heavy force continually airborne were not going to be realized, at least for the near future. Materiel to support the operation would be purchased and stockpiled but no specific starting date would be set until the threat warranted it. (S) U

General Curtis E. LeMay, Vice Chief of Staff, USAF, outlined USAF's approach as early as February 1959 when he asked SAC to submit plans for a "limited and variable" airborne alert program.[266] The Vice Chief of Staff remindedSAC on 1 July that with HEAD START II tests soon to be completed a detailed plan which included personnel and materiel requirements and cost data could now be presented to USAF.[267] (S) U

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265. TWX, AFCIV 52685, USAF to SAC, "Op STEEL TRAP," 25 Jun 59, Ex 27, Chap II, History of SAC, Jun 58-Jul 59.

266. Ltr, Gen C. E. LeMay, VCS, USAF, to Gen T.S. Power, CINCSAC, "Airborne Alert Concept," 12 Feb 59, Ex 15, Chap II, History of SAC, Jun58-Jul 59.

267. TWX, AFOOP-ST 52855, LeMay to Power, 1 Jul 59, in History of SAC, Jul-Dec 59. The documents used in this section are included as exhibits in the History of SAC, Jul-Dec 59, but at the time of this writing they had not beer numbered. All will be found in Chap II of that history.

USAF was no less positive of its position in mid-July when SAC representatives presented their airborne alert briefing in Washington to Generals White, LeMay and the Air Staff. In a general comment, General White said that the United States would have airborne alert only if the people wanted to pay for it. More specifically, he favored the program on a "random sporadic basis" until the situation dictated a full scale program. In his comments, General LeMay was characteristically more blunt. He left no doubt as to his opposition to the SAC briefing. This command would have to forget about 1 January 1960 as the date to begin the program. The Air Staff did not accept SAC's estimate of the gravity of the situation, and in any event the operation could not be supported with the spares on hand. Initial funds would have to go for spares and it would take 18 months to get them. The Vice Chief of Staff advised that SAC "Stop beating the drum so loud for Airborne Alert." General White agreed. The SAC briefers folded their charts and went home. Brigadier General Paul S. Emrick, SAC's Deputy Director of Plans, summarized the reception given SAC's position at USAF in a memo to General Power: [268] (S) U

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268. Memo for Gen Power, from Brig Gen P. S. Emrick, Dep DPL, "Airborne Alert Briefing," 15 Jul 59, in History of SAC, Jul-Dec 59.

> The Air Staff and SAC positions on Airborne Alert are diametrically opposed. The Air Staff considers that there is not, at this time, a need for sustained Airborne Alert. The capability should be developed and tested, long lead time procurement accomplished, but actual implementation must wait the development of a significant enemy threat or complete failure of programmed warning systems.

General LeMay elaborated on USAF's position in a message to SAC shortly after the somewhat disasterous 14 July briefing. The President would have to approve and request Congress to redirect FY-60 procurement funds if current budgetary limitations and expenditure ceilings were to be overridden. Thus it was better to continue FY-60 indoctrination tests (STEEL TRAP), and plan for a 1 July 1960 alert of six 24-hour sorties for 10 SAC heavy wings each day. Unless "strong overriding considerations" existed, USAF was going to submit the above outlined program to the JCS and the SecDef for approval. General LeMay did say that SAC's program as presented in its 14 July briefing was being "evaluated". He then returned to a familiar theme. USAF still needed information concerning the "limited and variable" type airborne alert. Strategic Air Command must coordinate a plan covering this area with AMC.[269] (S) U

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269. TWX, AFCVC 53527, personal from LeMay to Power and Anderson, "SAC Airborne Alert," 22 Jul 59, in Hist of SAC, Jul-Dec 59. For a more detailed statement of USAF's position see Memo for Gen Power, "Report of Visit to DCS/O, Hq USAF," 8 Aug 59, in Hist of SAC, Jul-Dec 59.

The Air Materiel Command assured USAF that it was preparing such a plan conjointly with SAC based on refined HEAD START II data.[270] (U)

Strategic Air Command still did not favor the "limited and variable" concept operated from a ground alert posture. HEAD START II test results indicated to the command that any plan short of continuous air alert was "unsound and impractical" because of the complexity of personnel, supply, maintenance, and targeting problems associated with it. Neither would a limited airborne alert operating from a ground alert meet the enemy ICBM threat with enough quantity until guaranteed and timely warning was achieved. General Power urged that FY-61 funding be based on supporting a continuous airborne alert in the entire combat ready heavy force as follows:[271] (S)

1 July 1960 through 31 December 1960--2 airborne alert sorties daily per 15 UE unit

1 January 1961 through 30 June 1961--3 airborne alert sorties daily per 15 UE unit

1 July 1961 and thereafter--3.75 airborne alert sorties daily per 15 UE unit.

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270. TWX, MCG 1870, personal to Gens LeMay and Power, from Anderson, "SAC Airborne Alert Program," 27 Jul 59, in Hist of SAC, Jul-Dec 59.

271. TWX, C-1169, personal for LeMay from Power, "Airborne Alert," 8 Aug 59, in Hist of SAC, Jul-Dec 59. Essentially the same information was dispatched to the JCS circa 12 Aug 59, see document in Hist of SAC, Jul-Dec 59.

But USAF had made up its mind. In reply, General White said he would insure that SAC's proposal was given in full to the JCS, but he then returned to the need for data on the "limited and variable" concept. General White felt he had to push on with the development of the program and the acquisition of funds. To do this he had to consider the costs of a lower level of airborne alert that was advocated by SAC.[272] This command replied that it was ready to support any requirement for the development of airborne alert.[273] (S) (U)

But the next day General Power and several key staff officers went to Washington armed with their arguments in favor of a continuous air alert. They were determined to convince Generals White and LeMay that the limited and variable concept should be buried once and for all as the guiding theme for any future program. In SAC's estimation a situation whereby a wing participated in airborne alert one day and reverted to ground alert the next, with no fixed schedule, would produce chaos. Supply need could not be accurately predicted for such a variable schedule.

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272. TWX, AFCCS 67269, personal White to Power, 25 Aug 59, in Hist of SAC, Jul-Dec 59. See also Memo for SecDef, from SecAF, James H. Douglas, "Airborne Alert," 4 Sep 59, for elaboration on the limited and variable concept of air alert and its relative cost compared to continuous airborne alert as advocated by SAC.

273. TWX, C-1780, personal White from Power, 25 Aug 59, "Airborne Alert," in Hist of SAC, Jul-Dec 59.

Personnel would be shifted constantly from tasks associated with airborne alert to those connected with a routine ground alert, with no assurance one day what they would be doing the next. This would cause a serious degradation of morale. Targeting would be extremely complex; aircraft would have to be retargeted as they fluctuated between air and ground alert. After a through discussion of these and other features of a limited and variable concept, Generals White and LeMay agreed that it was infeasible. Thus it passed from mention in USAF-SAC correspondence.[274] (S) 4

On 27 August SAC presented its plan for carrying out USAF's desire for a six sortie per day operation in 10 heavy wings, but USAF was not satisfied that low spares cost estimates used were valid. A joint AMC-SAC briefing was planned for early September, and AMC was admonished to be sure that cost data reflected realistic fund requirements for phased spares procurement in support of the program.[275] (S) 4

The combined SAC-AMC airborne alert briefing was finally presented to General LeMay on 10 September. It was based on

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274. Interview, Robert Kipp, Historian, with Lt Col H. C. Bayne, DPLBW, 23 Mar 60. Lt Col Bayne accompanied General Power to USAF as presentation officer.

275. TWX, AFMMP 69579, from USAF to AMC, info SAC, "P-120 Spares Cost for Support of Proposed Airborne Alert," 1 Sep 59, in History of SAC, Jul-Dec 59.

one-fourth of the B-52 force flying 24 hour sorties beginning in April 1961 and continuing through 1964. General LeMay thought it too costly (a four year average cost of $865.5 million) and he directed the briefers come back with estimates on how much it would cost to acquire the capability excluding actual operating costs. Cost for this so-called "on-the-shelf" program were presented the next day. This approach meant a reduction of about $371.1 million. It of course did not include any flying. When the decision was made to fly continuously additional funds would have to be made available in the FY-60 and 61 programs.[276] (8) 4

Certain aspects of the "on-the-shelf" program immediately caused AMC concern. Maintaining ready reserve stocks over an extended period of time required considerable effort, e.g., AMC would require additional manpower. When airborne alert was ordered "off-the-shelf" AMC would need about $700 million more funds and some 25,000 space authorizations. Also, even when the shelves were stocked, up to six months from decision date would

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276. TWX, MCG 2335, from AMC to CofS, USAF, info CINCSAC, for the VCS, "Airborne Alert," 16 Sep 59, in Hist of SAC, Jul-Dec 59. See also Memo for the Record, "Airborne Alert Cost," 17 Sep 59, and Memo for Gen White, "Airborne Alert," 11 Sep 59, in Hist of SAC, Jul-Dec 59, for discussion of the three airborne alert programs being discussed at Headquarters USAF and by the JCS in Sep 59.

be needed to support a full one-fourth air alert because of POL stroage requirements, and these storage facilities could not be effectively leased over a period of time and not used.[277] (S) (4)

These problems seemed to present formidable barriers to any concept which was based on increasing the number of aircraft airborne on short notice during times of international tension. (U)

By late October 1959 the JCS and the Department of Defense were studying USAF's program for "on-the-shelf" airborne alert. It featured a capability based on a 10 wing (45 UE) force on continuous alert for one year at a rate of 11.25 sorties per day, ready, if needed, in April 1961. It would cost AMC and SAC a total of $202.8 million in FY-60 and $324.9 in FY-61. Although it sought funding approval of this plan, USAF felt it needed to prepare several alternate plans to meet any changes requested by the DOD. USAF asked SAC and AMC to determine cost to support a capability of 6, 9, and 11.25 sorties per day in 10 wings for time periods of three, six, and twelve months.[278] These statistics were furnished on 29 October; also included

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277. TWX, MCG 2335, AMC to CofS, USAF, "Airborne Alert," 16 Sep 59, in Hist of SAC, Jul-Dec 59.

278. TWX, AFOOP-ST 86493, from USAF to CINCSAC, "On-the-Shelf Airborne Alert Capability Program," 28 Oct 59, in Hist of SAC, Jul-Dec 59.

what the number of manpower spaces required for these alternatives, which numbered over a thousand in crew members alone.[279] (S) U

Manpower was even more dear in the Air Force than funds. General White, in reply to SAC's estimates, asked what sortie rate could be supported if no additional personnel were assigned and how soon this command could attain one-fourth capability if additional personnel were assigned on the day flying began.[280] The reply was that a B-52 unit of 15 UE could fly a maximum of two sorties per day and a 45 UE unit, six. The earliest date one-fourth capability could be attained was directly related to the longest lead time item in the support field, that item being engines. Because it required 18 months to provide engine spares, the earliest time when SAC could attain a one-fourth capability was 1 July 1961.[281] (S) U

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279. TWX, DPLBW 4113, CINCSAC to CofS, USAF, "On-the-Shelf Alert Capability," 29 Oct 59, in Hist of SAC, Jul-Dec 59.

280. TWX, AFXPD 88034, Hq USAF, to SAC, Attn: DPL, "Establishment of Airborne Alert," 3 Nov 59, in Hist of SAC, Jul-Dec 59.

281. TWX, DPLB 4207, CINCSAC to CofS, USAF, "Establishment of Airborne Alert," 4 Nov 59, in Hist of SAC, Jul-Dec 59.

The Office of the Deputy Chief of Staff, Materiel, USAF succeeded in improving upon this date by various exercises completed in late November.* Already planned peacetime flying hours, less training hours, would be used to attain an earlier capability. By using these peacetime assets, without waiting on the "on-the-shelf" spares procurement, a six sortie level could be begun late in November 1960; and the nine and 11.25 sortie level on 1 January 1961 and 1 May 1961, respectively. USAF also considered using War Reserve Materiel (WRM) assets to eliminate another couple of months from the time it took to begin the operation. They admitted a risk would be involved in depleting WRM stocks during FY-61.[282] (S) U

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* It is necessary to explain the assumptions used by USAF's DCS/M. They were based on a 1 December 1959 fund availability and the longest lead time of 14 months for engines and twelve months for other items at the sortie levels where no additional engines were needed. Also, it was assumed that materiel assets were available to support the peacetime flying programmed. Also, the figures represented a capability from a materiel standpoint only, and did not take into account personnel, maintenance capability, or lead-time required to obtain them. (Info, Ltr, Maj Gen W. O. Senter, Dep CofS, Materiel, USAF, to Gen T. S. Power, CINCSAC, "Estimate for Airborne Alert Initiation Date," 30 Nov 59, in Hist of SAC, Jul-Dec 59.)

282. Ltr, Maj Gen W. O. Senter, Dep CofS, Materiel, USAF, to Gen T. S. Power, CINCSAC, "Estimate for Airborne Alert Initiation Date," 30 Nov 59, in Hist of SAC, Jul-Dec 59.

The preceeding were interesting exercises, but they were only that. Headquarters USAF informed SAC, for its "information and guidance," that it was proceeding with the "on-the-shelf" program reflected in the FY-61 budget. This meant: (a) a ready capability for 10 B-52 wings (45 UE) and supporting tankers to conduct six airborne alert sorties per day each for one year; (b) a capability date of 1 March 1961, based on procurement lead time; (c) no specific starting date will be established, it will be directed by the JCS; (d) the SAC heavy force (B-52/KC-135) will continue buildup in ground alert toward the goal of one-third to be airborne in 15 minutes; (e) airborne alert training will be supported through FY-61 at an average of six sorties per day, although additional sorties were permissable if normal training flying hours were reduced; (f) no increases in personnel would be approved beyond current authorized manning, therefore crew to aircraft ratios remained at 1.6 to 1.[283] The following funding would be made available:[284] (8) 4

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283. TWX, AFCCS 94476, Hq USAF to CINCSAC, info AMC, "Airborne Alert," 3 Dec 59, in Hist of SAC, Jul-Dec 59.

284. Ibid.

	FY-60	FY-61
Spares (AMC)	$100 million	$60 million
	-	$25 million
Total	$100 million	$85 million

Also made available in addition to the above was $80 million ($45M in FY-60 and $35M in FY-61) in War Reserve Materiel spares, plus $41 million in FY-60 to support STEEL TRAP tests.[285] (S) U

The USAF position was that a reduced program was necessary because of other essential force requirements and reduced dollar availability, but it still favored a one-fourth "on-the-shelf" capability as an "optimum" requirement.[286] (S) U

Continued Testing

STEEL TRAP I was the third airborne alert indoctrination program conducted by SAC to determine the feasibility of making such a procedure routine. During the period 1 July through 1 October 1959 the 92nd Bomb Wing, Fairchild AFB, Washington, a participant in the HEAD START II test, continued with nine bomb and 18 tanker sorties of 24 hour and two hour lengths, respectively. The 11th Bomb Wing, Altus AFB, Oklahoma, contributed four 24 hour bomb sorties. The 99th Air Refueling Squadron, Westover AFB, Massachusetts, furnished additional tanker support for

285. Ibid.

286. Ibid.

STEEL TRAP I with 8 three hour sorties per day.[287] (S) U

Of the 1,168 sorties scheduled in STEEL TRAP I, 1,138 sorties were airborne, and 1,078 were flown as briefed. A total of 2,336 refueling sorties were scheduled and 2,195 completed. The target effectiveness was 92 percent.[288] (S) U

As in HEAD START II, a Materiel Data Collection and Evaluation Team gathered materiel data, analyzed it, and arrived at conclusions relative to the cost of the operation. The team consisted of 29 SAC and 22 AMC representatives. They were to get a larger, more valid sample of data than had been accomplished in HEAD START II. Their final report consisted of three volumes.[289] (S) U

Conclusions reached in HEAD START II were generally corroborated in STEEL TRAP I. The latter test re-emphasized that

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287. Final Report, "STEEL TRAP I Materiel Evaluation," 1 Jul-5 Oct 59, Vol I, Basic Report, p 3.

288. CINCSAC's Ready Reference Book, Plans, Vol 3, Part VI, "Airborne Alert," 15 Jan 60, in DPLBC.

289. Ibid., p 2. The three volume report is on file in DXIH.

from a support viewpoint the positive scheduling of the operation was very acceptable. Schedules were worked out far in advance, allowing the participants to plan their future work and leisure. Also confirmed by STEEL TRAP was that increasing the sortie length to 24 hours (an average B-52 training sortie was 10 hours) did not significantly change the reliability of the aircraft's systems. In HEAD START II 85 percent of in-flight failures occurred prior to 10 hours flight time. In STEEL TRAP I 74 percent of all malfunctions occurred prior to ten hours.[290] (S) U

Although aircraft systems limitations did not seriously affect STEEL TRAP sorties, problems did exist with the electrical system, the flight instrument system, and the landing gear system. Six air aborts and one ground abort were caused by electrical system failure. Similar trends were encountered in HEAD START II. Failure of flight instrument gyros caused the majority of write-ups in the flight instrument system. Landing gear failures could be traced to stones strewn on taxiways because of construction which caused excessive tire failure. STEEL TRAP I also coincided with the previous test in its conclusion that nine B-52 and 18 KC-135 sorties could be supported within the existing supply system, but a high rate of cannibalization continued with a

290. Ibid., pp 4, 10. For additional information on the success of the operation at unit level see History of 92nd BW, Sep 59, pp 25-28, and History of 11th BW, Sep 59, pp 14-18.

corresponding decline in positive supply actions.[291] In the 92nd Bomb Wing a serious ground support problem resulted from various Ground Support Equipment (GSE) being out of commission. In the area of accuracy and completeness of reports which the collection team depended upon for much of its information, little improvement was made over HEAD START II.[292] (S) U

Strategic Air Command continued airborne alert training during the latter months of 1959 under Operation Order 20-60, STEEL TRAP II. Beginning 6 October, three strategic wings, the 4123rd at Clinton-Sherman AFB, Oklahoma; the 4228th at Columbus AFB, Mississippi; and the 4130th at Bergstrom AFB, Texas, represented the Second Air Force. They were supported by the 902nd, 901st, and 910th ARSs at these same bases. Eighth Air Force units participating were the 99th Bomb Wing and the 99th ARS, Westover AFB, Massachusetts, and the 41st ARS, Griffiss AFB, New York. The test was to continue until 14 January 1960. Each strategic wing provided two sorties per day and the 99th Bomb Wing six sorties per day. The 901st, 902nd and 910th

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291. Ibid., pp 4-5, 10.

292. SAC T-12 Report, "Wing Commanders Remarks," 92nd BW, 1 Jul-6 Oct 59, in DXIH.

ARSs launched four sorties a day; the 99th ARS eight; and the 41st four.[293] Weapons carried were sealed pit MK-15/2, 39/1, or 36/2. Mission objectives were the same as in previous tests:[294] ~~(S)~~ ~~(RD)~~ (U)

(a) Indoctrination of new units in airborne alert operations.

(b) Obtain data for use in computing future costs and manpower required to continue an expanded airborne alert operation.

(c) Determine if present manning documents are capable of supporting continuous airborne alert operations.

293. SAC Ops Order 20-60, "STEEL TRAP II," 10 Aug 59, in DXIH; Commander-in-Chief's Ready Reference Book, Plans Vol, Part VI, "Airborne Alert," 15 Jan 1960, in DPLBC.

294. Ops Order 20-60.