

SECRET

## Chapter VII

## RECONNAISSANCE, AIR TRANSPORT, RESCUE, AND WEATHER

The air pressure operations mounted by UNC fighter-bombers, light bombers, and medium bombers in the last year of the Korean war forced the Communist aggressors to accept military armistice terms which were suitable to the United Nations. Simultaneously with this air offensive, UNC ground forces maintained an active defense along their battle line. These combat operations—the air pressure offensive and the ground defensive—were directly supported by UNC air re-

connaissance, air transport, air rescue, and air weather services. Without the sustaining effect of these several air activities, the air strategy which brought the Korean hostilities to a successful termination would have been impossible. While some of the operational accomplishments of these air activities have been noted, each of them had functional developments which were worthy of note.

## RECONNAISSANCE

**The Role of Air Reconnaissance in Korea:** In the Korean hostilities aerial reconnaissance proved to be of even greater value than in any previous conflict, and it was by far the most valuable means available for obtaining intelligence of enemy activities. To the outnumbered UNC ground forces aerial reconnaissance was of critical importance. "It is the one positive means by which we are able to study the enemy's back yard," said an Army representative. "Its relative importance cannot be over-rated—we have to have it."<sup>1</sup> According to one survey made shortly after the end of the fighting, air reconnaissance accounted for approximately 44 percent of all intelligence produced by ground units, and in certain cases it provided as much as 95 percent of ground intelligence.<sup>2</sup> The information obtained from air reconnaissance was on countless occasions instrumental in denying the enemy ground forces the advantage of surprise.

To the UNC air forces photographic intelligence proved invaluable. It provided a means of ascertaining the enemy's air order of battle, both within North Korea and at the Manchurian airfields along the Yalu. Constant surveillance of North

Korean airfields was maintained, and air strikes were made against them only when photographic interpretation revealed that they were nearing conditions of serviceability, thus permitting an economy of force. Oblique photos of Antung and Ta-tung-kou airfields, shot from the Korean side of the Yalu, provided a wealth of information about hostile operating characteristics. One set of dicing photos covered a flight of MIG's from the beginning of the take-off roll to its completion and provided positive answers to the long-debated question as to what length of runway a MIG-15 required.<sup>3</sup> Continuous surveillance permitted the accurate plotting of hostile antiaircraft artillery movements in North Korea, and photographic reconnaissance furnished some 80 percent of the information which was secured relative to the specific locations of enemy flak positions. The air pressure campaign demanded large numbers of diversified targets, selected with a view that their destruction would be costly to the enemy: photographic reconnaissance provided the basic information used in the compilation of air objective folders and target dossiers used in this major aerial effort. Finally, bomb damage assessment

SECRET



SECRET

photography afforded air units a means of evaluating the success or failure of their offensive air campaign and its air actions.<sup>4</sup>

With smaller aircraft complements, UNC air reconnaissance units provided more reconnaissance than had been given by similar type units during World War II. The reconnaissance missions of the Ninth Air Force, which supported the air-ground campaigns in Europe, can be compared with those of the 67th Tactical Reconnaissance Wing which supported the air-ground campaign in Korea. Comparable time periods were July through December 1944 in Europe and October 1952 through March 1953 in Korea. The percentage breakdown of reconnaissance mission requests was approximately the same: in Europe 70 percent of the requests originated with Army units; in Korea 67 percent. In Europe 26 percent of reconnaissance requests came from the tactical air force; in Korea 31 percent. In Europe 2 percent of reconnaissance mission requirements originated in higher headquarters, and in Korea the same 2 percent so originated. In Europe 2 percent of requests came from miscellaneous originators. This comparison reveals that the several users requested about the same proportion of reconnaissance mission capabilities in Korea as had been the case in Europe. But when a comparison is made between the performance records of the 67th Wing with either the top-performing Ninth Air Force reconnaissance group, or a composite group average of the four groups in the Ninth Air Force, these proportions take on added significance. The highest number of sorties flown in any month by a single reconnaissance group in the European campaign was 1,300 in April 1945, and in Korea the 67th Wing flew 2,400 such sorties in May 1952. From D-day to VE-day in Europe the average reconnaissance group sortie rate was 604 per month, but in a similar 12-month period from April 1952 through March 1953 in Korea the 67th Wing averaged 1,792 sorties per month. In these same comparable periods the photo group which supported the Third Army in Europe made 243,175 negatives and the 67th Wing made 736,684 negatives. Furthermore, World War II negatives were generally 9 x 9 inches in size whereas more than 90 percent of Korean negatives were 9 x 18 inches. Taking into consideration this size difference, the photographic accomplishments of the 67th Wing may be said to have been approxi-

mately six times that of a similar unit which had supported the Third Army in Europe.<sup>5</sup>

The magnitude of the accomplishments of UNC air reconnaissance units in Korea will appear even greater when, as will be told below, the difficulties under which these units labored are considered. Had these difficulties not been met (and many of them could have been avoided if USAF reconnaissance programs had been kept in step with other air programs between the two wars) air reconnaissance accomplishments in Korea would have been even greater. Yet, despite these difficulties, the Korea air reconnaissance units had provided substantially more reconnaissance than had similar units in World War II, and it would be logical to assume that they should thereby have met or even exceeded the mission requests made upon them. Such, however, was not the case: from July 1952 through May 1953 the number of mission requests made upon the 67th Wing in Korea was 65 percent greater than the maximum capability for which the wing was programmed. Thus, while the reconnaissance units in Korea flew more sorties and accomplished more photography than did similar units in World War II, a still larger amount of reconnaissance was requested. FEAF thought it to be "highly doubtful that our resources could provide this scale of reconnaissance support for a global conflict."<sup>6</sup>

**FEAF Reconnaissance Organizations:** The FEAF air reconnaissance mission was beset with many difficulties, most of which were endemic to USAF reconnaissance programs. As has been seen in earlier studies, the FEAF reconnaissance capability had been quite small when the war began in Korea. There had been few advances in reconnaissance equipment and techniques since World War II, and reconnaissance aircraft and equipment had not kept pace with the jet air age. Because of a dubious economy which had severely curtailed reconnaissance aviation between wars, FEAF had been forced to rebuild a reconnaissance establishment during the first and most critical year of the Korean hostilities.\*

Viewed in terms of visual and photographic requirements posed by military operations in Korea, the UNC air reconnaissance establishment which FEAF had in July 1952 was still both small and inadequately equipped. The Fifth Air Force pos-

\* See AHS-71, pp. 97-101 and AHS-72, pp. 221-284.

SECRET



SECRET

essed the 67th Tactical Reconnaissance Wing, which was based at Kimpo (K-14) airfield. The flying squadrons of this wing were the 12th, 15th, and 45th Tactical Reconnaissance Squadrons. The 6166th Air Weather Flight was attached to the 12th Squadron for administrative and logistical support. At this time the 67th Wing possessed 27 B-26's and RB-26's, 21 F-51's and RF-51's, 36 F-80's and RF-80's, and 5 RF-86's.<sup>7</sup> In its laboratories in temporary buildings at Kimpo, the 67th Reconnaissance Technical Squadron provided quantity processing of film, quantity production of photographic prints, and photographic interpretation services. The Fifth Air Force additionally possessed coordination control over Marine Squadron VMJ-1, whose 10 F2H2P Banshee photo-jet aircraft were based at Pohang (K-3) airfield. When engaged in high priority photography, these Banshees customarily landed at Kimpo at the conclusion of their missions and gave their film to the 67th Reconnaissance Technical Squadron. Lower priority missions returned to K-3, where the film was processed by a Marine lab and forwarded to the Fifth Air Force.

Under the operational control of the FEAF Bomber Command and based at Yokota Air Base in Japan was the 91st Strategic Reconnaissance Squadron, Medium, Photo. In July 1952 the 91st Squadron possessed 13 RB-29's, and its capabilities were augmented by two detachments: Detachment No. 2 with 2 RB-45's and Detachment No. 3 with 4 RB-50's. In December 1952, Detachment No. 5 was attached to the 91st Squadron; this unit comprised B-29 aircraft and crews from the 581st Air Resupply and Communications Wing and was specifically charged with dropping psywar leaflets over North Korea.<sup>8</sup> The 548th Reconnaissance Technical Squadron, based at Yokota under the operational control of the FEAF deputy for intelligence, provided photographic, photographic interpretation, cartographic, and lithographic services to FEAF and FEC, and direct photographic technical support to the FEAF Bomber Command and its 91st Squadron.<sup>9</sup> As will be seen below,<sup>\*</sup> FEAF also controlled several strategic reconnaissance weather squadrons which provided synoptic weather data in the Pacific and Far East.

In a normal delineation of responsibilities, the

<sup>\*</sup>See pp. 304-05.

91st Strategic Reconnaissance Squadron would have performed the long-range and strategic missions required to support the FEC, the FEAF, and the FEAF Bomber Command, and the 67th Tactical Reconnaissance Wing would have provided the tactical air reconnaissance required by the Fifth Air Force and the Eighth Army. Such a delineation of responsibilities is practical when the operating characteristics of reconnaissance aircraft are such that they can meet an enemy's defense in some degree of safety. During the Korean war, however, FEAF never possessed a reconnaissance plane which could safely expect to outrun, evade, or overcome the enemy's air defenses, most notably the MIG-15 jet fighters. Hence both the 67th Wing and the 91st Squadron had combinations of strategic and tactical missions, and both organizations performed the tasks which their aircraft could do and still live.

Because its aircraft were badly outclassed by the Communist defenses, the 91st Squadron generally avoided actively defended areas in Korea. Its RB-29's flew visual sealane surveillance missions off the eastern coast of Korea and the Russian maritime provinces and its RB-50's flew electronics reconnaissance patrols in the same area. Because of the MIG hazard, FEAF in October 1951 had restricted daytime RB-29 sorties to operations east of 127° East in Korea. Over these relatively safe areas, RB-29's continued to fly day photographic missions. The RB-45 jet bomber type photographic aircraft possessed by the 91st Squadron had more speed and somewhat more freedom of action than did the RB-29's but several narrow escapes from MIG interceptors showed them to be potentially vulnerable to Communist defenses. Even the slightest rip, tear, or battle damage hurt the RB-45's operational characteristics. To minimize the probability of their encountering hostile fighters, the RB-45's generally limited their day photographic activities to the eastern coastal section of Korea south of the 41st parallel. Although the 91st Squadron limited its day photographic excursions to the east-central section of Korea for safety reasons, the missions into this area possessed utility since the Fifth Air Force reconnaissance planes seldom got so far north and east.<sup>10</sup>

The Fifth Air Force's 67th Wing provided visual and photographic, and, to a lesser extent, electronics and weather reconnaissance. Visual

SECRET



reconnaissance maintained a constant surveillance of the front lines, secured detailed information (with photographic verification) relative to enemy activities in the zone lying up to 50 miles behind the bombline, adjusted long-range field artillery and naval artillery, and searched out and identified targets beyond the bombline for fighter-bomber attack. For the Fifth Air Force, 67th Wing photographic reconnaissance was flown as required, and the requirement usually included airfield surveillance, rail line and marshalling yard surveillance, bomb damage assessment, targeting, flak analysis, and area basic cover missions. Photo services provided to the Eighth Army included front line cover, front line obliques, rear area mosaics, and photo verifications of visual observations. To the FEAF Bomber Command the 67th Wing provided targeting, bomb damage assessment, flak and searchlight location photography. Although charged with electronic reconnaissance to include the interception, identification, and location of hostile radar installations, the 67th Wing had a negligible electronic capability. The wing also flew weather reconnaissance missions over North Korea and the water area to the west of the peninsula.<sup>11</sup>

**Problems of Day Reconnaissance:** During the course of the Korean hostilities, FEAF reconnaissance units displayed commendable ingenuity in adapting obsolete aircraft and deficient equipment to the combat situation in Korea. This ingenuity was displayed in an amazing number of theater modifications of aircraft and equipment and in the devising of tactics which permitted inadequate aircraft to perform the mission. Lacking the advantages of a comprehensive reconnaissance system, wherein aerial vehicles and items of equipment were mutually supporting, theater ingenuities often worked against themselves. Thus tactics designed to insure survival—higher altitudes and faster speeds—could not be fully exploited because of the limitations of such items of equipment as cameras and illuminants. Quite frequently, moreover, reconnaissance units were put in a position of doing, not what the reconnaissance mission required, but what was practicable with their inadequate reconnaissance aircraft and equipment.

Stated bluntly, the FEAF reconnaissance aircraft problem was one of inadequate aircraft, possessed in scarce numbers.

Of fighter-type, day-photographic aircraft the Fifth Air Force had owned one squadron of RF-80A aircraft when the Korean war began. This squadron was the 8th Tactical Reconnaissance, which on 25 February 1951, coincident with the organization of the 67th Wing, was redesignated as the 15th Tactical Reconnaissance Squadron. The RF-80A aircraft was a reconnaissance version of the Lockheed jet fighter, in which a slightly longer, thicker, and blunter nose section contained cameras instead of guns. This plane was red-lined at Mach 0.8 (565 miles per hour at sea level), and this red-line speed was only 50 to 60 miles per hour faster than its cruising speed, which limited the plane's maneuvers in the event of an interception. It was some 200 miles per hour slower than a MIG-15.<sup>12</sup> The standard RF-80A camera installation was the K-38, 24- or 36-inch focal length camera, plus a K-12, 12-inch focal length secondary camera. As a vertical installation, the K-38 camera had some advantages: its 9- by 18-inch plate format gave a good coverage for producing mosaics or for photographing line targets, and, in view of the fact that the RF-80A lacked a viewfinder, the large format also allowed a pilot a greater margin for error in lining up to photograph point targets. This standard installation was found in approximately 90 percent of the F-80's, but a few F-80's had other special camera installations needed to perform tri-metrogon, obliques, and continuous strip photography.<sup>13</sup> The standard installation of vertical cameras posed operational difficulties to the RF-80A's because these cameras and their associated magazines had been designed for the speeds of conventional aircraft. With the A-8B-type magazine, the maximum cycling speed for the K-38 camera was three seconds per cycle, which meant that to obtain pictures at a scale of 1:6,000 with the necessary 60 percent forward overlap for stereoscopic viewing an RF-80 had to throttle its speed down to approximately 400 miles per hour. As the scale size increased, the ground speed of the photo plane had to be further decreased. This condition compelled RF-80's to remain in sensitive areas an overlong time and increased their vulnerability to flak and fighters.<sup>14</sup>

When RF-80 pilots encountered MIG-15 interceptors, their standard tactics was to turn inside the faster enemy plane and avoid its field of fire. Having done this, they got as low as possible as



SECRET

soon as possible and headed for home, thus forcing the pursuing MIG to use up its fuel and get further and further away from its own base. Using such tactics, the reconnaissance pilots generally escaped, but in so doing they were almost always compelled to abort their assigned target. These evasion tactics, moreover, worked best when the RF-80 pilot first sighted the enemy plane, but this was not always easy, especially during a period of concentration on a photo run. In the autumn of 1951, moreover, the MIG's began to carry external fuel tanks which got them as far south at Sariwon. To meet this situation, the 15th Squadron felt compelled to begin sending wingmen on all photo missions north of Pyongyang. These tactics abated surprise but used up the photographic capability, and the MIG's still proved able to box-in the photo flights and then to prosecute attacks against the helpless photo planes at their leisure. By the spring of 1952 the MIG threat was so severe that at least 12 Sabres had as a matter of routine to fly close cover for the photo planes when they went to targets north of the Chongchon River. By April 1953 FEAF estimated that fighter interceptor effort equivalent to at least two squadrons of Sabres (and possibly a whole wing) was routinely being diverted to the escort of reconnaissance aircraft.<sup>15</sup>

At the outset of the Korean war the Fifth Air Force had possessed no formal visual reconnaissance capability, but T-6 Mosquito aircraft had soon begun to carry a substantial proportion of this burden. Although the Mosquito planes would continue to provide some visual reconnaissance along the front lines until the end of the war, the Fifth Air Force on 3 September 1950 had been able to activate the 45th Tactical Reconnaissance Squadron. This squadron was equipped with RF-51 aircraft, the reconnaissance version of the conventional Mustang fighter, and was charged with the performance of a visual reconnaissance mission. These RF-51's got into action in December 1951, and thereupon began to cover the zone of enemy territory lying up to 50 miles beyond the bomb line. In this area the "Hammer" aircraft (the visual reconnaissance planes were so called after an early radio call sign) seldom encountered MIG's, but their liquid-cooled power plants were highly vulnerable to small-arms and automatic weapons fire. To meet this hazard, the 45th Squadron began in April 1951 to dispatch

two ship flights whenever possible, and in February 1952, after five RF-51's were lost in short order to enemy ground fire, the 45th Squadron set a minimum altitude for visual reconnaissance at 6,000 feet.<sup>16</sup>

During the first two years of the Korean hostilities the RF-80A's and the RF-51's had been obsolete but they had managed to perform the tactical reconnaissance mission. By April 1952, however, it was apparent that USAF would not much longer be able to support the combat operations of these long-out-of-production aircraft. Natural attrition and battle losses had taken a toll of them, and replacements were slowing to a trickle. The 15th Squadron had 27 RF-80A's, all overdue for depot inspection and repair, and in the foreseeable future this squadron could expect only 15 more replacement aircraft of this type. As an interim measure pending availability of designated RF-84F replacements at some uncertain future date, possibly in the spring of 1953, USAF had already authorized FEAF to modify six F-86A aircraft for photo reconnaissance,\* and these planes could bolster the declining RF-80A capability. The aircraft status in the 45th Squadron was even worse than that of the photo-jet squadron: the 45th was down to 23 RF-51's, and, although a few more replacements of this type plane could be expected, there was no plan for re-equipping the squadron with more modern aircraft. Since the 45th Squadron had to have more planes, the Fifth Air Force made an improvisation. Conversion of two fighter wings to other type aircraft had released a number of F-80C aircraft, some of which were not completely war-weary. These planes could be fed into the tactical reconnaissance wing, where they could fly the wing position with the RF-80A's and could possibly perform visual reconnaissance. In a theater action effected in May 1952 the composition of the 45th Squadron was accordingly established at 5 RF-80A's, 5 F-80C's, and 20 RF-51's, and that of the 15th Squadron was set at 22 RF-80A's, 5 F-80C's, and 5 RF-86A's.<sup>17</sup>

The decision to use F-80C fighters for reconnaissance was an expedient born of a need for increasing the capabilities of the 67th Wing, not with the best type of reconnaissance aircraft but with available planes which might be able to do

\*See pp. 235-38.

recon  
world  
The  
could  
which  
tion  
51's,  
had  
perm  
flying  
In the  
wing  
man  
ced  
was  
photo  
its  
in the  
to in  
came  
out  
In So  
such  
after  
cated  
most  
assie  
photo  
desig  
air  
up to  
1951  
and  
De  
with  
ron  
turn  
the  
be g  
fron  
we  
situ  
nal  
in O  
app  
by  
squ  
comp  
man  
am  
vid

SECRET



SECRET

reconnaissance work. The expedient actually worked out better than was initially expected. The 45th Squadron paired up F-80C's, which could mark targets with its guns, with RF-80A's, which could provide the necessary photo verification of visual targets. Compared with the RF-51's, the F-80's were less vulnerable to ground fire, had better visibility, and jet flight characteristics permitted pilot-observers to give less attention to flying the plane and more to visual observations.<sup>20</sup> In the 15th Squadron the F-80C's were assigned to wing positions in two-ship flights; since the wingman did not usually take photographs, this procedure worked very well. When a dicing mission was run, moreover, the F-80C accompanied the photo plane through the low-level pass and fired its guns for flak suppression. Experimentation in the 67th Wing soon showed that it was possible to install a single 12- or 24-inch focal length K-22 camera in an F-80C in place of its guns and without changing the basic structure of the aircraft. In September 1952 USAF accordingly approved such a modification of 40 surplus F-80C's, and, after delays in getting critical items, these modifications were completed over a period of several months by the 67th Maintenance Squadron, assisted by a team from FEALogFor. The photo-modified F-80C's (they were formally redesignated as RF-80C's on 2 April 1953) were used as replacements for the ailing RF-51's and to make up for shortages in RF-80A's. On 16 February 1953 all RF-51's were finally transferred to Japan, and the 45th Squadron became an all-jet unit.<sup>21</sup>

Originally the 15th Squadron had been charged with day photo reconnaissance and the 45th Squadron with day visual reconnaissance, but in the autumn of 1952, with the enemy well dug in along the static battle front, very little intelligence could be gathered from a purely visual mission. Quite frequently, however, the photo squadron got more work than it could handle. In cognizance of this situation, the 67th Wing instituted photo and visual cross training in the two squadrons; beginning in October 1952 it charged the 45th Squadron with approximately one third of its photo sorties, and by the end of 1952 both day tactical reconnaissance squadrons were performing substantially the same composite visual and day photo reconnaissance missions. In the spring of 1953 the 67th Wing's authorization of RF-80A's and RF-80C's was divided equally between the 15th and 45th Squadron,

but the 15th Squadron was authorized five RF-86's in lieu of a like number of RF-80A's.<sup>22</sup>

Recognizing the operational limitations of the RF-80A photo aircraft, USAF in 1951 had planned to replace them with the RF-84F Thunderflash plane, a reconnaissance version of the swept-wing Republic F-84F fighter. But F-84F production programs encountered complications and were delayed,\* and the planned arrival dates of these planes in the Far East were postponed. Actually the RF-84F would not arrive during the Korean war, nor for a year thereafter.<sup>23</sup> As an interim expedient designed to give the Fifth Air Force a high-performance photo aircraft capable of operating in MIG-15 territory, USAF in the summer of 1951 approved FEAF's proposal to modify six F-86A's into a reconnaissance configuration in the theater. As FEAF got about this work in October 1951 the controlling question was: "What camera can we get into this aircraft?" There was little recognition of the more pertinent question: "What type of camera is best suited to obtain the photography we need?" In the pilot modification of this effort, called "Project Ash-tray," a pair of K-24 (5- by 5-inch format) cameras were installed in the Sabre's nose section for split vertical photography, but, when flown on a test mission over North Korea on 8 December 1951, the pilot model proved tactically infeasible: to get necessary scale and overlap with the small format cameras, the RF-86 had to fly at a hazardous 6,000 feet and throttle down to 250 miles per hour. Another K-22 (9- by 9-inch format) camera mounted in the nose of this pilot model aircraft functioned splendidly for forward oblique work, but it was immediately evident that some other arrangement was needed for vertical photography.<sup>22</sup>

At an RF-86A requirements meeting held in January 1952, 67th Wing representatives urged that the best installation would be two K-22 cameras installed in a split-vertical configuration which would give in effect a desirable 9- by 18-inch format, but a representative of the Air Materiel Command (AMC) urged that such an installation would require close to a year to engineer, fabricate, and install. The Air Research and Development Command (ARDC) had reported that a single K-22 camera with a 36-inch focal length cone could be installed parallel to the longitudinal

\*See Air Materiel Command, Case History of the F-84F Airplane (November 1949 through November 1954).



axis of the aircraft and could utilize a mirror arrangement to secure vertical coverage. Since this installation bore the indorsement of the ARDC, FEAF accepted it in the anticipation that it would produce high quality photographs, even though the area coverage would be reduced to one half of the 9- by 18-inch format desired. Five "Ashtray" RF-86A aircraft were so modified and put into service in the spring of 1952. Once these aircraft were in operation, the ARDC-recommended camera installation proved initially unable to secure photography which was acceptable for intelligence purposes. One notable defect lay in the mounting of the mirror separately from the camera, thus permitting the mirror and the camera lens to vibrate at different rates and causing picture blur. Some alleviation to this problem came when the mirror was physically attached to the camera, and this, and other "debugging" solutions, allowed the RF-86's to take vertical photography described as being of "marginal quality." The single K-22 vertical camera, as had been foreseen, gave trouble in other ways: pilots not infrequently missed their targets because of the narrow angle coverage of this installation at the 40,000 foot altitudes flown by the RF-86's.\* The 9- by 9-inch format of the single K-22 camera was inefficient when mosaics were flown because the RF-86 had to fly twice as many flight lines and sorties as did the RF-80A's or F2H2P Banshees which carried K-38 (9- by 18-inch format) cameras. The nose oblique camera installations in the Ashtray RF-86's posed no especial difficulty: a K-22, with either a 24-inch or 36-inch cone, could be installed, and in operations this installation provided excellent dicing photography. In such work the RF-86 was easier to maneuver on low-level passes than was the RF-80A, and its superior speed was a dis-

\*In May 1953 the Fairchild technical representative attached to FEAF stated that there was a definite possibility that the camera in the Ashtray RF-86's was not taking a true vertical picture. He estimated that the optical axis of the field of view of this camera was four degrees off vertical to the right of the line of flight. Such a small unknown angle, at a 40,000 foot operational altitude, could cause a pilot to miss his target completely. A thorough check of the angular characteristics of this camera installation showed that not only was there an off-angle but that the optical axis of the field of view was three degrees off the vertical and to the right of the line of flight. The apparent reason for this condition was that the first three installations had been an urgently prosecuted "cut-and-fit" project. Usual design procedures, such as preliminary layouts, had never been accomplished, and, instead, the drawings which were produced as the modification progressed were used in the modification of subsequent RF-86's. See FEAF Comd. Rpt., May 1953, pp. 14-16.

tingent advantage when it met ground fire. One of the original six Ashtray planes was nevertheless destroyed by hostile ground fire on 27 June 1952 when its pilot made a 500-foot-high run over the Chosen hydroelectric plant. This, however, was the only RF-86 lost to enemy action. In July 1952 the considered judgment of the 67th Wing relative to the new photo plane was as follows: "The RF-86 at best is a poor reconnaissance aircraft, its only assets being its ability to penetrate a defended area (this can be of paramount importance) and an excellent nose oblique installation (for which there is only a small requirement)." <sup>23</sup>

Despite their inadequacy as photographic aircraft, the RF-86's possessed one compelling advantage: flying by two's for mutual support and timing their flights to take maximum advantage of the regular Sabre barrier patrols, these RF-86A's could penetrate to targets north of the Chongchon River without fighter escort. If the target was very sensitive, the RF-86A could reach it by flying close formation with four Sabres. The fact that these Sabre photo planes could penetrate to the Yalu, live in the air and take pictures there, and then return unscathed meant much to the Fifth Air Force in August 1952, when redoubled enemy interceptions of other photo planes signified a grim Communist determination to prevent UNC aerial reconnaissance in northwestern Korea. Learning informally that promised deliveries of RF-84F's would probably again be delayed, the Fifth Air Force on 3 September 1952 informed FEAF that it was willing to accept more Ashtray RF-86's: "Its demonstrated ability to penetrate well defended areas, obtain photography and return without a large escort," said the Fifth Air Force, "overshadows its known limited photo capability." A representative of the North American Aviation Company had told Fifth Air Force operations officers that his company could modify 12 Sabres to an improved Ashtray configuration and have them ready within six months; this possibility greatly appealed to the Fifth Air Force, and it requested that arrangements be made so to modify 15 F-86F Sabres on a crash basis. If necessary, the Fifth Air Force was willing that these planes should be taken from its F-86F allocations.<sup>24</sup> An Air Materiel Command study, however, indicated that North American would require at least nine months to turn out these photo-modified aircraft, and USAF disapproved the



SECRET

project.<sup>25</sup> FEAF was nevertheless able to get permission to remove two of the Ashtray kits from the RF-86A's and to install them in two of the newly arriving F-86F fighter-bomber models. In early March 1953 these first two RF-86F planes reached the 15th Squadron, and, except for imperfections in the Japanese-manufactured mirrors, these higher-performance aircraft worked as well as was possible with the Ashtray configuration.<sup>26</sup> By April 1953 these photo-modified Sabres were being used to accomplish approximately one-third of the 67th Wing's photographic reconnaissance sorties.<sup>27</sup>

For nearly a year the 67th Wing had been employing aircraft with improvised photographic capabilities in the expectation that new RF-84F's would arrive in a relatively near future which got progressively more distant with each postponement. Early in 1953 USAF was again compelled to postpone projected deliveries of RF-84F's to FEAF—this time until February 1954. Again, the Fifth Air Force set about to try to patch up its photo capabilities: on 21 March it asked FEAF for 12 RF-86F's, and late in the month FEAF directed FEALOGFOR to convert three additional F-86F's to the Ashtray configuration. This, however, would be the last of the Ashtray project because it would use up the kits installed on the two remaining RF-86A's and one more from local storage.<sup>28</sup> One thought was that it might be possible to bring the RF-80C's up to a legitimate RF-configuration. A few of them were therefore provided with an extensive modification comprising a split-vertical 24-inch installation, with further provision for a 36-inch K-38 camera and an oblique installation. The 36-inch vertical cameras, however, required extensive modification at the FEAMCOM depot, and in view of the workload at the depot it was agreed that this installation should not be attempted in the near future.<sup>29</sup>

Faced with the uncertain prospect of providing additional RF-86's which the Fifth Air Force had to have to maintain its high-altitude, high-performance photo capability until the RF-84F's came in, FEAF planners in May 1953 made a fresh appreciation of the whole Ashtray experience. Flashing their thoughts back to the summer of 1951 when the problem of modifying Sabres for reconnaissance had first come up, these FEAF planners now recognized that the Sabre photo installations would have better been done

right at the start. To keep requirements for depot work to a minimum, the Fifth Air Force had been willing to accept such cameras as technicians could install without making substantial structural changes. Such a decision had saved time and money when the initial modifications had been made, but in the long run it had cost the Air Force a substantial sum of money in terms of wasted flights, wasted film, wasted chemicals, wasted photo paper, and wasted time in all photographic activities from ground crews through to photo interpreters.<sup>30</sup> Photographs made by the cameras in the Ashtray aircraft had "never equalled the quality produced by other reconnaissance aircraft," and from the very first the 67th Wing had insisted that it was the mirror arrangement which gave all the trouble. To prove this, wing personnel had fixed a camera so that it pointed out of the access hatch and a pilot had rolled the aircraft 90 degrees to take a satisfactory vertical picture under the same operational conditions in which the Ashtray planes got blurred photography. The 67th Wing had also insisted that split-vertical K-22 cameras with 40-inch focal length lens cones (which it had desired as the photo installation from the first) could be installed in a Sabre's nose: early in 1953 wing technicians got a nose section of a burned-out F-86 and made a mockup of this installation. The mockup required on each side of the nose a blister or protrusion in the skin which might be aerodynamically unsound, but the wing technicians, after viewing their first efforts, believed that there was a good chance that the size of these blisters might either be reduced or possibly eliminated after more study. Benefiting from this review of the problem, FEAF intelligence on 22 May 1953 recommended that efforts be made to improve the photographic capability of the RF-86F by the installation of long focal length, large format cameras in a split-vertical position, so eliminating the need for mirrors.<sup>31</sup> On 6 June FEAF anticipated USAF approval and directed FEALOGFOR to institute "Project Haymaker," which was the vertical installation of twin K-22 cameras, with 40-inch cones, plus another K-17 camera with a 6-inch cone for use in plotting, in a pilot-model RF-86F. In the event that the Haymaker installation proved successful, FEAF stated that an additional seven F-86F's would be so modified and then the Ashtray planes would be retrofitted

SECRET



SECRET

to the new configuration.<sup>32</sup> This Haymaker project would result in the modification of high-performance Sabres with cameras suitable for photo reconnaissance, but the project had been ordered too late for the Haymaker planes to be of assistance in the Korean fighting.\*

As a part of the Ashtray modification, kits were installed in the bodies of the K-24 cameras which increased their cycling speed to one and one-quarter seconds. The RF-86's were for this reason not compelled (as were the RF-80A's) to reduce their speed over a target in order to secure the forward overlap needed for stereoscopic viewing. But another problem, which also had its incidence in the same simple fact that jet speeds exceeded the design capabilities of existing cameras, affected both RF-80's and RF-86's: both of these planes were of sufficient speed so that the motion of the image across the camera's focal plane was great enough to detract from the quality and consequent usefulness of the resulting photograph. According to USAF standards, the maximum circle of confusion acceptable for good photography is 1/250th inch. For an RF-80 to secure such resolution on a photograph of the usually desired 1:5,000 scale required tactics which were unsound and infeasible: the maximum shutter speed of the K-38, 36-inch focal length camera with an A-8B (non-image-compensating) magazine was 1/150th of a second, which meant that to get a 1:5,000 scale photo of acceptable resolution the RF-80 had to cross its target at an airspeed not in excess of 155 knots. When a number of RF-80 pilots tried to secure such photographs under such conditions and were badly shot up in the process, the Fifth Air Force had to serve notice that it would refuse missions at such scales rather than to suffer excessive losses of hard-to-replace photo aircraft.<sup>33</sup> The USAF had no image motion compensating magazine which could be used with the 9- by 18-inch format K-38 camera, but two such maga-

\*Quite early in the Haymaker modification it became evident that the plane would have fuselage bulges. ARDC-conducted test flights of a Sabre with such bulges revealed no instability or porpoising at speeds up to 0.9 Mach but severe vibrations set in at speeds of 0.93 Mach and above. Even with this Mach 0.93 limitation on a Mach 1.1 aircraft, Haymaker represented a considerable improvement on any photo aircraft in the theater and FEAF accepted the limitation. During January 1954 tests flown with a Haymaker RF-86F yielded good photography at 20,000- to 40,000-foot altitudes: FEAF could now state that it possessed a capability to perform special reconnaissance missions in MIG-defended areas with an acceptable degree of risk and a reasonable expectation of satisfactory quality photographs. See Hist. Deputy for Intel. FEAF, Jan. 1954, pp. 3-6.

SECRET

zines—the A-14 and the A-18—were available and were tested on the 9- by 9-inch format K-22 camera. These magazines presented much maintenance trouble, and principally for this reason their use was largely abandoned. Unable to conquer image-motion, FEAF finally noted that: "Slightly blurred photography had to be accepted in lieu of none."<sup>34</sup> Quite late in the war, however, an interim-fix for image-motion blur was brought to FEAF by naval reconnaissance personnel who had worked it out on the aircraft carrier *Philippine Sea*. This compensating device was a simple mechanism which oscillated the camera in a controlled arc along the longitudinal axis of the aircraft. Twenty-five of these devices were constructed by FEALOGFOR under "Project Swing" for installation in RF-80A aircraft. Although the 67th Wing did not have them in use for a long enough time to permit extensive combat tests, the device made operations with the K-38 camera possible at scales and speeds exceeding all previous limits. It indicated great promise for use in day jet reconnaissance aircraft.<sup>35</sup>

Inherent in all photographic reconnaissance work is a demand for the highest standards of pilot navigational skills. In Korea, the navigational problem was peculiarly difficult: reconnaissance pilots, flying at high altitudes and boring through weather to conserve jet fuel, were frequently required to arrive at point targets after a long period of dead reckoning. Visual checkpoints, needed to align mosaic flight lines, were scarce at best, and it was particularly difficult for pilots to secure mosaic cover of the MIG-hazarded area between the Chongchon and the Yalu. The area was some 150 miles from Kimpo; hence the jet reconnaissance pilots arrived there already short on fuel and then had to waste precious time locating check points, aligning their aircraft for runs, killing drift, and making other such necessary but time-consuming preparations. Photo pilots might expose an excessive amount of film in an effort to cover properly a poorly distinguished target; they might also get excessive overlaps, short strips, or holidays which would require that the mission be reflown. Any radar control system which would vector reconnaissance planes precisely to their targets would be of great utility. The MPQ system had some promise for such control, but these radars had limited range and did not see single jet aircraft very well at any great distance. The 67th Wing therefore



SECRET

reasoned that the airborne beacon AN/APN-60 would be required if the MPQ system was to provide control for reconnaissance aircraft: this beacon transmitted radar signals of sufficient amplitude to give a continuous return to a ground radar station from extended ranges. In February 1952 the 67th Wing secured authority for a depot installation of two AN/APN-60 beacons, one in a RB-26 and the other in a RF-80. Testing of this equipment got off to a slow start because "Project Vector" met equipment installation delays.<sup>36</sup> While awaiting the beacons, however, the 67th Wing made increased use of MPQ "skin-tracking" missions. Such control was limited to relatively short ranges—approximately 25 miles for fighter-type aircraft and 50 miles for light bomber types—but it proved quite worthwhile when the photo targets were near the front lines. The percentage of coverage of radar-controlled mosaics greatly exceeded that of similar visually flown mosaics. Against point targets, radar control increased photo effectiveness by some 51.2 percent. During February 1953 an APN-60 equipped RF-80 finally began experimental flights, which continued throughout the spring. The final report on the RF-80 phase of "Project Vector" was submitted on 12 July 1953, and at this time the 67th Wing concluded that an airborne beacon offered positive advantages when incorporated in reconnaissance aircraft: the beacon had extended the MPQ range to 140 statute miles when the RF-80 was at 24,000 feet and to 186 statute miles when it was at 27,000 feet. Using MPQ control, the beacon-equipped RF-80 had successfully secured pinpoint photographs, photo strips, and mosaics at MPQ ranges of up to 128 statute miles. The AN/APN-60, however, was not a satisfactory piece of equipment for use in an RF-aircraft, and the 67th Wing specified that a satisfactory beacon for such use would meet the following requirements: light weight, compactness, coded signals to safeguard against jamming, pressurization for high altitudes, a controlled power output great enough for a 200-mile range, system stability, and visual indication to the pilot of radar contact.<sup>37</sup>

**Problems of Night Reconnaissance:** Night reconnaissance requirements in the FEAF fell into three general categories. The Fifth Air Force required a reconnaissance capability which, through visual

and photographic techniques, could seek out enemy activities which took place under the cover of darkness. The FEAF Bomber Command, unable to operate its strategic reconnaissance aircraft over northwestern Korea during the hours of daylight, wished to regain a capability to secure its own targeting and bomb damage assessment photography by operating its photo aircraft at night. Both the light bombers of the Fifth Air Force and the medium bombers of the FEAF Bomber Command, operating over Korea as they did at night, needed a night strike photographic capability. While night reconnaissance, both visual and photographic, proved to be of great value to UNC forces fighting in Korea, the experience in this field of endeavor made it evident that existing night reconnaissance systems needed further and more comprehensive development.

The Fifth Air Force requirement for a night reconnaissance capability had brought the 162d Tactical Reconnaissance Squadron (Night Photo) to Korea in an expedited movement in August 1950. Coincident with the activation of the 67th Tactical Reconnaissance Wing, this squadron was redesignated as the 12th Tactical Reconnaissance Squadron (Night Photo) on 25 February 1951, but the creation of the expanded reconnaissance establishment in Korea had changed neither the mission nor the capabilities of the night reconnaissance squadron. During hours of darkness, the 12th Squadron was expected to collect information relative to enemy activities, to make visual searches and perform route reconnaissance, to perform targeting and bomb damage assessment photography, to determine the accuracy of shoran coordinates. In emergencies, the 12th Squadron was expected to assist the two day visual and photo reconnaissance squadrons. As will be seen,<sup>\*</sup> the 12th Squadron had certain other responsibilities relative to meteorological and electronics reconnaissance.<sup>38</sup>

The usual night reconnaissance mission flown by the 12th Squadron was a route surveillance, laid out where possible so as to enable the RB-26 crews to take photographs on prebriefed objectives along the way. In the summer of 1952 the RB-26's covered the three main supply routes of the enemy each night: one route on each coast and one in the center of the peninsula.<sup>39</sup> Special night

<sup>\*</sup>See pp. 248-51.

SECRET



SECRET

photo missions were also flown against prebriefed targets at which some particular enemy activity was suspected; on occasions the night photo planes photographed targets that for some reason could not be covered during daylight: in August 1952, for example, the RB-26's photographed the Sui-ho dam and Sumpungdong marshalling yard after enemy opposition had prevented RF-80's and Banshees from covering these targets.<sup>40</sup> For the success of its mission, an RB-26, operating alone and at night, required precise navigation, and its crew comprised a pilot and two navigators. One navigator, who also acted as bombardier, rode in the nose; the other rode in the rear compartment and operated a loran set and, when practicable, the shoran equipment. Both navigators carefully plotted a prebriefed course prior to a mission, and they plotted course simultaneously while en route to a target. During route reconnaissance missions, the nose navigator plotted visual sightings of enemy activity and flashed "hot" targets to predesignated TADC's or to night intruders in the area.<sup>41</sup>

The equipment complement of the 12th Tactical Reconnaissance Squadron necessarily influenced its performance of mission. The squadron was authorized 27 RB-26's, but it seldom possessed so many planes and several of the authorized aircraft were B-26's modified for electronics reconnaissance. The RB-26 aircraft was admittedly obsolete, but its designated replacement—the RB-57—was not expected to come off production lines before October 1953.<sup>42</sup> For navigational assistance, the RB-26's carried shoran and loran; for photography, the standard RB-26 configuration was two 9- by 9-inch format, 12-inch focal length cameras mounted in a split vertical installation in a section aft of the bomb bay. Either K-19 or K-37 cameras were successfully used for night photography, but the RB-26's usually carried K-37 cameras.<sup>43</sup> Night photography required artificial illumination, and the acquisition of satisfactory illuminants had complicated the work of the RB-26's from their first days in Korea.

While moving to Korea in 1950 the RB-26's had been equipped with new A-3 cartridge-ejection illumination systems which employed A-14 magazines and M-112 flash cartridges. The first lots of flash cartridges received in Korea had had a

high dud rate, and when more dependable consignments were received the increased use of the system brought wear malfunctions in the magazines. What was even more important, however, was the fact that the cartridge system was designed for low altitudes: the optimum level for the M-112 cartridge was 3,125 feet, which, in view of terrain hazards and increasing enemy ground fire, was too low in Korea. In May 1952 the A-3 system was abandoned, and all of the equipment was returned to the FEALOGFOR.<sup>44</sup> From the beginning of their operations in Korea the RB-26's had made use of M-46 photoflash bombs in lieu of the malfunctioning A-3 system, and as the war progressed the M-46 bombs became the standard night illuminant. The combination of the M-46 illuminant and the split-vertical K-19 or K-37 cameras produced good results at flight altitudes of 7,000 to 8,000 feet: at such levels the cameras got the scale of photography desired for photo interpretation and the M-46 provided sufficient light for good exposures. At higher altitudes, however, the M-46 did not produce sufficient illumination. The major difficulty with the use of these bombs was their size: although the RB-26's could carry 50 M-112 cartridges they could carry only 6 to 12 of the M-46 photoflash bombs, depending on the individual configuration of the plane. Since each exposure required a separate flash bomb, the number of photo targets which an RB-26 could cover was quite limited. The RB-26's also needed to carry flares, both to identify their initial points and to verify visual sightings. Seeking a solution to both of these problems, the 67th Wing instituted "Project High-light," which by July 1952 showed that bomb bay modifications and the addition of wing racks would enable an RB-26 to carry a maximum of 30 M-46 photoflash bombs and Mark-VI paraflares, 16 internally and 14 on two wing racks.<sup>45</sup> These increased illuminant loadings had some positive results: more photoflash bombs meant more pictures, and the flares proved handy. In September 1952 the RB-26's stepped out of character and set up a bucket brigade of flares in support of UNC troops battling for White Horse Mountain, which, according to General Van Fleet, enabled his artillery to decimate attacking Chinese columns.<sup>46</sup> This flare capability also permitted successful "Spotlight" cooperation of

RB-26's  
way traf  
Depen  
focal le  
gave op  
1: 7,000  
RB-26's  
consequ  
operati  
enough  
nor was  
tion of  
about 2  
Yalu.  
shoran  
gation  
depend  
and ph  
that in  
graph  
they co  
As le  
photo  
8,000  
tures  
bombs  
1945.  
USAF  
ful M  
light  
tudes  
Fifth  
whe  
becam  
light,  
and  
"High  
work  
a RB-  
120's  
rack  
RB-2  
feet  
satis  
tain  
be  
12th  
K-3  
equi

SECRET



SECRET

RB-26's and B-26 intruders against hostile railway traffic.\*

Dependence upon the combination of 12-inch focal length cameras and the M-46 illuminant gave optimum results in terms of 1:6,000 to 1:7,000 scale photography, but it compelled the RB-26's to fly at 7,000- to 8,000-foot altitudes and consequently made for very little flexibility of operations. The operating levels were not high enough to be safe from hostile automatic weapons nor were they high enough for an effective reception of shoran waves, which ranged upward from about 9,200 feet at the MLR to 20,000 feet at the Yalu. Although the RB-26's were equipped with shoran, their crews were unable to derive the navigational benefits of this system but instead had to depend upon less accurate loran, dead reckoning, and pilotage. The 67th Wing admitted frankly that its night-flying crews were unable to photograph many deserving objectives simply because they could not locate them.<sup>47</sup>

As long as the RB-26's depended upon M-46 photoflash bombs their operating ceiling was about 8,000 feet, but by August 1952 combat expenditures had all but exhausted USAF stocks of these bombs, none of which had been produced since 1945. In preparation for such an eventuality the USAF had developed and procured a more powerful M-120 photoflash bomb, which gave enough light for effective night photography from altitudes up to 25,000 feet.<sup>48</sup> Operations people in the Fifth Air Force had known some anxiety as to whether the M-120 could be used by the RB-26's because of its high candlepower and fast peak of light, but the 12th Squadron tested it in August and "produced photos akin to daylight."<sup>49</sup> The "Highlight" project people immediately got to work and designed modifications which permitted a RB-26 to carry a maximum of 24 of these M-120's, 16 in its bomb bays and 8 more on wing racks.<sup>50</sup> With the more powerful illuminants, the RB-26's could operate at higher altitudes—14,000 feet was the objective—but they could not take satisfactorily scaled pictures until they had obtained a longer focal length camera which would be suitable for night work. In September 1952 the 12th Squadron therefore obtained two modified K-22, 24-inch focal length cameras which were equipped with capping curtains instead of

standard shutter curtains. To compensate for image-motion during the relatively long exposure required to get enough light on the negative (approximately 1/25th second), the cameras were provided with A-18 image-motion compensation magazines. Beginning on 11 September the modified K-22 camera was test flown, and, with the illumination furnished by M-120 photoflash bombs, it produced from 14,000 feet what were said to be very satisfactory results. This installation solved problems of exposures and scales, but the achievement of satisfactory photography with it demanded tricky flying: ground speeds and altitudes had to be exactly set on the A-18 film magazine and adhered to in flight; the aircraft had to remain level during the 1/25th second exposure lest the photo show lateral image motion; and any degree of crab would produce an oblique image motion.<sup>51</sup> For the sake of the capability which they gave, these two modified K-22 cameras were installed in two RB-26's, but FEAF later reported that the experiment "did not produce satisfactory results."<sup>52</sup>

When the RB-26's were assigned to photograph objectives in the vicinity of the front lines, they customarily utilized the services of the MPQ system which could put them on their photo targets with the same "skin tracking" technique used with the light bombers. As has been seen,† the 67th Wing desired to test the possibility of extending the MPQ range further into North Korea by the use of the AN/APN-60 airborne beacon in RB-26's and RF-80's and accordingly, in February 1952, obtained permission to implement "Project Vector." The RB-26 phase of this project progressed much faster than did the RF-80 phase, and testing of the pilot model beacon-equipped RB-26 was finished in October 1952. At this time the 67th Wing reported that: "Results obtained . . . have been highly satisfactory and have proven conclusively that increased range and consequent increased capabilities for night tactical reconnaissance are assured with the use of the AN/APN-60 radar beacon." Based on this finding, the 67th Wing asked for and got three more beacons for installation in an equal number of RB-26's.<sup>53</sup> But in order to get extended ranges with the MPQ-beacon combination, the RB-26's had to operate at high altitudes, altitudes at which their cameras

\*See Chap. IV, p. 114.

†See pp. 238-39.

SECRET



~~SECRET~~

were ineffective. Since the camera capability of the squadron continued to demand medium altitude operations, the APN-60 beacons were not useful, and in July 1953 the 12th Squadron secured permission to remove them from its aircraft.<sup>54</sup>

Performance records reveal that the 12th Squadron well utilized its photographic capabilities: the squadron, necessarily hampered by weather, covered 65 percent of its assigned targets in February and 73 percent of them in March 1953.<sup>55</sup> But it was nevertheless true that the aircraft-camera-illuminant capability of the 12th Squadron did not permit a wholly adequate accomplishment of the squadron's mission. Despite the benefits of "Highlight," the squadron's RB-26's remained dependent upon the limited number of photoflash bombs which they could carry: at most 24 photographic exposures could be accomplished per mission whereas 80 to 120 photographs per mission would have been a desirable capability.<sup>56</sup> Limited in illuminants, the RB-26's were unable to provide night mosaic photography of areas of suspected enemy activity; at best they could provide strip coverage of such areas.<sup>57</sup> The 12th Squadron's equipment, moreover, did not permit it to accomplish one phase of its mission: the responsibility for determining the accuracy of shoran grid coordinates. The 12th Squadron used two AN/APA-54 shoran recorder equipped RB-26's in day flights on a shoran grid project covering the area between 38° 30' and 39° during the late summer and autumn of 1952, but finally, in December 1952, it was compelled to admit defeat. "A re-evaluation of this project," stated the 67th Wing, "indicates that the RB-26 aircraft is unsuitable for the project if flown at 20,000 feet due to sluggish operation of the aircraft, difficulty aligning the cameras for crab and balance, and lack of sufficient oxygen to permit operation at the prescribed altitude for periods in excess of one and one-half hours."<sup>58</sup> There was more to this failure than was indicated in this explanation, as would be clearly revealed when the RB-29's were also unsuccessful in their attempts to establish shoran grid coordinates with the APA-54 recorder apparatus.\*

The problems of the 12th Tactical Reconnaissance Squadron were minor when compared with those of the 91st Strategic Reconnaissance Squad-

\*See pp. 245-46.

~~SECRET~~

ron, which throughout the latter half of the Korean hostilities made strenuous but futile efforts to develop a night photographic capability. After the autumn of 1951 MIG depredations forced medium bomber aircraft to operate over northwestern Korea only at night, and the 67th Tactical Reconnaissance Wing had assumed the burden of providing the photography which Bomber Command required in the MIG-defended zone. Such a load of extra work bore heavily upon the 67th Wing's resources, but as a whole the task was satisfactorily accomplished. The arrangement, however, was by no means entirely suitable for the most efficient medium bomber operations. Bomber Command's medium bomber wings needed to know their mission results as soon as possible after they made a strike: if the B-29's did not do the requisite damage to a target, Bomber Command could then repeat the strikes before the enemy bolstered his defenses. If a target suddenly appeared that was suited for B-29 attack, or if a target was inaccurately located with reference to the shoran grid, Bomber Command required a photographic reconnaissance capability to act at once. Because of the great number of requests laid on it, the 67th Wing, especially during periods of marginal flying weather, was frequently unable to fill Bomber Command reconnaissance requests as rapidly as was required. Many times the B-29's had to attack targets without the aid of current surveillance photography and in some cases BDA photography was not received until weeks after a strike was made. In March 1953, for example, Bomber Command did not get bomb damage assessment (BDA) photos of the Taeyudong ore processing area until a month after its attack.<sup>59</sup> Committed wholly to shoran bombing operations, Bomber Command required a shoran targeting capability which would ascertain accurate shoran coordinates without the time-consuming multiplexing process.<sup>60</sup> These were some of the reasons why Bomber Command made determined efforts to get its 91st Strategic Reconnaissance Squadron equipped and capable for night photography.

The 91st Strategic Reconnaissance was equipped for day reconnaissance, and in January 1952, when it was directed to convert to night operations, the squadron was confronted with several simultaneous problems. Quite early it was evident that the

RB-45's  
hence the  
sion. Le  
RB-29  
several  
took pic  
or side  
photogr  
night ph  
photo  
night wa  
be done  
naissan  
nique  
crews.  
installed  
requisi  
1952 th  
the M-  
M-120  
able. T  
RB-29  
graphic  
desirab  
provid  
than fo  
Each  
individu  
a syste  
duce m  
gression  
RB-29  
at altit  
the sta  
not ha  
photog  
interp  
M-46  
nation  
able  
M-12  
illum  
The  
sorbo  
illum  
or fr  
they  
bomb  
Beca

\*See



SECRET

RB-45's were not suited for night photography,\* hence the RB-29's would have to perform the mission. Located in its aft pressurized section, the RB-29 had three camera stations that served several different types of cameras, all of which took pictures through glass windows in the belly or side of the plane. This set-up was ideal for day photography, but it would have to be modified for night photography. Some means by which the photo crew could accurately locate its target at night was required: this would most practicably be done by shoran, which would permit the reconnaissance crew to use the same positioning technique as was employed by the medium bomber crews. APN-3 shoran equipment was accordingly installed in the RB-29's. Illuminants were a requisite for night photography: until April 1952 the only available light source would be the M-46 photoflash bomb but after this time M-120 photoflash bombs were going to be available. The scale of the photography taken by the RB-29's would have to be suitable for photographic interpretation: a scale of 1/6,000 was desirable but a scale of 1/10,000 could be used, provided it had a resolution factor not greater than five or six lines per millimeter.

Each of these several problems appeared to be individually solvable, but when they were met in a system they reacted each with the other to produce new difficulties almost in geometrical progression. To get adequate shoran reception the RB-29 had to operate over northwestern Korea at altitudes above 20,000 feet, and at these levels the standard K-37 and K-19 night cameras did not have focal lengths long enough to secure photography of a scale desired for photographic interpretation. At such altitudes, moreover, the M-46 photoflash bomb did not give enough illumination, but the M-120 would be marginally acceptable at heights of 25,000 feet. Not even the M-120, however, equalled the intensity of natural illumination, and this gave trouble in two ways. The camera windows in the RB-29 at best absorbed approximately 17.2 percent of the available illumination and they were wont to become dirty or frosted in flight; even if they remained clear they often gave off from the light of the photoflash bomb an optical glare which spoiled pictures. Because of the reduction of illumination from

\*See AHS-72, p. 228.

natural intensities, all cameras would need at least a  $\frac{1}{25}$ th second "time exposure." During such a length of lens opening, all movement factors—including pitch, roll, yaw, ground speed, crab, and especially vibration—could produce unacceptably blurred photography. Activation of lens shutters gave additional difficulty: photoelectric cell trip units worked too slowly to take advantage of the relatively weak illumination from the M-46 or from the fast peak of illumination of the M-120. A method was accordingly devised whereby camera lens shutters were in the "open" position at the time of the bomb flash and were closed by the photoelectric cell trip unit. When such an "open" or "capping" type shutter was used, however, the negative picked up streaks of light from ground fire and searchlights, which were of sufficient intensity to blur the negative but not strong enough to trip the shutter.<sup>61</sup>

During nearly all of 1952 the 91st Squadron worked on what it called "Project Able": the adaptation of available photographic equipment to night operations. The squadron tested different combinations of day and night cameras and interchanged lenses, shutters, and cones in an effort to secure acceptable results. By April 1952 the squadron had tested modified K-37, K-22, and K-38 cameras with short (12- or 24-inch) lens cones, the idea being to solve such problems as were met before taking up the final problem of focal lengths.<sup>62</sup> Arrival of substantial numbers of the new M-120 photoflash bombs in July 1952 helped the photographic effort, and by August the squadron reported that a modified K-37 camera with a 12-inch focal length was giving "excellent" results. But because of the altitudes at which missions had to be flown pictures taken by this camera were of too small a scale for adequate BDA. This K-37 installation was nevertheless used during the remainder of the war when considerations of timeliness of its photography outweighed its scale disadvantages.<sup>63</sup> In this same period, the squadron also tried every combination of trail and burst altitude within the light capabilities of the M-46 and M-120 flash bombs. It was concluded that at altitudes between 20,000 and 30,000 feet, one-half burst altitude and approximately 10 degrees behind the camera acceptance angle gave the best results in mountainous terrain, and one-third burst altitude with the same trail gave good results in flat terrain. The one-third

SECRET



SECRET

burst altitude gave more light on either target area, but shadows in the mountainous areas made one-half burst altitude desirable.<sup>64</sup>

By August 1952 the 91st Squadron was ready to progress to longer focal length cameras, which could be expected to provide the scale required for photo interpretation. In that month a representative of the Wright Air Development Center, working with squadron technicians, modified two K-22 daylight cameras (selected for long focal length) for night work, and these two cameras were affixed in a split vertical configuration to a gyro-stabilized mount in the RB-29 camera compartment. This camera installation was promising, but it, like other cameras in the compartment, encountered glare and other blurs from the camera windows. While it was equipped with an image motion compensation (IMC) magazine and affixed to a gyro-stabilized mount, the K-22 split-vertical arrangement nevertheless encountered much vibration, which could not be dampened despite utmost efforts of squadron technicians.<sup>65</sup> Although initially reported as being successful, this K-22 installation never produced acceptable photography.

Early in November 1952, the photo technicians of the 91st Squadron began a new line of attack on their problems. They had never been able to dampen camera vibration although they had tried elaborate straps and trunnions. Possibly American cameras were too light for high-altitude night photography: during World War II, the Germans were said to have obtained good results with massive and heavy cameras which resisted excessive vibration. The camera windows were a major problem area. Camera equipment, moreover, was often moved from plane to plane, and it was possible that slipshod and inaccurate work on the part of maintenance technicians who made these changes, often on short notice to meet pressing schedules, might be giving trouble. All of these problems were discussed at a conference with the commander of the FEAF Bomber Command on 18 November 1952, and at this time the technicians of the 91st Squadron got approval for "Project Charlie," which was expected to overcome most of them. Briefly described, this project would be as follows: on a standard B-29 cargo rack would be mounted in tandem split-vertical position two modified K-22, 40-inch focal length cameras with A-19 IMC magazines, and each camera would be

stabilized with an A-28 gyromount. The whole "pod" would be hung by chains from the bomb shackles in the bomb bay of an RB-29. This pod installation promised much: the gyrostabilizers were expected to keep the cameras in a desired vertical position in spite of the normal pitch and roll of the aircraft; except for the brief period of time when the bomb bay doors were opened to take pictures, camera lens would not be exposed to fouling by dirt or moisture, and, of course, the problems connected with the camera windows would be eliminated; the whole pod could be speedily and easily transferred from one plane to another without disturbing the cameras or other equipment.<sup>66</sup>

The work on "Project Charlie" was started without delay during November 1952 and it was test flown in the latter part of the next month. As was later stated with the advantage of hindsight, the pod was "doomed from the start" because its own vibrations were aggravated by the flow of turbulent air into the RB-29 when the bomb bay doors were opened.<sup>67</sup> But an earlier diagnosis, made in January 1953, attributed excessive ground motion blur in its photography to the slowness of the closing time of the shutters on the K-22 cameras. This delay was permitting the exposed film to pick up blurs from the dying glow of the M-120 flash bombs. A reconnaissance team which arrived from the Strategic Air Command late in February thought the pod to be the soundest possible approach to high-altitude night photography. The officer in charge of the SAC team devised an entirely new "in between the lens" louvre-type shutter which permitted an almost instantaneous closing action. But neither the new shutter, nor other improvements, enabled the "Charlie" installation to give satisfactory photography. Refined mounts were used to attach the pod to the aircraft, missions were planned so as to take advantage of the most favorable winds, and the squadron's senior photographer rode in the bomb bay with the pod to make necessary inflight adjustments. At times the pod cameras produced fair photography, but at other times the photographs were hopelessly blurred. Successes with the installation were sporadic and unpredictable, and exhaustive tests failed to establish any reasons why vibrations should be excessive at one time and not at another, even on the same mission, with the same power settings, and similar atmospheric con-

SECRET

ditions.  
 "Project  
 General  
 ron has  
 "With  
 ization,  
 Squadron  
 large-scale  
 acceptable  
 believe  
 night pho  
 RB-29  
 to produ  
 shutter,  
 creased  
 Carmic  
 must hav  
 after he  
 ures, he  
 a front  
 His plan  
 tandem  
 the airfr  
 curred w  
 michael  
 bay door  
 was put  
 1953, too  
 hostilit  
 Short  
 shoran  
 Comm  
 develop  
 shoran  
 inaccur  
 of the de  
 operati  
 establish  
 pressing  
 not enou  
 by makin  
 border  
 and the  
 techniq  
 theoretic  
 \*Descri  
 after the  
 installat  
 a fully  
 flight ba  
 of four  
 flight in  
 See the



ditions.<sup>68</sup> By June 1953 it was apparent that "Project Charlie" was a failure, and on 6 July General Carmichael stated that: "The 91st Squadron has no night BDA capability."<sup>69</sup>

"With equipment available within this organization," stated the commanding officer of the 91st Squadron, "the capability to take high-altitude large-scale night photography with consistently acceptable results does not exist."<sup>70</sup> He did not believe that consistently acceptable high-altitude night photography would ever be accomplished by RB-29's as long as time exposures were required: to produce the desired results a more efficient type shutter, faster lenses, faster film speeds, and increased illumination would be needed. General Carmichael, however, was less pessimistic: "We must become self-sufficient in BDA," he said, and, after he had gone over the record of the past failures, he expressed confidence that "we can design a front bomb bay installation that will work." His plan was to mount modified K-22 cameras in tandem on a platform which would be bolted to the airframe. To avoid turbulence which had occurred when the bomb bay doors were opened, Carmichael planned to cut windows in the front bomb bay doors. A project incorporating these ideas was put in work by FEALOGFOR on 24 July 1953, too late to be of any assistance in the Korean hostilities.<sup>71\*</sup>

Shortly after it had begun to rely upon the shoran bombing technique, the FEAF Bomber Command recognized a major requirement for the development of a new technique for determining shoran target coordinates independent of often-inaccurate mapping data.<sup>72</sup> With the beginning of the diversified target system of the air pressure operations, Bomber Command's need for an exact establishment of shoran coordinates was even more pressing than it had been. Frequently there was not enough time to get map coordinates checked by multiplexing, and areas near the Manchurian border were not covered by mapping photography and therefore could not be multiplexed.<sup>73</sup> A new technique for checking map coordinates was theoretically possible in a system which employed

\*Because of its obvious importance, this project was continued after the cessation of the Korean hostilities. The special installation was first test flown on 7 February 1954 with moderately successful results. In March and April 1954 further test flights indicated that the 48-inch focal length cameras were out of focus. After the cameras were recalibrated, another test flight in May 1954 showed a decided improvement of photo quality. See Hist. FEAF Bomber Command, 1 Jan.-18 June 1954, I, 65-66.

in a suitable reconnaissance aircraft the AN/APN-3 shoran equipment, an AN/APA-54 shoran reconnaissance recorder camera, and a vertical reconnaissance camera. Using such equipment, the reconnaissance aircraft would be directed along a shoran arc to a target, whose location had been computed from existing geographic data. While over the target, the reconnaissance crew would make photographs in rapid sequence, and simultaneously with each vertical exposure the APA-54 camera would record the shoran data which was displayed at that moment. Subsequent computations, utilizing the point on the ground vertically beneath the reconnaissance camera (the nadir point) as a reference, could easily correct such errors as might exist in shoran coordinates derived from inexact mapping data. To be useful for economical shoran bombing, however, this system would have to be able to locate a target with a tolerable error of plus or minus 50 feet.<sup>74</sup>

In August 1952 the 67th Tactical Reconnaissance Wing was engaged in checking the accuracy of shoran grid coordinates in the area between the battleline and the 39th parallel,<sup>†</sup> but Bomber Command wanted to do the same at targets deep within North Korea. For this reason, the 91st Strategic Reconnaissance Squadron borrowed an APA-54 recorder from the Fifth Air Force in September and set about implementing "Project Baker." The RB-29 designated as the flight vehicle for this project would have to work at night and it was going to use M-120 flash bombs and a K-37 night reconnaissance camera. Much depended upon the establishment of an exact nadir point, which could be thrown off by any degree of camera tilt, and the K-37 camera would therefore be fixed to an A-28 gyro-stabilized mount. An arrangement would also have to be worked out whereby the same photoelectric-cell impulse which tripped the K-37's shutter would trigger the APA-54 recorder camera. All these modifications took time, with the result that the "Project Baker" RB-29 did not fly its first test mission until December 1952.<sup>75</sup>

As early as August 1952, while "Project Baker" was being planned, an ARDC team in the Far East studying tactical bombardment systems had offered cogent reasons why the shoran recorder system was not going to work. This team predicted that there would be no accurate, operation-

<sup>†</sup>See p. 242.



SECRET

ally feasible method for determining the nadir point of the reconnaissance aircraft. The A-28, which was the best stabilizing mount available, could maintain a vertical accuracy to one-half degree one-half of the time and to one degree the remainder of the time. From the altitude at which the shoran plane would have to work to get adequate shoran reception—say 25,000 feet—the basic inaccuracies of the A-28 gyrostabilizer would mean that the nadir point would be located within an accuracy of 225 feet half of the time and within an accuracy of 450 feet the remainder of the time.<sup>76</sup> The technicians of the 91st Squadron recognized this problem but they thought that they could circumvent it. They mounted a specially made spirit level on the K-37 camera and installed a second synchronized recording camera where it would photograph the spirit-level bubble. They reasoned that if there was camera tilt, this arrangement should reveal its extent and direction.<sup>77</sup> But from the very beginning, the 91st Squadron got consistently disappointing results with the shoran recorder system. Because of failures in the relays used to synchronize the several cameras "it was almost impossible to obtain an exposure of the ground and the APA recording at the same time."<sup>78</sup> On one test mission in January 1953 all equipment functioned successfully, but the resultant APA-54 computations were in error because of camera tilt. Additional test missions which followed had the same fault: so much camera tilt that the nadir point could not be accurately located. This tilt, however, was relatively constant in one direction, which led the 91st Squadron to suspect that some error had been made in the original installation of the A-28 camera mount. Lacking anyone experienced enough with the A-28 mount to attempt remedial action, the squadron requested a technical representative from the United States. This man arrived at the end of June 1953, but the war ended before any equipment changes could be made.<sup>79</sup>

In the autumn of 1951 when they began to operate exclusively at night, the FEAF Bomber Command wings recognized a pressing requirement for strike photography. All Strategic Air Command units customarily emphasized a vigorous assessment of mission results, to include strike photography, and now, with the bombers operating at night, there was an additional need for strike photographs owing to the fact that the bomber crews

could no longer visually observe and report the results of their missions. Strike photographs were also valuable for maintaining morale because the medium bomber crews had a keen desire to know just what each mission accomplished. In what appears to have been a generally uncoordinated wing-level action, the bomber wings first made efforts to use K-22 cameras in conjunction with the illumination furnished by M-46 photoflash bombs. These cameras produced pictures of a desirable scale, but since they were used in "open flash" photography the cameras usually took pictures which displayed much image motion. First to recognize that large scale was not as important in strike photography as clear pictures was the 98th Wing, which during January and February 1952 pioneered in the use of K-37 night cameras, whose photoelectrically controlled shutters were tripped by the light from M-46 photoflash bombs.<sup>80</sup> Although all wings continued to be diligent in their efforts, strike photography taken during the summer of 1952 was generally poor in quality. One trouble was the deficient illumination of the M-46. The 98th Wing began to use M-120's in June, but these more powerful flash bombs were not available to the 19th Group and 307th Wing at Okinawa for several more months. Many of the cameras were loosely mounted, and vibration ruined many photographs. The 307th Wing, moreover, continued to use modified K-22 cameras with poor over-all results.<sup>81</sup> During August 1952 an ARDC task group noted all of these problems which were contributing to poor medium bomber strike photography, and in September 1952 Bomber Command undertook remedial actions whereby all wings were provided with K-37 night cameras and a supply of M-120 photoflash bombs.<sup>82</sup>

But Bomber Command had hardly undertaken this wholesome standardization of strike photography equipment and techniques before a major change in night attack tactics posed a problem to photography which was never completely solved. To speed the accomplishment of shoran attacks all wings were required to emphasize the compressibility of their bomber streams over the target,\* and, as the bombers hit the target at intervals of a few minutes, photoflash bombs dropped by one plane not infrequently activated the photo-

\*See Chap. III, pp. 76-77.

SECRET



SECRET

electric cells in several of the planes which followed. Although the bomber wings undertook a controlled modification program designed to overcome this situation, the commander of the 98th Wing said in May 1953 that "there has been little improvement mainly because the equipment was not designed for this type of operation."<sup>83</sup> Something more than unsatisfactory equipment was doubtlessly to blame for the fact that night strike photographic efforts did not produce "consistently satisfactory results." A report of a general inspection of the 307th Wing, although at a loss to pinpoint the causes for unscorable strike photography, nevertheless observed that "closer supervision of the maintenance and operation program would eliminate some of the possible causes for poor [strike photography] results."<sup>84</sup>

Even though medium bomber strike photography was obtained in neither the quantity nor the quality that was desired, the wings were able to use strike photos to good advantage. They were no substitute for large-scale bomb damage assessment photography, but they provided an immediate means for estimating the effectiveness of a bombing strike and the proficiency of an air crew. In cases where BDA photography was not rapidly accomplished, the strike photos often indicated what amount of damage had been done to a target and enabled the medium bomber Wings to determine rapidly whether a followup strike was required.<sup>85</sup>

The B-26 light bombers of the Fifth Air Force's 3d and 17th Bombardment Wings had an even greater need for strike photography than did the medium bomber wings, this because of the nature of their targets. Most medium bomber targets were fixed and could be photographed on the day following the attack; most light bomber attacks were made against fleeting targets such as hostile trucks and trains which, even though destroyed or damaged, were generally moved to shelter before dawn. But the light bombers had very little capability for accomplishing strike photography. The results of low-level attacks were practically impossible to assess: gun cameras could not be used, strike photography could not be taken during glide-bomb attacks, and the B-26 crew was seldom able to fix its position to that degree of accuracy required to get a post-strike RB-26 to the scene. During level-bombing attacks, the B-26's could have taken strike photos

but to have carried flash bombs would have entailed an undesirable reduction of high-explosive ordnance.<sup>86</sup> Still, the light bomber wings badly needed to know just what their crews were accomplishing: a detailed analysis of the Fifth Air Force night intruder system made in the late summer of 1952 demonstrated that the lack of an ability to assess the results of night attack had occasioned an uneconomical expenditure of light bomber effort.\*

Begun late in December 1952, the cooperative "Spotlight" attacks which paired a 67th Wing RB-26 with a B-26 of the 3d or 17th Wing, marked the first achievement of successful BDA photography for the night intruders. Learning a new technique from this experience, the 3d Bombardment Wing modified several of its B-26's to carry K-19 or K-19B cameras. Using either M-46 or M-120 flash bombs, but more generally the latter, these photo B-26's got increasingly better results as their crews gained experience. They soon found that the optimum altitude which gave a large enough scale for determining damage to small targets was 4,000 feet. Experience also demonstrated that this photo capability could be had with an acceptable reduction in the offensive power of the photo B-26. By April 1953 these photo planes were carrying six M-120 photo-flash bombs in their rear bomb bay, eight M1A2 frag clusters in their forward bomb bay, and a normal route reconnaissance wing rack loading of four M-64's, four M-47's, and two Mark-VI flares. Thereafter during the war the 3d Wing dispatched several of these photo B-26's each operational night, first to work over a specified armed reconnaissance route and then to proceed to a specific orbit point within the wing's area of responsibility to await some other light bomber's call for a damage assessment.<sup>87</sup> Because of many of the same factors which bedeviled night photography, plus a general inexperience of the operational and maintenance crews with this work, FEAF later noted that B-26 strike photography was "generally of poor quality."<sup>88</sup> The techniques which the 3d Wing worked out in the last six months of the war, however, appeared to be valid and utilitarian; at least they provided the wing with some means of measuring the accomplishments of its low-level attacks.

\*See AHS-72, pp. 173-174.

SECRET



SECRET

**Tactical Electronics and Weather Reconnaissance:**

In tactical air force operations the most effective countermeasure against an enemy ground electronics system is the destruction of hostile early warning (EW) and ground control interception (GCI) radars. Without these warning radars, enemy air defense systems are blind and gun-laying and searchlight-control radars are reduced in effectiveness. To accomplish this destruction, current electronics intelligence is mandatory. To obtain this current intelligence two distinct tactical electronics functions are necessary: the one is to perform general electronics surveillance and the other is to locate accurately the radar installations. Since electronics surveillance must be maintained on a 24-hour basis, this function can be economically performed during routine weather reconnaissance flights if proper equipment is installed in the weather aircraft. The precise pinpointing of hostile radars for destruction requires specially equipped ferret-type aircraft.<sup>80</sup>

Apprehensive about the Communist electronic control and warning system which was being built within North Korea, the Fifth Air Force constantly sought permission during 1951 not only to jam the enemy radars but to destroy them. "Allowing enemy radars to direct AAA gun fire, to perform ground controlled intercepts, and to alert rear-area defenses," the Fifth Air Force admonished on 19 August 1951, "is allowing the enemy to wield a weapon of increasingly destructive power, without taking the obvious action to deprive him of that weapon."<sup>80</sup> But from a larger point of view which looked toward an all-out world conflict, electronics countermeasures (ECM) was a delicate subject: there was much to be learned from the enemy's radar system; there was much to be disclosed of USAF capabilities by an active ECM employment. The FEAF policy on ECM was one of reconnaissance, jamming when absolutely necessary, and deception, and such measures were to be employed only in current and anticipated operations.<sup>81</sup> Enemy gun-laying radars, however, could be attacked and destroyed whenever they were encountered. During October 1951 the Fifth Air Force twice urged a reconsideration of FEAF policy because of increased enemy interceptions of its aircraft by day and by night, and on 28 October 1951 FEAF issued a revised policy which recognized that attacks on enemy radar sites were "extremely desirable in order to disrupt his present

effective capability for GCI and radar controlled AAA." Such attacks would be carefully planned and conducted on a mass scale; prior to releasing the radars for attack, FEAF wanted to see large-scale dicing photography covering some 21 hostile radars which had been generally placed in North Korea.<sup>82</sup> A continued buildup of Communist electronics capabilities, which came of age in May 1952 when GCI-positioned MIG's began to attack Sabres through the overcast, lent urgency to the project of destroying enemy radars.<sup>83</sup> And, as has been seen,\* the air pressure strategy effected by General Weyland on 10 July 1952 recognized that hostile electronic equipment well met the criteria for a destruction target: it was vital to the enemy's war effort, was vulnerable to air attack, and represented a significant cost to the enemy in terms of scarce skills and materiel. In the 10 July operational policy directive, radar equipment was accorded the fourth priority in a listing of hostile target categories.

Although the Fifth Air Force always possessed a striking force which was easily capable of destroying all Communist radars in North Korea, it never possessed a reconnaissance capability that could precisely locate these small and widely dispersed installations. In July 1951 when it became concerned about the hostile radars, the Fifth Air Force had had only one aircraft with any electronics reconnaissance potential. This was a B-26B aircraft, called "Buster," which belonged to one of the light bomber wings: this plane had been equipped to home on and destroy captured U. S. VHF ground radio equipment. This plane was ordered to Kimpo airfield where it was attached to the 67th Tactical Reconnaissance Wing; and, beginning in October 1951, it was used to fly every-other-day radar plotting search missions. Lack of radar navigational equipment meant that this plane had to operate under conditions permitting visual navigation. Although it was well recognized that an electronics reconnaissance crew worked best when it was a tightly knit unit, crewing arrangements for "Buster" were informal: since there was no manning authority for a regular crew, the plane was flown by personnel from the 12th Squadron. The best ECM observer in the Fifth Air Force was assigned to its Directorate of Intelligence, and this officer usually flew as the

\*See Chap. II, p. 35.

SECRET

ECM  
radar  
easy  
area  
point  
photo  
photo  
and,  
maste  
1952  
fight  
missi  
flak  
In  
train  
ing  
prac  
tive  
men  
plate  
over  
for  
Jan  
Alb  
Fif  
cap  
ag  
to  
wa  
at  
R  
ata  
dis  
fo  
un  
mo  
ph  
de  
F  
-  
st  
F  
m  
il  
d



SECRET

ECM operator in "Buster."<sup>94</sup> Finding enemy radars with the "Buster" equipment was not an easy task: many radars could be located within an area of about 25 square miles, but exactly to pinpoint them was a more complex matter. Aerial photography of pertinent areas was scanned by photo interpreters, but the radars were very small and, most important to PI work, their antenna masts cast next-to-no shadows.<sup>95</sup> In February 1952 efforts were made to use an F-82 all-weather fighter for radar detection, but on the second such mission against a hostile target the F-82 suffered flak damage and required extensive repairs.<sup>96</sup>

In April 1952 the 67th Wing was directed to train a crew for "Buster" in techniques for homing on and destroying hostile radars, but a few practice missions with the Cho-do EW/GCI station revealed that this plane's electronics equipment had so badly fallen into disrepair that the plane had to be sent to the FEAMCom depot for overhaul. "Buster" apparently returned to Korea for a brief time, but in June it had to go back to Japan, this time for extended mechanical repairs.<sup>97</sup> Although the departure of this plane left the Fifth Air Force with no electronics reconnaissance capability, the Intelligence Directorate drew upon agent and POW reports and photo interpretation to target six hostile radars in the Haeju and Sariwon areas. On 13 July 1952, 94 fighter-bombers attacked these targets with bombs and napalm. But two weeks had elapsed between targeting and attack, and post-strike photography revealed that during this period of grace the enemy had moved four of the six radars. Another lesson was demonstrated: hostile radars were mobile and their successful destruction demanded that they be targeted and attacked with a minimum interval of delay.<sup>98</sup>

"Electronics reconnaissance," said the Fifth Air Force Director of Intelligence at the end of 1952, "limped along, full of enthusiasm and interest but still short of equipment."<sup>99</sup> At the request of the Fifth Air Force, FEAF in August 1951 had already approved a plan calling for electronics modification of two B-26 aircraft at the FEAMCom depot, and this project was subsequently increased to provide a total of four such modified aircraft to the 67th Wing. The project badly bogged down from a variety of causes; the installations were experimental and three separate configurations were at last ordered, but the major holdup was a fifth

class priority assigned to the work. This work priority was apparently improved in mid-1952 after the Fifth Air Force Director of Intelligence strongly emphasized that electronics reconnaissance was "as important as F-86's, F-84's or any other aircraft presently assigned to the Fifth Air Force," but the first two of the new ferret-modified B-26's did not reach the 67th Wing until November 1952. A third arrived in December 1952. The first two aircraft (Nos. 909 and 825) had identical installations: for navigation they carried AN/APQ-13 radar; for electronics reconnaissance they carried one item each of an AN/APR-4 search receiver, an AN/APA-11 pulse analyzer, AN/APA-17 direction-finder (D/F) equipment with low- and high-frequency antennae, an AN/ALA-2 panoramic indicator, an AS-38A mast antenna, and an AT-45 cone antenna. A single ECM operator's position had been built into a bomb bay compartment. These planes were expected to perform radar surveillance and to locate hostile radars by direction-finding bearings. The third B-26 (No. 231) was equipped with APN-3 shoran, plus an AN/APA-54 shoran recorder. Its electronics gear included an SCR-720 airborne intercept radar and an AN/APR-4 search receiver. It was planned that the ECM operator in this plane would vector the aircraft on course with a hostile radar and that the shoran navigator would obtain a position fix. By repeating this procedure on various headings separated by more than 200 degrees, a series of converging line-plots should indicate the exact location of the enemy radar. The fourth plane (No. 250) included an equipment design drawn up at FEAF, and it would not be ready for service during the Korean hostilities.<sup>100</sup> At about the same time that the 67th Wing got its new ferrets, Marine Composite Squadron No. 1 received six AD-type aircraft with electronics reconnaissance installations. The type of equipment in these planes and the plan for their employment was similar to that noted for the B-26 ferrets Nos. 909 and 825.<sup>101</sup>

Preparatory to the reception of the B-26 ferrets, the 67th Wing organized an electronics reconnaissance flight in the 12th Tactical Reconnaissance Squadron, and the Fifth Air Force laid out an elaborate plan for electronics reconnaissance tests. Before they could be tested, however, the ferrets required equipment calibration, and this work, conducted in Japan in flights against friendly

SECRET



SECRET

JADF radars, progressed very slowly. These shakedown flights developed the need for many slight modifications, each of which had to be referred to higher headquarters. As a result of these delays the two direction-finding ferrets were not employed in Korea until April 1953: No. 909 began combat flights on 3 April and No. 825 on 19 April. In their calibration flights these two ferrets had indicated an ability to locate radar sites to an average radius of three miles from the true sites. This was approximately the same degree of accuracy as claimed for the AD aircraft of Marine Composite Squadron No. 1, but subsequent events showed that any expectation that hostile radars could be fixed to within three to five miles was quite optimistic. Direction finding proved to be very difficult in Korea. The Communists used radar in quantity and had it deployed in depth. Many of the sites went on and off the air at irregular intervals, and others used a very slow sweep. Whether caused by Red cunning or equipment malfunctions, these practices hindered direction finding. The mountainous terrain of Korea also deflected radar signals, thereby decreasing the accuracy of direction-finding cuts. Finally, to plot an accurate location of a radar site from airborne D/F equipment, the aircraft's position had to be exactly known. As an example of the problem, one Marine AD crew obtained a single, clear, and continuous hostile signal for 26 minutes but when its bearings were plotted they enclosed a triangle approximately 20 miles long on two sides and eight miles long on the third side. This triangle enclosed a mountain, at some point on which it could be assumed that the radar was sited. Exactly where it was not ascertainable.<sup>102</sup> The B-26 ferrets were similarly able to locate enemy radars in general areas, and in an effort precisely to locate the enemy radar sites special photography was flown and studied, but for the most part this work was unremunerative because photography scales were large and most enemy radar equipment was well concealed.<sup>103</sup>

The third of the new B-26 ferrets (No. 231) flew a few combat missions in Korea before the end of hostilities. This plane was equipped to home on hostile radars in the "L" and "S" frequency bands, and it carried shoran equipment in order to establish its exact position while taking bearings. In eight missions against enemy radars, however, only one doubtfully accurate homing run was ac-

complished, the principal cause for failure being that the enemy invariably shut down his radar each time that the ferret headed directly toward the site. The shoran equipment, moreover, could not yield accurate fixes because of the low altitudes at which the ferret operated. Tests of this configuration against friendly radars were little more satisfactory: direction-finding cuts were unreliable, and when the plane homed on the radar it could lose the radar signal. In such a case the ECM operator could not tell whether he was directly over the radar and was encountering aural null, or whether the radar had shut down, or whether the ferret had flown out of the radar beam. This ferret so clearly failed its operational suitability tests that the 67th Wing in its final report on the tests (called "Project Bird Dog") recommended that No. 231 be returned to FEALOGFOR for reconfiguration with direction-finding equipment.<sup>104</sup> There was one possibility which might have permitted the homing apparatus to give some positive results: in March 1953 one of the AN/AAS-1 equipped B-26's\* of the 3d Bombardment Wing had sought in tests flown against friendly installations in Japan to home on the heat generated by the radar's power units. These tests had failed because the "Redbird" B-26 had been unable to distinguish the radar among numerous heat sources surrounding the installation.<sup>105</sup> In August 1953 Fifth Air Force intelligence officers wanted to pair the electronics reconnaissance homing B-26 with a "Redbird," their reasoning being that the "Redbird" could follow the ECM plane and could continue on to the hostile radar set, even after it closed down, by homing on its still-hot generators. This project had some theoretical merit, but the tests were not made because the three "Redbird" B-26's were due to be returned to Japan for modification.<sup>106</sup>

Although the 67th Wing never gained a feasible capability for electronics reconnaissance, the thoughts about this problem were fruitful in terms of an organization for such a mission. Because both flew B-26's, the 6166th Air Weather Reconnaissance Flight and the electronics reconnaissance function were variously assigned or attached to the 12th Tactical Reconnaissance Squadron. The 6166th was a table of distribution organization which was authorized six WB-26's, but ac-

\*See Chap. IV, p. 110.

SECRET



SECRET

tually only three of its aircraft had synoptic weather instrumentation. The 6166th was attached to the 12th Squadron until 15 December 1952, at which time it was transferred to the control of 67th Group operations. The electronics function, however, was provided for from organizational allotments of the 12th Squadron, with a consequent reduction in the squadron's capability for its primary night visual and photographic reconnaissance mission. A Fifth Air Force reconnaissance conference held on 12-13 August 1952 noted that the organizational structure for electronics and weather reconnaissance was inadequate; it recommended that a separate squadron be activated to accomplish the two missions.<sup>107</sup>

In December 1952 FEAF proposed to submit a formal requirement for an electronics reconnaissance squadron, but the thinking at this echelon was colored by the existing inexactitudes of the navigation art in Korea. Until radar direction-finding equipment and techniques were perfected to the degree permitting a ferret aircraft to locate precisely an enemy radar site for subsequent attack by other aircraft, FEAF reasoned that a combined detection-destruction aircraft would be required. This new squadron would therefore be an electronics attack squadron, and it would most logically be assigned as a fourth squadron to one of the light bombardment wings. When direction-finding and navigational equipments were perfected, the squadron could be recognized as an electronics reconnaissance squadron and would then be assigned to the 67th Wing.<sup>108</sup> The Fifth Air Force concurred in the need for an electronics squadron, but it disagreed as to the proposed development of a "hunter-killer" squadron. Aircraft equipped with critically-short electronics gear could not be exposed to regular combat attrition; combat-equipped light bombers and fighter-bombers were capable of more destructive missions than were dual-mission aircraft; and the electronics reconnaissance and destruction functions were not related either in unit support or in training. The Fifth Air Force accordingly recommended that the new squadron would be organized and equipped for an electronics reconnaissance function.<sup>109</sup> Actually, however, the new squadron was going to combine the weather and the electronics reconnaissance functions in recognition of the economy which could be realized when weather aircraft undertook electronics sur-

veillance in the course of their routine flights. During February 1953 FEAF authorized the installation of electronics surveillance equipment in WB-26 aircraft, and as the Korean war ended two such aircraft were so being configured.<sup>110</sup> Early in April 1953 FEAF further informed the Fifth Air Force that it had secured authority to reactivate the 11th Tactical Reconnaissance Squadron during the second quarter of fiscal year 1954. As unit equipment, this squadron would be authorized nine electronics RB-26's and nine WB-26's, and the squadron would be assigned to the 67th Wing. The 6166th Flight would be deactivated. These actions were taken as planned, and effective 18 September 1953 the Fifth Air Force reactivated the 11th Tactical Reconnaissance Squadron and simultaneously deactivated the 6166th Flight. The new squadron was subsequently redesignated as the 11th Tactical Reconnaissance Squadron, Electronics and Weather, effective 25 November 1953.<sup>111</sup>

**Photographic Technical Services:** During the first two years of the Korean war the major deterrent to the successful accomplishment of the tactical reconnaissance mission had been in the photo technical facilities required to reproduce, interpret, and distribute the masses of reconnaissance photography to requesting or requiring agencies.\* In the last year of the hostilities, however, the major deterrent was no longer the photo technical facilities but the lack of a suitable photographic reconnaissance vehicle and camera capability. In the first two years, photo aircraft had not flown at a sortie rate equaling reasonable operational planning factors because of the deficiency of reproduction facilities; in the last year, the photo technical facilities had grown to an extent wherein they possessed more capability than could be satisfied by the tactical reconnaissance squadrons.

During World War II the Army Air Forces had handled mass production of photographic prints required by the Army, but in 1946 it had been realized that this burden was too great for a single reconnaissance technical squadron. In 1948 an agreement between the Departments of Army and Air Force had provided that the Air Force would fly the photography which a field army required, would develop the film, and would

\*See AHS-72, pp. 226-228.

SECRET



SECRET

furnish the field army with negatives and two prints of each negative. This new system was subsequently described in detail in the *Joint Training Directive for Air-Ground Operations*, issued on 1 September 1950. This directive visualized the establishment at the reconnaissance airfield of a joint air photo center comprising army and air force aerial photographic production, interpretation, and distribution facilities. A reconnaissance technical squadron was the air force contribution to the joint center; an engineer photo reproduction and distribution organization and photo interpreter teams were the army components of the joint air photo center. The army units were expected to receive developed film and to interpret, reproduce, and distribute the aerial photographs required by ground units. While cognizant of its responsibilities, the Eighth Army was unable to provide any personnel to a joint photo center before February 1951 and then only in detachments strengths. Despite urgent requirements laid upon the Department of Army, the 98th Engineer Aerial Photo Reproduction (APR) Company did not arrive in Korea until June 1952.<sup>112</sup> This company became operational in Seoul in mid-July 1952. Lack of an adequate water supply for photo processing at Kimpo airfield\* was the apparent reason why this army unit settled in Seoul instead of at the reconnaissance airfield. Although justified by local circumstances, the physical separation of the units of the joint photo center resulted in losses of time, which necessarily effected the immediateness of reconnaissance. This loss amounted to at least 30 minutes per mission flown because this was the length of time required to carry film from Kimpo to the engineer company in Seoul. Furthermore, the courier service of the Signal Corps, which delivered bulk photography to using units, was located 20 minutes driving time from the Engineer APR Company, a fact resultant in still more lost time.<sup>113</sup>

Before the arrival of the prescribed army component of the joint air photo center, air force personnel, augmented by a detachment of 86 army technicians, had been responsible not only for the processing of all aerial film but for print reproduction for both army and air force units. This burdensome mission had been accomplished by a

\*See Chap. V, p. 179.

concentration of all available technicians into two laboratories: personnel from the unit photo labs of the three tactical reconnaissance squadrons formed AF Photo Lab No. 1, which processed aerial film and made two contact prints; personnel of the 67th Reconnaissance Technical Squadron and the army detachment formed Photo Lab. No. 2, which handed mass production of prints required by the Fifth Air Force and Eighth Army.<sup>114</sup> With the arrival of the 98th Engineer APR Company, the workload of the 67th Reconnaissance Technical Squadron, so far as army photography was concerned, changed from print reproduction to film processing. A return to a more normal scheme of operations was accordingly effected during the last year of the war. Beginning in November 1952 the 67th Squadron commenced to transfer personnel back to their tactical squadrons so that they could do their own first phase processing and production, but various difficulties—including shortages of water at the unit photo labs—delayed a full accomplishment of this transfer of responsibilities until April 1953.<sup>115</sup>

In the summer of 1951 when the 67th Tactical Reconnaissance Wing moved northward from Taegu to Kimpo the Fifth Air Force had been forcibly impressed by the lack of mobility of the 67th Reconnaissance Technical Squadron. Equally cognizant of the immobility of its technical labs, the 67th Wing early in 1952 set afoot a project called "Trailer Camp." In compliance with an approved request, FEAMCom prepared a complete mobile photo technical laboratory using 11 vans and 2 large water trailers. These vans were shipped by water to Pusan and arrived at Taegu Airfield (K-2) somewhat damaged in transit; they were repaired and were set up for operations by 16 June 1952.<sup>116</sup> The trailer installation at K-2, like the laboratory at K-14, had a potential for the mass production of 25,000 prints in a 24-hour period, and the plan was that the K-2 facilities would handle routine air force print reproduction.<sup>117</sup> While located at K-2, however, the mobile photo lab did not perform satisfactorily, partly because of design problems and partly because of the increased time required to convey negatives there and then return the prints to using agencies. When only 6,000 prints were produced in September, the 67th Wing began to urge that the trailer installation be brought to Kimpo where it could be closer observed.<sup>118</sup> After

SECRET



SECRET

much difficulty with rail transportation, including problems of tunnel clearances and bridge weight limits, the trailers arrived at K-14 on 28 January 1953. During February the trailers were remodeled, and on 18 March one of them was loaded with representative photographic equipment and pulled to K-47 airfield and back again. Such a minimum of damage was incurred in this 200-mile trip that the conclusion was drawn that the trailers were roadworthy. Beginning on 2 May, a 30-day sustained operational test of the trailer installation showed that it had a capability for producing 7,000 negatives and 15,000 photographic prints in a 24-hour period. As this capacity was somewhat short of the desired capability of 25,000 prints per day, the 67th Squadron requisitioned four more trailers and made added modifications in the equipment installations in those on hand. When these actions had been completed, all laboratory facilities were moved from the buildings at Kimpo to the trailer project on 20 June 1953, and by mid-July film processing and print production in the trailers were judged to be systematic and efficient. The 67th Reconnaissance Technical Squadron had so gained a desired measure of mobility, but just to be safe against the eventuality of an enemy air attack the 67th Wing built up a store of standby equipment at Taegu (K-2). These alternate facilities, designed as a safeguard against some disaster at Kimpo, were capable of operating by 26 July 1953.<sup>119</sup>

**Allocation of Reconnaissance Capabilities:** In June 1952 many of the procedures and the organization which controlled Fifth Air Force reconnaissance represented improvisations which had had their origins early in the fighting. The system for the control of tactical reconnaissance effort, and the gradual evolution of it, has been noted in an earlier monograph;\* suffice it here to say that this reconnaissance system worked because the people concerned were familiar with it, but, as a progression of events showed, it had not been completely efficient. During July 1952 two factors demanded a review of the reconnaissance control system. The one was that the Eighth Army, having tardily provided itself with photo reproduction facilities, now desired to receive a larger volume of aerial photography. The other was that the new FEAF air pressure policy directive

\*See AHS-72, pp. 225-228.

demanded large quantities of reconnaissance targeting effort. There was a need for the most efficient employment of the scarce available reconnaissance effort; there was also a requirement that existing misconceptions as to the capabilities and limitations of tactical air reconnaissance should be corrected. Desiring to accomplish both of these objectives, the Fifth Air Force on 12 and 13 August 1952 sponsored a joint air-ground reconnaissance conference which was held at Kimpo with the 67th Wing serving as host to representatives from FEAF, the FEAF Bomber Command, Fifth Air Force, the 1st Marine Air Wing, and the Eighth Army. A total of 21 problems were presented at the conference.<sup>120</sup> After each problem was discussed the conference made recommendations looking toward its alleviation.

As the discussions at the reconnaissance conference progressed it became evident that many of the problems could best be solved by the establishment of a reconnaissance branch in the Joint Operations Center, a branch which would include a reconnaissance operations element, a reconnaissance intelligence element, and a G-2 Air reconnaissance element. Such a reconnaissance branch was recommended in the *Joint Training Directive for Air-Ground Operations*, but the need for such an agency had never been formally appreciated in Korea. The Directors of Operations and of Intelligence of the Fifth Air Force, after attending the conference and participating in the discussions, both concurred in the recommendation that a JOC reconnaissance branch should be established. Working in close coordination, these two key staff officers soon evolved an agreement as to the duties and functions of the reconnaissance branch, and, after approval by the commanders of the Fifth Air Force and the Eighth Army, plus some physical alterations in the JOC facilities, the JOC reconnaissance branch began to function early in September. Operating under the supervision of the Fifth Air Force Director of Combat Operations, the JOC reconnaissance branch was made responsible for the coordination and allocation of all Fifth Air Force tactical air reconnaissance effort and for its photo laboratory and photo interpretation effort. With a few unimportant exceptions, all contact on matters pertaining to reconnaissance with the 67th Wing had to be made either by the commander of the Fifth Air Force or by the JOC reconnaissance operations officer. All requests for

SECRET



SECRET

reconnaissance missions were to be submitted to the JOC reconnaissance branch, normally by 1100 hours each day. All requests for bomb damage assessments were transmitted directly to the reconnaissance operations element, but other air force requests went first to the reconnaissance intelligence element which prepared them into a daily reconnaissance plan. The G-2 Air reconnaissance element received reconnaissance requests from the Eighth Army and incorporated these requests into another daily reconnaissance plan.<sup>121</sup>

Most of these functions which became the duties of the JOC reconnaissance branch had previously been exercised by various staff officers in the headquarters of Eighth Army and Fifth Air Force, but the bringing together of the functions and the men responsible for them into an operating level agency had a salutary effect. From its inception, the JOC reconnaissance branch eliminated waste time and effort in the reconnaissance system, and it provided solutions for many of the problems discussed at the joint air-ground reconnaissance conference. Such a relatively minor innovation as a current JOC reconnaissance map eliminated duplicate coverage; for example, targets of air force interest could be seen to fall within a block of photography being flown for the Eighth Army. Prior to the establishment of the reconnaissance branch, the 67th Wing had not always been notified when scheduled air attacks had been canceled and had flown useless BDA missions; such was no longer true. The Fifth Air Force had never published an outline for photographic print distribution, and the absence of such instructions caused delays when the 67th Wing had to go through notices to airmen, operations orders, operations plans, and radio messages to determine where to send particular lots of finished prints. The reconnaissance branch solved this problem neatly in an order issued on 30 September which established a distribution code and required that code designators should be included immediately following the coordinates of the photo targets listed in the daily operations order. The Fifth Air Force operations order, moreover, was lengthened in order to give more information to the pilots who flew the reconnaissance mission and to the photo interpreters who analyzed the resultant photography.

There had been no system within the Fifth Air Force for formally reviewing outstanding tar-

get lists and recurring target lists at periodic intervals. The JOC reconnaissance branch issued a new recurring target list on 30 September, and thereafter it kept this list under periodic review. In response to such a review, the FEAF Bomber Command agreed in October to delete its requirements for periodic surveillance photography of airfields, marshalling yards, and communications lines. Outstanding targets which were scheduled but were not immediately flown because of some such factor as adverse weather were reviewed weekly with a view to their cancellation if no longer needed. A control sheet was also devised in order to permit the reconnaissance branch to inform interested agencies when, if, and on what sortie their photography had been taken. Another saving resulted from a consolidation of Eighth Army and Fifth Air Force photo reference libraries into a single jointly-manned library which became the responsibility of the Fifth Air Force Photo Reconnaissance Division. Prior to this action, both the Fifth Air Force and the Eighth Army had been maintaining identical but separate photo libraries.<sup>122\*</sup> Most of these changes were not spectacular, but the JOC reconnaissance branch, which figured the initial cost of each photo to be \$10, reckoned that the elimination of duplicate photography through better management meant considerable savings to the taxpayer.

At the joint reconnaissance conference and within the subsequently created JOC reconnaissance branch, Eighth Army officers made known their needs for reconnaissance and Fifth Air Force officers informed their army counterparts of the air capabilities for reconnaissance. Both actions looked toward a more efficient use of available effort. At the conference, the air representatives pointed out that night visual reconnaissance employments had become somewhat stereotyped: the 12th Squadron RB-26's flew coverage of the same three routes to the Manchurian border each night, and since these routes had not been changed in more than a year there was some thought that the need for this coverage should be reviewed. Air

\*This action eliminated one duplicate photo library, but two of such libraries were still maintained: one at Fifth Air Force and the other in the 67th Reconnaissance Technical Squadron. At a tactical reconnaissance symposium held at Shaw AFB on 2 through 6 November 1953, the Fifth Air Force representatives urged that the reconnaissance technical squadron should be assigned to the headquarters of a tactical air force, thus among other improvements eliminating duplicate film libraries. See Report of Tactical Reconnaissance Symposium, 1953, 1 Dec. 1953.

SECRET

represent  
visual  
port  
were  
the night  
the flash  
night  
tentation  
sance, or  
vague  
situation  
The air  
ficers  
employ  
ground  
"Hamm  
priority  
missions  
"Hamm  
quests  
sance  
the Aug  
tions  
results  
photog  
more  
RB-26  
commis  
MSR's  
worked  
along  
old  
aircraft  
naisan  
basis  
headqu  
fit to  
day  
Eighth  
of geog  
expedit  
these  
search  
reported  
months  
the Fifth  
to make  
justing  
cooper  
lery  
Woman



SECRET

representatives suggested that some of the RB-26 visual effort could furnish night photography support along the bomblines. Ground representatives were divided in opinion on this offer: they wanted the night photography but they were fearful that the flash-bomb illumination would jeopardize their night patrols. Air representatives also called attention to the fact that daytime visual reconnaissance, or "Hammer" flights, was too much used for vague area searches, which, in the static ground situation, generally revealed little enemy activity. The air representatives suggested and the army officers agreed that the "Hammer" flights would be employed in more specific search missions. The ground representatives also agreed to use the "Hammer" aircraft as much as possible for high priority army spot photography: requests for such missions would be passed directly to an airborne "Hammer" flight, and information of such requests would be signalled to the JOC reconnaissance branch. In the several months following the August conference all of these recommendations were implemented with generally wholesome results. Once they had sampled night support photography, Eighth Army forward units sent in more requests for it than could be satisfied by the RB-26 squadron. Night RB-26 visual route reconnaissance was rescheduled to cover only those MSR's south of 39°30' that were not being worked by night intruder aircraft. Discontinued along with patterned night reconnaissance was the old practice of placing 12 visual reconnaissance aircraft per day in each corps sector; visual reconnaissance was put on a specific mission, preplanned basis. Although at first opposed by the corps headquarters, this new plan gave a maximum benefit to requesting units and represented savings in day visual reconnaissance effort. In October the Eighth Army G-2 Air further designated a series of geographical blocks beyond the front lines for expediting the ordering of visual searches: one of these blocks was scheduled for intensive area search when some particular enemy activity was reported to be taking place in the area.<sup>123</sup> In the months following the reconnaissance conference, the Fifth Air Force also urged the Eighth Army to make more use of "Hammer" aircraft for adjusting long-range artillery fire; not many such cooperative missions were flown with army artillery batteries, but the naval surface forces in the Wonsan area requested and received a number of

gunfire adjustment missions in January and February 1953.<sup>124</sup> The patterns of visual reconnaissance employment worked out at the August conference and elaborated in the months which followed proved satisfactory to both the air force and to the army. The only difficulty reported was one of maintaining radio contact between the "Hammer" aircraft, working in front of a corps sector, and the Corps G-2 Air. Line of sight characteristics of VHF radio waves and the custom of locating corps fire support coordination centers (FSCC's) behind hill masses at some distance behind the front lines contributed to this problem.<sup>125</sup>

In addition to its need for visual reconnaissance, the Eighth Army had a substantial requirement for photographic reconnaissance. As a matter of policy, the Eighth Army attempted to cover its requirements for photo reconnaissance with commitments of capability from the Fifth Air Force. Once the Fifth Air Force had committed itself to accomplish a requirement, the Eighth Army expected it to do so, and it regulated the number of requests that its subordinate units could make for photo missions in terms of these stated air capabilities, reckoned at so many sorties or photographic negatives to be accomplished for the army each day. This mechanical concept of air operational capabilities utterly ignored changes in reconnaissance schedules which had to be made in context with enemy opposition and vagaries of the weather. Such rote computations of capability were also detrimental to the accomplishment of the reconnaissance objective. In May 1951, for example, the Eighth Army published a letter to its subordinates which erroneously informed them that the 67th Wing had a capability for flying only 25 photo sorties a day, of which 5 to 10 sorties were available to fulfill army requests. At this time the wing was actually flying from 30 to 40 sorties per day, but the Eighth Army units were discouraged from submitting requests for reconnaissance because of the small amount of capability which was thought to be available for army purposes.<sup>126</sup> The only limit on photographic capability in this period was in the Eighth Army's inability to provide mass reproduction and interpretation services, and when this misconception was cleared up the Eighth Army agreed that, until such time as it could secure its own facilities for this work, it would limit its photographic requirement to 1,229 negatives and 5,000 photo prints per

SECRET

255



~~SECRET~~

day. In mid-1952 upon the arrival of the 98th Engineer APR Company, however, the Eighth Army increased its requirement for photo support. This company had a planned capability for handling 5,900 negatives and for making 25,000 prints per day. In view of the static ground situation, it would not be necessary to use all of this maximum capability, but the Eighth Army desired to receive daily frontline cover, additional surveillance cover to the extent of 350 square miles per day, and certain other special photographic cover. In order to provide such an amount of photographic coverage, the Fifth Air Force would have to provide the Eighth Army with a total of 3,600 photographic negatives each day.<sup>127</sup>

The bulk of the Eighth Army's requirement for photo reconnaissance comprised periodic surveillance photography which was specifically vertical, mosaic, stereo-quality photography of a sufficient scale and resolution to permit photographic interpretation. In a war of fluid ground movements it was generally accepted that frontline cover, or the surveillance of the enemy territory to a depth of 15 miles behind the front lines, should be flown daily, as should deep cover of approximately 10 percent of the army's area of responsibility. At the August reconnaissance conference, Eighth Army representatives requested that such an amount of surveillance coverage be flown, but representatives of the Fifth Air Force explained that the 67th Tactical Reconnaissance Wing lacked the capability to fly so much surveillance photography. The limiting factor was the extremely long front held by the Eighth Army: this front was virtually equivalent in length to an army group front, and an army group would have normally been supported by three tactical reconnaissance wings. In recognition of the limited photo reconnaissance capabilities and of the static condition of the ground war, the reconnaissance conference worked out a sensible compromise. Frontline cover to a zonal depth of 15 miles into enemy territory would be flown weekly. Each Eighth Army corps was additionally interested in a deeper area that extended to a depth of 30 miles beyond the front lines: corps area photo cover would be flown three times monthly. And the Eighth Army itself, concerned with the grand scale of the ground battle, considered that its area of interest included everything from the front lines to the Yalu, but it was gen-

erally willing to limit its attention to the area of hostile territory between the front lines and the main supply route connecting Pyongyang and Wonsan. The Fifth Air Force agreed to cover the latter area as often as practicable, which turned out to be once each 90 days.<sup>128</sup> These time intervals represented an estimation of hostile abilities for ground movement. Enemy forces committed to the front could launch limited-objective attacks but could not sustain a drive without reinforcements. If the enemy launched a major attack he would have to bring up rear-area reserves, whose movement would be noted in the 10-day periodic corps cover. Actually, enemy reserve troops south of the Pyongyang-Wonsan line probably could have reached the main line of resistance in some six days, but it was believed that checking their positions each ten days gave a reasonable chance of detecting mass movements. The decision, however, was a calculated risk, necessitated by a shortage of reconnaissance capabilities.<sup>129</sup> One other expedient was employed, both in recognition of the fact that the 67th Wing could not as a matter of practice fly all of a given type of surveillance photography on a single day and that some sections of the front lines were more vulnerable to enemy attack than were other sections. For these reasons and for purposes of systematic scheduling, the 30-mile-deep zone of enemy territory ahead of the Eighth Army positions was subdivided into first 26 blocks and later (after December 1952) into 27 blocks, each approximately 15,000 meters square. Each of these blocks could normally be photographed by a single RF-80 sortie at a scale of 1:6,000 or 1:7,000. The order of priority in which the blocks were covered was determined in the JOC by the G-2 Air, who made his decisions in context with current enemy activities.<sup>130</sup>

In addition to its requirement for periodic surveillance cover, the Eighth Army had a requirement for special photographic cover. When some enemy activity merited a closer look, it required large-scale photography, or mosaic, stereo-quality photos at scales of 1:2,000 or smaller. Since enemy installations located at the bases of reverse hill slopes very frequently did not show on vertical photographs, the Eighth Army required oblique photography at a scale of about 1:3,000. The Eighth Army also had a seasonal requirement for a limited amount of camouflage detection photog-

~~SECRET~~



raphy and a routine requirement for night photography, the latter at scales of from 1:5,000 to 1:7,000.<sup>131</sup>

Following the discussions in August, the G-2 Air in the JOC on 3 September 1952 summed up Eighth Army requirements for photo reconnaissance: during the period of static ground operations, the Eighth Army would require a daily average of 3,600 photographic negatives, including 300 large-scale negatives, 100 camouflage detection negatives, and 100 night photographic negatives. The special photography would be in the scales noted above. This statement of Eighth Army requirements was defective on its face: the 3,600 negative figure was the same daily total which the Eighth Army had earlier said would include daily frontline cover plus 350 square miles of rear-area cover. In the August reconnaissance conference, all representatives had agreed upon less frequent surveillance photography. The G-2 Air, moreover, forgot to include the Eighth Army's requirement for oblique photography. Despite these discrepancies, however, the assistant chief of the Fifth Air Force reconnaissance operations on 6 September informed the G-2 Air that the Fifth Air Force was able to meet the Eighth Army's stated reconnaissance requirements.<sup>132</sup>

The period of good feeling relative to reconnaissance between the Eighth Army and Fifth Air Force was not long lived. Trouble first arose concerning the matter of photographic scales. All requirements for surveillance cover had been computed on a basis of 1:7,000 scale photography. Although this was the standard scale for such work, the RF-80's quite frequently accomplished reconnaissance surveillance photography at scales of 1:6,000, which was the same scale employed for air force target photography.\* With existing photographic equipment such 1:6,000 or 1:7,000 scales of photography represented an optimum employment, and 6,250 negatives would cover all 26 of the surveillance blocks. But, because of image motion blur, photography taken by jet aircraft in Korea at scales of 1:6,000 and smaller actually lacked sufficient line resolution to permit detailed photographic interpretation: where detail was important to recognition in such photography, an interpreter usually could not correctly identify

\*In the spring of 1953 considerations of safety compelled the Fifth Air Force to raise the scale of air force target photography from 1:6,000 to 1:8,000.

objects of dimensions less than 15 to 20 feet. Inexperienced photo interpreters incorrectly believed that larger image sizes would improve their visual acuity, and thus there were demands in September 1952 for surveillance photography at scales as large as 1:3,000. Such large scales were operationally infeasible: to fly the corps and frontline cover at a 1:6,000 scale required about 30 percent of the Fifth Air Force's photographic effort; to have flown it at a scale of 1:3,000 would have required about 60 percent of the available effort. The latter scale would have produced some 25,000 negatives (instead of 6,250), a number which would have been beyond the Eighth Army's capability to produce and interpret.<sup>133</sup> This dispute as to the scale of army surveillance photography was not laid to rest until November 1952, but at this time the air and ground commanders agreed upon a compromise: frontline cover would normally be flown at a 1:7,000 scale, but every fourth week it was flown at a 1:5,000 scale; corps cover was also normally flown at a 1:7,000 scale, but once a month it was also flown at a 1:5,000 scale.<sup>134</sup> The 1:5,000 scale increased the number of RF-80 sorties which had to be flown, but it had sufficient detail to be acceptable for Eighth Army interpretation purposes.<sup>135</sup>

Confronted by a loss and damage rate that was high for reconnaissance aircraft, General Barcus in October 1952 stated the rule that reconnaissance operations would not be conducted at altitudes below 9,000 feet within 30,000 yards of the main line of resistance nor below 12,000 feet over any heavily defended target. Since army objectives for large-scale and oblique photography were almost invariably located within the friendly artillery range (20,000 yards from the MLR) these flight rules, designed to safeguard the exceedingly scarce photo planes, precluded nearly all low obliques and ruled out 1:3,000 vertical photography. A limited number of high-level obliques could still be flown by the Marine F2H2P's, which could mount a 24-inch oblique camera. On 1 November the Fifth Air Force accordingly informed the Eighth Army that only "in rare instances . . . with ample justification" would it accept requests for 1:3,000 scale photography or low-level obliques in the area within 30,000 yards of the front lines. On 13 December the Fifth Air Force further defined its operating policies in reference to photographic scales. It



SECRET

would accept requests for scales of 1:5,000 or 1:6,000 consistent with its capabilities; it would accept requests for scales of 1:4,000 in limited amounts, depending upon the purpose for which the photography was requested and enemy anti-aircraft defenses; it would not ordinarily accept requests for scales larger than 1:4,000; and it would not accept requests for oblique photography that would require flight altitudes of less than 9,000 feet. In the event of a future ground emergency, the Fifth Air Force promised to revise these policies in accordance with the gravity of the emergency, the status of hostile anti-aircraft artillery defenses, and the state of its reconnaissance capabilities. Although the Eighth Army G-2 Air tacitly accepted these necessary restrictions, he took formal exception to the idea that the Fifth Air Force would have any authority to inquire into the purpose or the need and urgency of a reconnaissance mission requested by the Eighth Army.<sup>156</sup>

Unanticipated growth of enemy anti-aircraft defenses prevented the Fifth Air Force from giving the Eighth Army the scale of photography which it wanted, and during the autumn of 1952 unfavorable photographic weather reduced the Fifth Air Force's photographic capability. Unlike other types of aviation, which either possess all-weather capabilities or at least are able to operate in marginal weather, photographic reconnaissance demands clear target weather. Bad weather in July 1952 considerably hampered all reconnaissance operations, and throughout August abundant cumulus clouds were ever present. Most of the weather in September was good, and October had 25 days of completely operational weather. During September, however, a substantial portion of the RF-80 effort had to be used to the accomplishment of backlogged requests for missions which had been postponed from the previous month. And in October, although the weather was good, the seasonal light effects decreased the length of the photographic day to four, or at most five hours per day. There was just not enough RF-80 capability to get everything done in such a few hours. During November there were only 11 days of completely operational weather and in December the bad weather continued, with the result that all periodic reconnaissance cover got behind. Despite the adverse weather conditions, 10,220 effective sorties were flown in these six

months, delivering 483,925 satisfactory photographic negatives.<sup>157</sup> This was a substantial amount of photography, but, with army requirements computed at 3,600 negatives per day, it did not even equal the Eighth Army's demands for photography. Believing that the Eighth Army should share in the reduction of the reconnaissance capability, the Fifth Air Force on 1 November 1952 explained its problem and requested the Eighth Army to reduce its aerial photo requirements to approximately 2,400 negatives per day. The G-2 Air of the Eighth Army somewhat tartly replied that the Eighth Army's requirement was for 3,600 negatives per day during the static ground operations and this was the minimum amount of photography required for satisfactory intelligence: the requirement could not be reduced, but, of course, the Eighth Army was willing to accept the fact that the Fifth Air Force could not provide it with more than a daily average of 2,400 negatives.<sup>158</sup> For "purposes of planning," the Fifth Air Force thereupon reduced the number of negatives to be flown for the Eighth Army to 2,400 per day. That this figure was sound was demonstrated in November reconnaissance records which revealed that an approximate daily average of 2,000 acceptable negatives was delivered to the Eighth Army, excluding photographs of targets of opportunity taken for the corps by visual reconnaissance planes.<sup>159</sup>

Looking back on this experience in November 1952, with the advantage of hindsight, it was obvious to the Fifth Air Force that "negatives per day" did not provide a valid yardstick for measuring photographic capabilities and requirements. During certain periods of ideal conditions reconnaissance units could fly more photography than in other periods. It was thus reasonable to believe that there would be periods when the Eighth Army would require more photography than could be flown; but it was just as reasonable to believe that there would be periods in which the Eighth Army would not require great numbers of photo negatives. On 10 November 1952, the Fifth Air Force therefore stated its belief that "limitations can only lead to frustration on the part of persons who may have a vital and urgent requirement for photography." Although requests should be screened by the various echelons of command in the Eighth Army, the requests would not be disapproved simply because too many negatives had

SECRET

TC 110018



SECRET

been requested. The army should be encouraged to disregard any past limitations that may have been made on photography; it was the business of the JOC to equate requests for photography in terms of air capabilities to provide the reconnaissance.<sup>140</sup> Much this same point of view was expressed for FEAF's Deputy for Intelligence later in November, after the Eighth Army had carried its dissatisfaction to the Assistant Chief of Staff, G-2 FEC, and he had reported the matter to FEAF. The Deputy for Intelligence of FEAF commented that aerial reconnaissance capabilities and requirements should be settled by the commanders of the Eighth Army and Fifth Air Force, but in a memorandum for record he recorded the belief "that if Eighth Army will submit their valid and justifiable requests for aerial reconnaissance to the JOC without regard to any 'number of negatives' limitations, the Fifth Air Force will be able to satisfy these requests."<sup>141</sup>

The result of these discussions was an agreement between the Fifth Air Force and the Eighth Army that no limitations would be placed upon the number of daily requests for reconnaissance. Although the Eighth Army would continue to evaluate the requests submitted by its subordinate units, final acceptance or rejection decisions would be the responsibility of the JOC reconnaissance branch. While this agreement relieved the Fifth Air Force from the responsibility for providing the Eighth Army with any arbitrary number of negatives each day, the Eighth Army quite consistently continued to request more photo sorties than the Fifth Air Force had the capability to fly for it. And the G-2 Air also continued to submit requests for low oblique photography: although he said that he knew that the air force could not fly such missions, he did not wish to discourage field commanders from requesting a type of photography which they needed.<sup>142</sup> But even though the Fifth Air Force was unable to meet the full extent of the ground demands for reconnaissance, it was impossible to deny that it gave the Eighth Army an exceptionally large amount of photography. Benefiting from the longer days and clearer weather during the early months of 1953 that to some extent compensated for the bad flying weather in June and July 1953, the 67th Wing in the first seven months of 1953 flew 10,771 effective sorties and delivered a total of 395,009 satisfactory photo-

graphic negatives. Although exact figures are not available, some two-thirds of these photographic negatives went to the Eighth Army.<sup>143</sup>

The magnitude of the Fifth Air Force's photographic support for the Eighth Army was illustrated by production records for March 1953: in this month the Eighth Army received 64,657 photographic negatives, which, according to G-2 Air figures, amounted to 75 percent of the total number of negatives which had been requested. Most of these negatives were mosaics and each covered a ground area of approximately 1 mile by 2 miles: thus in the 11,000 square mile area of Eighth Army responsibility these March photographic negatives represented a repeated coverage which totaled up to 129,314 square miles of Korean soil.<sup>144</sup> During the ground crises of June and July 1953, moreover, the Fifth Air Force outstripped the substantial totals of reconnaissance which it routinely provided to the Eighth Army each month and turned in outstanding support records: of 495 reconnaissance sorties flown during the period of 12-19 June, 319 or 65 percent of the total were flown at the request of the Eighth Army. Had the bomblime weather not been so bad, this Eighth Army support would have been even larger. In the four operational days between 13 and 20 July the 67th Wing flew 116 photo sorties and 75 visual sorties for the Eighth Army.<sup>145</sup>

In the last year of the war the 67th Tactical Reconnaissance Wing operated at its peak of capability to provide substantially more reconnaissance than similar units had provided in World War II, but the amount of reconnaissance flown never equaled the requests for reconnaissance. Viewed philosophically, it was not surprising that there was more need for reconnaissance than there was capability. To have denied this would have been to have said that complete knowledge of the enemy was possessed, and such could never be true.<sup>146</sup> Viewed practically, aerial reconnaissance forces represent an expenditure of the resources of the nation, and this expenditure must be balanced with other expenditures in the national weapons system. During the static ground warfare in Korea, the Eighth Army had maintained that it required a minimum of 3,600 photographic negatives per day. Had the Korean ground fighting become fluid, the Eighth Army indicated that it would have needed 4,900 negatives per day.<sup>147</sup> At the end of the Korean War, Eighth Army representatives



indicated that requirements for reconnaissance would be even heavier in future hostilities. Calculating requirements on the basis of a normal 75-mile army front and 1:5,000 scale photography, these Eighth Army men stated that in defensive situations a field army would require a total of 5,000 negatives per day. In offensive actions the requirement of the field army for photography would increase to 6,000 negatives per day.<sup>148</sup> After examining these requirements, FEAF doubted that the national resources would be able

to provide such a scale of reconnaissance support in a future global conflict. It believed that some higher level of authority was going to have to determine whether such additional expenditures for reconnaissance would enable the United States to accomplish its armed force mission with a reduction of other forces equaling the cost of the additional reconnaissance. In other words, would one more dollar spent for reconnaissance in support of ground forces save the ground forces one dollar's worth of expended effort?<sup>149</sup>

### THEATER AIRLIFT

**The Concept of Flexible Air Transport:**\* From their embryonic origins early in World War II, troop carrier and air transport aviation had always been accorded separate command status. Troop carrier was concerned with such matters as airborne assault and air-dropped resupply, and air transport had been charged with air-landed movements of cargo and personnel. That troop carrier and air transport functions could be successfully combined had been at least indicated in the campaigns in Burma and in the Southwest Pacific during World War II but the first forceful demonstration of the idea took place during the spring of 1950 when joint Army and Air Force maneuvers, called "Exercise Swarmer," were held in North Carolina.†

In the course of "Swarmer" the participants learned much regarding large-scale combinations of troop carrier and air transport functions, and the seminal thinking from this exercise was brought to the Far East by Maj. Gen. William H. Tunner and his staff officers, who were especially summoned from the United States to organize, effective 26 August 1950, the FEAF Combat Cargo Command (Provisional). This provisional command was replaced by the 315th Air Division (Combat Cargo) on 25 January 1951 and the command of it devolved successively upon Brig. Gen. John P. Henebry (8 February 1951), Col. Cecil H. Childre (26 February 1952), and Brig. Gen. Chester E. McCarty (10 April 1952), but the basic organizational concept of the theater airlift effort did not change. This basic concept was: given

direct responsibility to the theater air commander and continuous centralized control over subordinates, a single airlift command with one fleet of aircraft could successfully carry out all airlift missions—airborne assault, air-drop supply, air-landed supply, air evacuation of sick and wounded, personnel transport, air movement of tactical ground and air units, and special air missions, together with all of the activities allied to such operations. Flexibility of airlift was the practical answer to good air transportation.

Establishment of the FEAF Combat Cargo Command as a major subordinate command to the FEAF relieved the Fifth Air Force of the bewildering responsibility for controlling the theater airlift. At this same time, however, General Tunner insisted that the responsibility for allocating theater airlift capability was a function of the theater commander and the responsibility could best be exercised through a joint committee representing the Army, Navy, and Air Forces in the theater. A FEC Joint Air Priorities Board was accordingly established, and this board, receiving a weekly forecast of airlift capabilities through FEAF from the cargo command, allocated tonnages to the various using services. The proviso that airlift capability was to be allocated in the form of tonnages was a rebuttal to the efforts of certain groups, particularly in the Army, who wanted the theater board to allocate cargo aircraft in blocks or in units for specific transport usages.<sup>150</sup> The deliberations of the theater air priorities board were influenced primarily by the strategy of the theater commander and by the exigencies of the existing tactical situation, and in a crisis the board could conceivably allocate the entire airlift

\*Most of the information presented in this introductory section is given in greater detail in AHS-71, pp. 100-106 and AHS-72, pp. 234-47.

†See AHS-80: Air Force Participation in Joint Army-Air Force Training Exercises, 1947-1950, pp. 16-31.



~~SECRET~~

capability to one using service. Generally, however, the theater allocations were equitable.

Located at the headquarters of the FEAF Combat Cargo Command and its successor 315th Air Division were liaison officers of FEAF and the Eighth Army. These officers were collectively called the Joint Airlift Liaison Control (JALCO), and this informal organization was sometimes incorrectly described as the "working body" of the joint air priorities board. Actually, however, these liaison officers were responsible to their respective commands. From these commands they received specific requests for air movements and decided what was to be moved at what time and in what priority, keeping their consolidated requirements within the tonnage allocations granted to their commands by the theater air priorities board. When a coordination officer received requests which totaled up to more than his command's allocation, he usually approached the other coordination officer to determine whether or not he might be able to borrow some of that officer's allocation. If the needed tonnage could not be borrowed, the coordination officer could request the 315th Air Division to exceed its stated capabilities for a short period of time. The 315th was sufficiently flexible to manage slight extensions for short periods. If, however, the extension requested was substantial, the 315th required the coordination officer to take his case to the theater air priorities board, which might be willing to declare an emergency and authorize the 315th to fly a maximum effort.

Under the control system established in August 1950 and continued throughout the war, the 315th Air Division was not concerned with the allocation of its airlift capabilities nor with the designation of priorities for the movement of individual shipments. Yet if the theater board and JALCO determined the tasks it would perform, the 315th Air Division zealously maintained its own responsibility for determining how it would most efficiently execute its assigned tasks. In the spring of 1953, when the Joint Air Priorities Board attempted to skirt division operational responsibilities and to direct the movement of combat cargo aircraft to meet commitments, General McCarty issued point-blank orders that no such directives would be honored unless they were issued by General Weyland.<sup>151</sup>

Within the headquarters of the FEAF Combat

Cargo Command and the 315th Air Division, the Transport Movement Control (TMC) Section functioned as a nerve center which directed the movement of transport aircraft in the Far East. Although other sections of the headquarters assisted it in planning and ordering missions, the TMC monitored and controlled all airlift operations. In the event that a day's operations did not go as planned, the TMC duty officer was empowered to make decisions changing the plans. In cases where all scheduled cargo could not be carried, because of unforeseen circumstances such as unfavorable weather, the TMC duty officer contacted the coordination officer concerned to determine what particular cargo carried the highest priority. The TMC maintained status boards revealing up-to-date information concerning the location and condition of all aircraft of the command. When necessary, it possessed communications whereby aircraft might be diverted in flight from one point to another. In short, no aircraft in the 315th Air Division moved without the knowledge and control of the Transport Movement Control Section.

Organizational actions in the 315th Air Division varied according to the transport mission being performed, but all transport missions were closely scheduled, controlled, and reported. The predominant task of the airlift was to deliver air-landed supplies, all of which were requisitioned by using agencies in type and quantity. Management of a typical air-landed resupply mission progressed as follows: the Eighth Army G-4 in Korea notified the Army airlift coordination officer that a given quantity of supplies was needed at a forward Korean airfield. The Army coordination officer checked the supply depots in Japan to locate the required supplies and ordered them delivered to an air terminal detachment. The Army coordination officer then passed a request to the 315th's TMC to move the supplies to Korea. This request would be one of a number of a day's requests, all of which were generally turned in at the TMC before 1400 hours. At this time representatives of the 315th's Traffic Section and the TMC met and prepared an operations order for the following day. While this operations order was being mimeographed, the transport wings were notified by telephone of their next day's commitments, which were later confirmed in the courier-delivered operations order.

~~SECRET~~



~~SECRET~~

Procedures for handling air-dropped supplies were similar to those used for air-landed cargo but more planning was required prior to the execution of this type of transport task. In this case, an Eighth Army troop unit that desired to secure a given quantity of air-dropped supplies communicated this information to the Eighth Army's G-4 air transportation officer, who passed the essential information both to the Army coordination officer at JALCO and to the 315th's liaison officer at Eighth Army. The 315th's liaison officer effected the necessary coordination with Fifth Air Force, arranging for such details as fighter escort or for Mosquito tactical air coordination, and telephoned or radioed all necessary information to the 315th's Operations Plans Section, which was responsible for handling air-dropped supply requests. The Army coordination officer in the meanwhile had checked with the 8081st Army Unit, which was responsible for air supply packaging and was located at Ashiya Air Base, to determine what of the required supplies were on hand and when the unit could begin to load them. The Army coordination officer then made a request to the 315th for the air-dropping mission and he supplied Operations Plans with precise information on the supplies to be dropped. When all this data was at hand, the 315th's TMC and Traffic Sections took over and proceeded with the ordering and scheduling of the supply drop mission. Usually C-119 aircraft, which were best suited for the function and were based at Ashiya, were used for supply dropping, but when necessary C-46's from Brady were sent to Ashiya and there loaded with the supplies to be dropped in Korea. At Ashiya, the 8081st Army Unit loaded the supplies and provided the trained "kickers" who ejected the cargo over the drop zones in the forward areas.

As developed within the 315th Air Division, the air evacuation of troop casualties was wherever possible made a concomitant of cargo hauling, but, when necessary, especially scheduled aircraft were dispatched empty to Korea to evacuate casualties. Air evacuation was the responsibility of the 315th Air Division's surgeon, while actual handling was done by the 801st Medical Air Evacuation Squadron. Scheduling was accomplished by the 315th's Air Evacuation Operation Section: daily at noon, the Eighth Army's medical evacuation officer notified the 315th's surgeon of the number of patients

to be moved the following day. Supplementary data from the 801st's liaison officer at Taegu gave types and numbers of cases to be moved to Japan and the number of aircraft needed for the next day's evacuation of patients from forward airstrips. For intra-Japan movements similar information came from the Army hospital regulating officer. When all of this information was received the 315th's surgeon then submitted to the TMC a consolidated request, including aircraft types needed, pick-up points, destinations, and loading times. The TMC integrated these requests into the airlift schedule for the following day. Whenever possible, the 315th arranged to accomplish these evacuation requests by adding the necessary medical apparatus, flight nurses, and medical technicians to in-bound cargo flights that would deliver their loads and then out-load medical evacuation cases. This procedure was simplified by intra-Korea concentrations of evacuees: patients were picked up at forward airstrips by C-47's and lifted usually to Taegu (K-2) or Pusan (K-9) where field hospitals were located. From K-2 or K-9 patients requiring hospitalization in excess of 30 days or specialized treatment were airlifted to Japan. Within Japan, shifts were made by air from station to general hospitals.

The concept of flexible air transport stood the 315th Air Division in good stead when it managed the transport tasks presented to it during the Korean hostilities. The changing character of the battle virtually dictated the task that was to be emphasized at any one period, and the 315th's operational procedures were sufficiently fluid as to allow it to shift its capability from one task to another without a pause. Thus, during periods of fluid ground operations, the Eighth Army required large amounts of air-dropped supplies but smaller amounts of air-landed supplies. When the battle situation stabilized, few air-dropped supplies were delivered and the capability of the 315th was shifted to air-landed cargo and personnel. During the period of active ground fighting many air evacuation casualties had to be lifted; when the tempo of the ground fighting lulled this out-bound space was occupied by battle-weary personnel who were given rest and recreation (R & R) leaves in Japan.

The real test of the 315th Air Division concept of flexible airlift came when it handled airborne assault missions. Prior to Korea most thinking

~~SECRET~~



~~SECRET~~

relative to airborne assault operations, predicated as it was on World War II experiences, had held that the successful accomplishment of such a mission demanded the centralized direction of a joint airborne headquarters, comprised of Army and Air Force personnel, which would maintain operational control over attached airborne and troop carrier units. Such a concept, which advocated that air and airborne units should live, train, and operate together for long periods of time, was too expensive of scarce air transport effort and of personnel to be employed in Korea. Instead of following this concept, the organizational structures and procedures of the FEAF Combat Cargo Command and its successor 315th Air Division were laid in a broad enough fashion to manage both the continuing day-to-day airlift operations and the two airborne assaults that were made in Korea. The successful management of airborne assault missions was primarily attributable to an always harmonious relationship between the 315th Air Division and the 187th Airborne Regimental Combat Team. A permanent exchange of liaison officers interconnected the two headquarters, but more significant than this in maintaining harmony and unity of action was the manifest desire of both the air and airborne commanders to get the job done and leave controversies to higher levels of command.<sup>152</sup>

In the execution of the two airborne assault operations which were employed in Korea—the first at Sukchon-Sunchon in October 1950 and the second at Munsan-ni in March 1951—the FEAF Combat Cargo Command and the 315th Air Division displayed a facile ability to redirect their forces from air transport to airborne assault tasks. For such a redirection of force the 315th Air Division required 72 hours' advance notice prior to the execution of a regimental-sized airborne assault. In this period the C-119's and such other C-47's and C-46's as were needed to drop the paratroopers and their equipment were stood down for maintenance and then were marshalled at a forward airfield in Korea from which the airborne operation was staged. Within this same period, staff planners of the 187th RCT and the 315th Air Division held planning sessions and drew up the necessary operations orders. The 315th also arranged for such combat support as was required from the Fifth Air Force. Since only a part of its aircraft were needed to implement an airborne

operation, the 315th was able to continue its C-54's and C-124's on air transport tasks during the several days that were needed to launch and resupply the 187th RCT. Although the experience with airborne operations was limited to the airlift required to lift, drop, and resupply a single airborne RCT (a task which could be accomplished by a little more than an augmented C-119 group), the 315th Air Division was confident that its flexible procedures could be "successful where airborne units of army size and a considerable number of transport groups are employed."<sup>153</sup>

To the officers who guided the destiny of the 315th Air Division it was ever apparent that their real objective was to develop the utmost in airlift capability through a maximum utilization of the fewest possible aircraft. Such an objective recognized that the USAF could not economically invest in transport aircraft which were not fully utilized. It also recognized that excessive numbers of transport aircraft in a combat theater cluttered the airspace, crowded forward airfields, and generally impeded the accomplishment of priority air combat missions. Within the 315th Air Division constant introspection and sound management practices in every facet of its activities produced dividends in the form of airlift capability which was present when and where it was needed.

**Deployments of Troop Carrier Units:** Fundamental to the accomplishment of an airlift effort is the possession of an adequate number of transport squadrons, equipped with efficient type aircraft and based where they can load their cargoes of men and goods with the least waste effort. Because of the urgency of the tactical situation during 1950, however, a somewhat heterogeneous collection of troop carrier units had joined FEAF's own 374th Troop Carrier Wing in Japan. Many of these units had come for what was supposed to be a short period of temporary duty, but most of them were still in the theater in 1952. On 30 June 1952 the transport units assigned or attached to the 315th Air Division occupied bases as follows: Located at Tachikawa Air Base on Honshu was the 374th Troop Carrier Wing, with the 61st and 374th Groups. The 61st Troop Carrier Group had two squadrons of C-54 aircraft with it at Tachikawa, and the 374th Troop Carrier Group had one squadron which was in process of converting to C-124's and another squadron which,

~~SECRET~~



SECRET

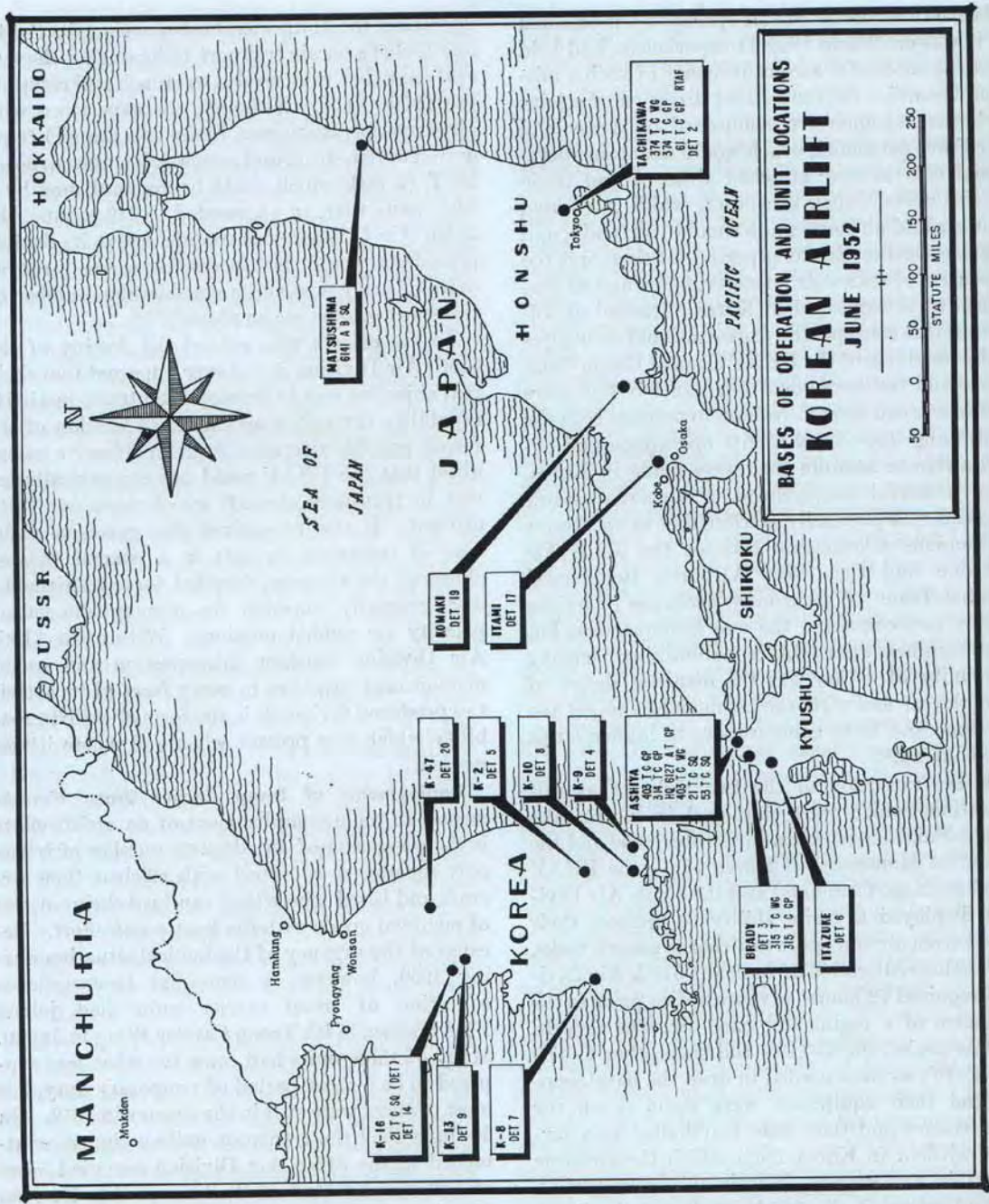


Figure 19.

SECRET



SECRET

although slated to convert to C-124's, still possessed C-54 aircraft. Also at Tachikawa was the Royal Thai Air Force Detachment with three C-47's and a detachment of Civil Air Transport (CAT) leased or contract service C-46 aircraft. Tachikawa's importance to the airlift effort lay in the fact that it was the primary aerial port of embarkation for priority supplies, equipment, and personnel which poured into the port of Yokohama and into Haneda Airfield and for other supplies and equipment stored or repaired in the military depots in the Tokyo-Yokohama area. Since Tachikawa served the FEALOGFOR as well as the 315th Air Division its base facilities would not accommodate all of the heavy transports which needed basing there: transport aircraft stationed elsewhere frequently had to be staged to Tachikawa to provide additional airlift to Korea.

Located at Ashiya Air Base on Kyushu was the 403d Troop Carrier Wing, which served two groups—the 403d and 314th—each of which had three squadrons of C-119 aircraft. Here also were located the 53d Troop Carrier Squadron with C-54 aircraft and the rear echelon of the 21st Troop Carrier Squadron, two squadrons which belonged respectively to the 61st and 374th Groups. Also at Ashiya and attached to the 21st Squadron was the Royal Hellenic Air Force (RHAF) Detachment which had five C-47 aircraft. Although the 21st Squadron and the RHAF Detachment counted Ashiya to be their home base, the flight echelons of both of these C-47 units was at Seoul Municipal (K-16) Airfield in Korea. Established at Brady Air Base on Kyushu was the 315th Troop Carrier Wing, with a group of the same designation and four squadrons of C-46 aircraft. These southern Japanese bases were near the Kokura general depot from which large quantities of combat materiel were airlifted to Korea. They were also near the 187th Airborne Regimental Combat Team's home station. From Seoul (K-16) the C-47 aircraft could handle priority movements of personnel and supplies into front-line airfields.<sup>154</sup> This deployment of troop carrier units is shown in figure 19.

This June 1952 deployment of 315th Air Division troop carrier units was less than desirable on two counts: groupings and aircraft were not homogenous and not all aircraft were based near the source of their cargoes. At this time, how-

ever, the last of a number of 315th Air Division redeployment programs was underway, and the key to the accomplishment of this program was the modernization of the 374th Wing with the new and huge C-124 Globemaster transport aircraft. As soon as the 374th Wing had converted two squadrons to C-124's, FEAF had promised USAF that it would allow the 61st Group to return to the United States with two of its C-54 squadrons. In order to provide a third squadron for the 374th Wing and to keep one C-54 squadron in the Far East, one of the 61st Group's three C-54 squadrons was to be redesignated as the 21st Squadron. At such time as this happened, the old 21st Squadron, which had flown C-47's since the early days of the war, would be redesignated and reorganized as a table of distribution unit. Under this plan, two squadrons of C-124's and one squadron of C-54's would be based at Tachikawa, all C-119's would be located at Ashiya, all C-46's would continue to be based at Brady, and the C-47 assault squadron would move to Seoul Airport (K-16).<sup>155</sup>

This conversion and redeployment program was accomplished substantially as scheduled. Although an operational test of the C-124 aircraft had been conducted in 1951, General McCarty piloted the first operational Globemaster flight from Japan to Korea on 3 July 1952, and by 25 August these planes were scheduled on a one-per-day basis from Tachikawa to Korea. At the end of September 1952 the 374th Wing had on hand 26 C-124's, which number represented its authorized unit equipment plus 10 percent command support allocation.<sup>156</sup> On 1 November the 61st Group commenced to phase its C-54's out of the airlift operations, and the air echelon of the group began its return flight to the ZI on 15 November. Effective on 21 November the 61st Group and its 15th and 53d Squadrons were relieved from attachment to the 315th Air Division. The 14th Squadron remained at Tachikawa, where, effective on 1 December, it was redesignated as the 21st Troop Carrier Squadron. At this time the designation of the 14th Squadron was returned to the ZI, and the 6461st Troop Carrier Squadron was simultaneously organized at Ashiya to receive the personnel of the old 21st ("Kyushu Gypsy") Squadron.<sup>157</sup> These changes were accomplished without any reduction in over-all airlift capability of the 315th Air Division, but, as will be seen, the 61st Group

SECRET



SECRET

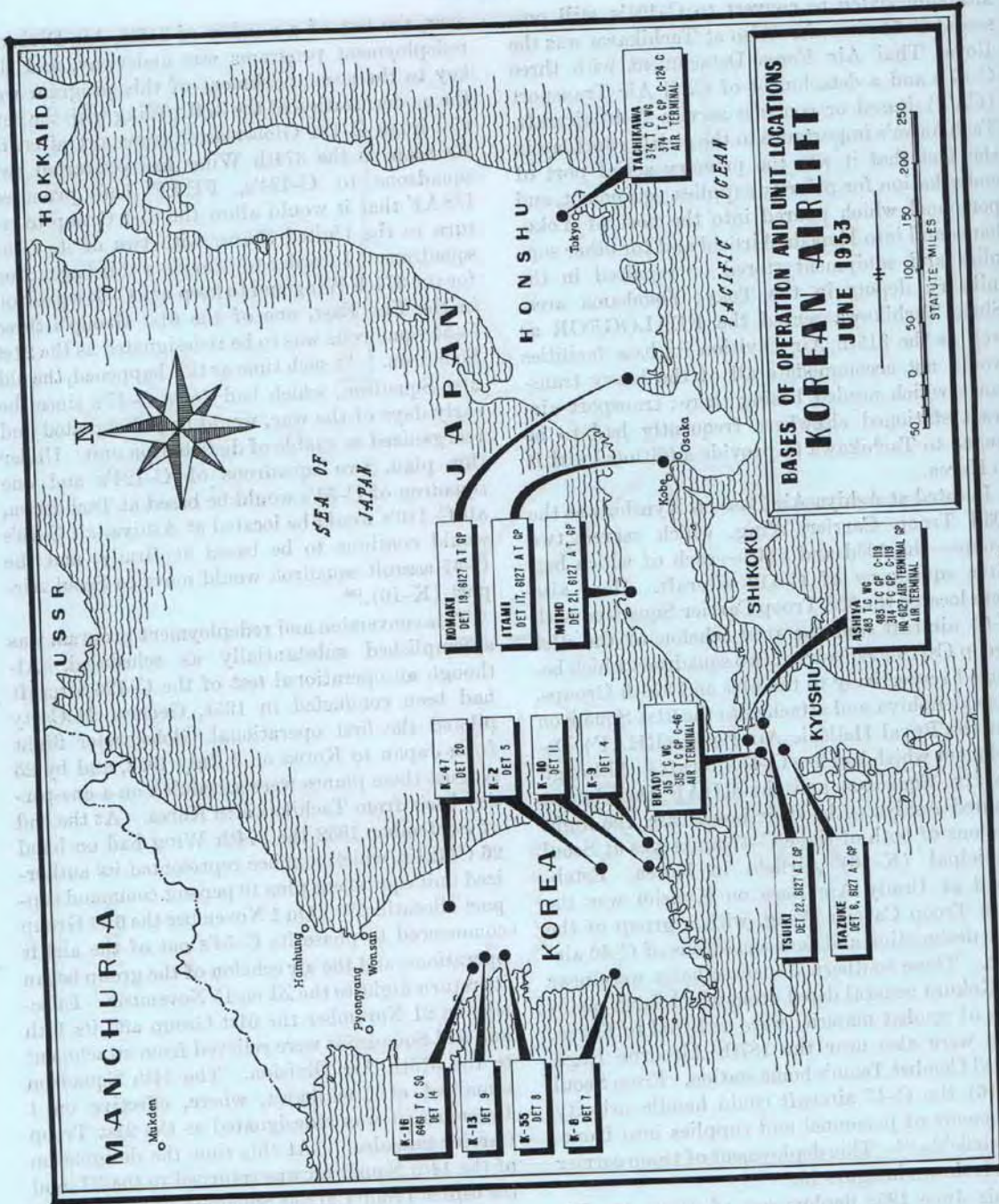


Figure 20.

SECRET



~~SECRET~~

was actually released a little too early to permit the Globemasters to take over the full burden of cargo movements out of Tachikawa.

In the winter of 1952-1953 a few other organizational changes were made among the 315th Air Division's subordinate units. Because of increased on-loading requirements resulting from the movement of the Fifth Air Force personnel processing center from Iwakuni to Tachikawa the 315th Air Division had to move one C-46 squadron (the 344th Troop Carrier Squadron) from Brady to Tachikawa. This change of station was completed on 15 December 1952 and the 344th Squadron was attached to the 374th Wing three days later. Although this action spoiled the homogeneity of aircraft at Tachikawa and crowded that base's housing facilities, the C-46's were needed to provide airlift for some 200 Fifth Air Force replacements and returnees who moved between central Japan and Korea each day.<sup>158</sup> Another change, this one a paper transaction, relieved the 403d Troop Carrier Wing (M) and its subordinate units from active military service effective 1 January 1953, returned this slate of designations to the USAF reserve, and simultaneously activated the 483d Troop Carrier Wing (M) with typical units of the same numerical designation and the 815th, 816th, and 817th Troop Carrier Squadrons.<sup>159</sup> The 6461st Troop Carrier Squadron remained attached to the 483d Wing, but effective 1 February 1953 it moved its main strength to Seoul (K-16) and left a detachment at Ashiya.<sup>160</sup> From this deployment, which is shown in figure 20, the 315th Air Division completed the Korean war.

**Problems of Aircraft Utilization:** Given possession of troop carrier wings based conveniently for the performance of their tasks, 315th Air Division staff officers figured weekly airlift projections on the basis of five planning factors. Two of these were situational factors: airways and airfield limitations and the variety of the air routes which had to be flown. These factors did not vary much from week to week. The other three factors had to do with aircraft utilization rates: the number of qualified crews assigned, the volume of replacement parts available, and the number of maintenance personnel per assigned aircraft.<sup>161</sup> To arrive at the command's airlift capability, these several factors had to be calculated in terms of each aircraft type which the command employed. When the 315th Air Division had requested that

it be assigned two squadrons of C-124A Globemaster aircraft it had indicated a willingness to pioneer into the unknown. This giant aircraft was designed for a gross take-off weight of 175,000 pounds, but no airfields in Korea and only one airfield in the theater (Kadena) possessed design criteria adequate for handling such loads. The Globemaster had been designed for inter-theater long-range airlift, but the maximum distance between Tachikawa and any airfield in Korea (Osan) was only 752 miles. Operational suitability tests flown in the theater in the autumn of 1951 nevertheless indicated that the 315th Air Division would use the C-124's to some advantage: in short-range flights between Ashiya and Kimpo the C-124 tested demonstrated efficiency of operations with average cargo loads of 34,400 pounds. The aircraft could also handle massive pieces of equipment: one of these test trips hauled an entire GCA unit consisting of two large van trailers. Equally versatile with cargo, personnel, or air evacuation cases, one C-124 with its greater speed and cargo capacity had in theory four times the lift capability of a C-54. Use of this plane in the Far East could be expected to relieve congestion on the ever-crowded airways and airfields. Actually, however, the C-124 would not be able to haul maximum cargo weights to Korea because the Fifth Air Force, apprehensive as to the effect of this plane upon its runways, was willing to clear only Taegu (K-2), Kimpo (K-14), Seoul (K-16), and Chunchon (K-47) for Globemaster landings. Even on these better than average airfields the Fifth Air Force specified that a Globemaster's landing weight could not exceed 160,000 pounds.<sup>162</sup>

In spite of these weight restrictions which would have to be observed if the Globemasters were to operate into Korea, the 315th Air Division calculated that the conversion of two of its C-54 squadrons to C-124's would increase its airlift capabilities: given five hours daily utilization of each possessed C-124, daily airlift capabilities would be boosted by approximately 480 patients, 1,200 passengers, or 130 tons of cargo. To the 315th Air Division the Globemaster flight tests indicated that these planes could and should be used on airlift missions in the Far East, and General Henebry asked that the conversion of two squadrons of the 374th Wing to C-124's be begun on 1 May 1952. USAF had tentatively planned to reequip these two squadrons sometime in the

~~SECRET~~

267



second quarter of fiscal year 1952 (October-December 1952), but since FEAF urged the acceleration USAF agreed to dispatch six C-124's to the Far East on 1 May 1952 and to send out increments of six planes each six weeks thereafter until the 374th Wing had 24 unit equipment and 2 other command support aircraft.<sup>165</sup> Based on this schedule the 315th Air Division reckoned that the two C-124 squadrons would have been completely equipped with aircraft and qualified aircrews by the end of August and that, shortly after this time, the 61st Troop Carrier Group could be released to return to the United States.

Actual deliveries of the Globemasters progressed as scheduled in May and June 1952, and most of these planes were used to equip the 6th Troop Carrier Squadron. Beginning in July, however, the replacement program slipped, and as a result of these unanticipated delays the 374th Wing did not get its full complement of 26 C-124's until the end of September 1952. Meanwhile, on 24 August, one of the 6th Squadron's planes undershot a runway at Komaki while on a training flight: there were no casualties but the plane was badly damaged and was not replaced. It was obvious that the slower than anticipated deliveries of the new transports would delay the time at which the 22d Troop Carrier Squadron would become fully operational with Globemasters, but a conference held at 315th Air Division headquarters on 30 September tentatively committed this organization to release the 61st Group on 15 November 1952.<sup>164</sup>

In all of its planning relevant to the Globemaster program, the 315th Air Division expected to secure five hours operating time from each of these aircraft each day. Such a utilization rate had an important bearing on the 315th's total airlift capabilities but it bore even more directly upon the command's ability to provide requisite airlift tonnages on Channel 2, Tachikawa to Korea. FEAF had specified that 120 tons per day was the minimum acceptable airlift capability on Channel 2, and, since the C-54 squadron of the 374th Wing would be used for scheduled flights, the two C-124 squadrons would be expected to perform the daily projected airlift on Channel 2.<sup>168</sup> Seeking to program supply support to sustain such a rate of C-124 operations, FEAF sent a team of officers to the Air Materiel Command in July 1952. On this trip, the FEAF team learned

that USAF had contracted for spares for the first 156 C-124's it had purchased on the basis of a planned utilization rate of one hour each per day. This rate was quite limited in itself, but it was further reduced when the original C-124 purchase order was increased to 226 aircraft without additional provisioning for spare parts. The FEAF team also learned that the major portion of C-124 spare stocks would not be delivered by the manufacturer until November 1952. Because of these circumstances, USAF was unable to program FEAF's Globemasters for the desired utilization rate of five hours per day before January 1953.<sup>166</sup>

Although it recognized that supply support would be limited, the 374th Wing had expected that each newly arriving C-124 would bring with it a table of supplies and the special handling equipment which it required, but in almost every instance the aircraft arrived in advance of its supply support. And when the automatic shipments of C-124 parts began to come in, the 374th Wing discovered that a large proportion of the items were tailored to fit the earliest production model Globemasters and could not be used on the later production models which it was assigned.<sup>167</sup> Not only were these initial tables of supply inadequate but the 315th Air Division was forced by circumstances further to aggravate the C-124 supply problem: in order to balance the loss of the capability of the two squadrons of 374th Wing C-54's that were converting to C-124's, the 315th had to program the operational C-124's for approximately 2.5 hours of utilization each day, an amount of flying that greatly exceeded the 1.2 hours which available supplies would support at that time.<sup>168</sup> As a result of these supply factors, the C-124 AOC rate zoomed upward to 39.9 percent in August 1952, and without remedial action it promised to go higher.<sup>169</sup>

On 25 September 1952 General McCarty officially informed General Weyland of the Globemaster supply situation which would, of course, gravely affect the 315th's airlift capability at the departure of the 61st Group. After reviewing the problem, McCarty outlined three alternative actions: FEAF could accept the reduction in theater airlift capability; or it could ask USAF for permission to retain the 61st Group's C-54's until 1 January 1953; or it could request USAF to increase the C-124 utilization rate to 2.5 hours per day until 1 November and to boost the rate to 5



~~SECRET~~

hours after 1 November 1952. Even though he recognized that Globemaster supply support was scantily programmed, McCarty believed that a high precedence for FEAF would deliver the supplies which it required for two squadrons of C-124's.<sup>170</sup> General Weyland was unwilling to request retention of the 61st Group beyond the agreed upon return date of 15 November, but he requested USAF to exert every effort to provide FEAF with the logistical support needed to sustain a C-124 utilization rate of five hours per day per aircraft beginning on 15 November rather than 1 January 1953.<sup>171</sup>

The attention focused upon the Globemaster supply situation had wholesome results. Although USAF was unable to authorize the five-hour rate before 1 January 1953 it did program the FEAF Globemasters for a daily rate of 2.85 hours beginning on 1 October 1952. During October a C-124 programming conference representing FEALogFor, the 315th Air Division, the 374th Wing, and the Douglas Aircraft Corporation took measures to expedite air shipments to the Far East of many of the deficient items which were causing the high out-of-commission rates. The conference also drew up realistic listings of spare stock requirements based on valid consumption data. As an emergency expedient, the 374th Wing practiced controlled cannibalization, and the FEAMCom depot expeditiously repaired defective items almost as fast as they came off aircraft. These actions brought the C-124 AOC rate downward to 19.31 percent in November and to 13.61 percent in December.<sup>172</sup>

Benefiting from the higher C-124 in-commission and operating rates, the 315th Air Division was able to weather the crisis presented in November when the 61st Group's two C-54 squadrons departed from the theater. The Globemasters handled all of the loads that they could on Channel 2. Civil Air Transport planes took over a part of the scheduled flights out of Tachikawa and permitted the 21st Squadron C-54's to fly some daily airlift to Korea. Since the C-124's and C-54's still could not handle all the tonnage that was supposed to move on Channel 2, the amount that was excessive to the airlift capabilities was sent by rail express from Tachikawa to southern Japanese bases where it was picked up and airlifted to Korea on Channel 3.<sup>173</sup> Thus the 315th Air Division successfully accommodated itself to

the loss of the two squadrons of 61st Group C-54's; there was no reduction in the overall airlift capabilities but there was some temporary loss of capability on airlift Channel 2 out of Tachikawa.

Beginning in January 1953 supply support for the Globemasters was greatly improved: whereas the AOC rate for these aircraft had averaged 23 percent per month in the last six months of 1952, it averaged 7.16 percent per month during the first six months of 1953. Many of the items which contributed to the Globemaster AOC rate in the spring of 1953 were items—such as R4360 engines, cylinder assemblies, and fuel booster pumps—which were common to a number of USAF aircraft and were in critical status worldwide. The decreased AOC rates, however, were unfortunately not accompanied by a proportionately higher Globemaster in-commission rate. Because of a variety of maintenance difficulties, which will be discussed below, the average in-commission rates for C-124's increased from 46.1 percent in the latter half of 1952 but only to 61.2 percent in the first half of 1953. And, under these circumstances, the 315th Air Division was unable to obtain the five hours per day utilization rate which it desired from the Globemasters: for the last six months of 1952 the command's C-124's averaged collectively 45.7 hours of utility per day, and in the first six months of 1953 the C-124 fleet provided an average of 61.9 hours of flying time per day.<sup>174</sup>

In December 1952 Globemaster supply support was just beginning to get on its feet when the 374th Wing encountered unanticipated maintenance problems. Early in the month, several of the Globemasters assigned to the 22d Troop Carrier Squadron developed leaks in their fuel cells: on 6 December the first C-124 stood down for fuel cell modifications. Subsequent checking showed that all 13 aircraft in the squadron either had leaking tanks or else they were going to develop leaks, and by 30 December all of these planes had to be grounded. The difficulty was caused by lighter gauge web metal which had been used in the later produced C-124's to save weight and which under the stress of flight buckled and cracked. A top priority modification program was immediately organized, and expedited work got three of the planes back in service by 20 January, two more on 27 January, and the entire fleet was back in commission on 17 February.<sup>175</sup> For-

~~SECRET~~



SECRET

fortunately for the airlift capability, the older C-124's assigned to the 6th Squadron were not affected by the fuel cell trouble, and, in order to maintain its capability, the 374th Wing concentrated all its C-124 crews, maintenance personnel, and parts supply behind the 6th Squadron's planes. Using 12 over-manned aircraft, each of which was flown 5.8 hours a day, the 6th Squadron successfully carried the entire workload of the 22d Squadron in addition to its own projected load. These 12 aircraft, in fact, hauled more tonnage in January than the entire fleet had transported in December.<sup>176</sup>

The Globemaster fleet gave good service during March, April, and May 1953—the first months in which both squadrons were completely operational. Everything seemed to be going well, when on 29 May a C-124 of the 22d Squadron experienced a fire in its number two engine shortly after it took off from Tachikawa. This plane made a successful emergency landing and an accident investigation board determined that the fire had begun in a generator. On 11 June another faulty generator fired the number four engine aboard a 22d Squadron Globemaster, and again the crew successfully extinguished the fire and made an emergency landing. While potentially serious, both of these generator-induced fires had been successfully controlled. General McCarty on 13 June asked the Air Materiel Command to send out a team to investigate generator problems, but in the meantime the Globemasters continued in operation. All aircraft commanders, however, were briefed to feather an engine as soon as its fire warning light came on.<sup>177</sup>

No one realized it but the two generator fires in late May and early June portended what was going to be history's worst air disaster. On the evening of 18 June on its block time of 1600 hours, Globemaster No. 51-137 of the 22d Troop Carrier Squadron taxied away from its parked position bearing 7 crewmen, 122 R & R passengers,\* and 9,284 pounds of cargo. It was cleared under instrument flight rules from Tachikawa to Osan-ni (K-55). After a pause while two balky engines were revved-up and cleared of fouled spark plugs, No. 51-137 took off through the light rain and fog which blanketed the field at 1631 hours, and, as it was briefed to do, began making a hard turn to the

\*One of the passengers was an unmanifested captain from the 18th Fighter-Bomber Wing.

left to clear the area. Midway through this turn and about four miles out, the aircraft commander notified Tachikawa GCA that he had feathered one engine and was returning for an emergency landing. The GCA operator thrice heard the pilot call for more power, and then the operator lost the plane from his scope. At this time—approximately 1635 hours—other observers on the ground saw the Globemaster stall, go into a flat spin, and then crash into the ground. All persons aboard were killed. When the wreckage of the plane was analyzed, the primary cause of the accident was fixed upon the failure of a generator drive shaft in the number one engine. Having lost this engine, the Globemaster had not possessed a sufficient margin of power in its other three engines to permit it to maintain altitude and air-speed in a 180 degree turn. Some degree of pilot error was also probably to blame for the accident: the exhaustive investigation of the air tragedy revealed that the aircraft commander had made a poor showing in transitional training, especially in written examinations pertaining to cockpit procedures and aircraft performance characteristics, and that he had on other occasions failed to brief his crew as to who would be specifically responsible for handling emergency power.<sup>178</sup>

On the evening of the crash the commander of the 374th Wing grounded all C-124's pending determination of the cause of the accident, a matter which was not apparent for several days. The AMC generator team arrived in time to participate in the accident investigation, which, as seen above, determined that a faulty generator had caused the crash. After this, the generator team examined other Globemasters and found that most of them also had generator problems. Most of the stocks of generators in the Far East, moreover, checked out defective.<sup>179</sup> The AMC team outlined an extensive course of remedial actions which would have to be accomplished before the Globemasters could be released for flying, and on 8 July, after rigid scrutiny of inspectors, such of the C-124's as had been repaired or had passed the necessary tests were returned to flying. Because of the large quantity of defective generators found in supply stocks, however, eight C-124's remained out of commission for want of these critical items. FEAF requested expedited shipments, and as a result of AMC action a cargo of 101 generators arrived by air transport from the United States



~~SECRET~~

on 20 July. Of this quantity, 22 generators were new items and these generators were sufficient to supply the eight AOCF aircraft. The remainder of the shipment comprised overhauled items, none of which checked out satisfactorily in bench tests and all of which had therefore to be rejected.<sup>180</sup>

Because of problems of supply and maintenance the 315th Air Division did not realize the rates of aircraft utilization which it desired to obtain from the Globemaster transports. In this same period, a variety of situational factors in the Far East at once complicated the employment of the Globemasters and denied them an opportunity fully to exploit their load-carrying capabilities. When it had first proposed to employ the C-124's in flights to Korea, the 315th Air Division had secured the Fifth Air Force's permission to use its principal airfields provided a Globemaster's landing weight did not exceed 160,000 pounds. Under this limitation, a C-124 could carry a potential payload of 36,000 pounds, provided it was able to obtain 115/145 octane avgas in Korea for a return trip to Japan. This landing weight restriction appeared at first to be detrimental to the best utilization of the Globemasters but its significance was soon diminished by another factor: the Korean airlift was based upon the principle of expeditious delivery of critical items and backlogs of cargo seldom accumulated. Under this circumstance, 18-ton cargoes were not too frequently available. Large numbers of passengers could have provided these maximum cargo loadings, but in the interest of flying safety the 315th Air Division in December 1952 reduced and standardized passenger loads at 120 per Globemaster. On one peak sortie flown from Tachikawa to Seoul (K-16) a Globemaster moved 40,406 pounds of cargo, but the general average of cargo loadings seldom equaled even the 36,000-pound potential payload. In the August through October 1952 training period the average Globemaster cargo weighed 21,439 pounds, and in the operational period of November 1952 through April 1953 the average Globemaster payload was 24,346 pounds.<sup>181</sup> During May 1953 the Fifth Air Force attempted to improve its utilization of allocated C-124 airlift by establishing an agreement with FEALogFor by which a daily flow of about 15 tons of available traffic "filler cargo" was delivered to the Tachikawa freight terminal and was used to occupy space on C-124 aircraft which was not filled with

high priority freight. The Fifth Air Force also filled otherwise unoccupied Globemaster space on return trips to Japan with large quantities of repairable vehicles, engineer equipment, and clothing which would normally have been moved by surface means.<sup>182</sup>

Despite the limitations imposed upon their landing weights, the Globemasters proved to be too heavy to operate into most Korean airfields, and as time passed more and more of these tactical facilities were put off limits to C-124's. By October 1952 the Fifth Air Force had restricted C-119 landings to Seoul (K-16), Kimpo (K-14), Suwon (K-13), and Taegu (K-2).<sup>183</sup> In November, however, C-124's were allowed to use the new heavy-duty airfield at Osan-ni (K-53), but on 29 March 1953 failure of the runway foundation at Suwon (K-13) forced discontinuance of C-124 landings there.<sup>184</sup> During their year of operations into Korea the Globemasters had access to only about four airfields. Viewed in one respect, however, these landing restrictions were not altogether burdensome because it was difficult to generate justifiable Globemaster loads into Korean destinations other than K-2, K-14, and K-16.<sup>185</sup> To meet these situational factors, the 315th Air Division, with the cooperation of the Fifth Air Force, worked out new operational techniques. The 315th had operated a major air terminal at Seoul Airfield (K-16) since November 1951, and in the summer and autumn of 1952 Fifth Air Force aviation engineers constructed at Seoul a new runway of sufficient bearing capacity to accommodate the Globemasters.\* The runway was completed in October 1952 and during the next month avgas refueling facilities were provided to meet the demands of the Globemasters. Although a substantial number of C-124 trips were flown into the airfield at Taegu (K-2), the Seoul Airfield (K-16) became the principal Globemaster terminal in Korea.<sup>186</sup> Free troop carrier access to the airhead at Seoul was so generally beneficial to the airlift effort that FEAF later described a standing need for at least one primary air transport base within a combat aircraft base complex.<sup>187</sup> Since small package loads of air freight and passengers were required daily at most K-sites, the development of K-16 and K-2 into the major Globemaster terminals posed a need for feeder airlines into those

\*See Chap. V, p. 175.

~~SECRET~~



SECRET

airfields. Operating out of K-16, the C-47's of the 6461st Troop Carrier Squadron and the RHAF detachment provided some feeder airlift, and C-119's and C-46's also picked up and delivered intra-Korea cargoes. These arrangements did not meet the complete satisfaction of the Fifth Air Force, and its Director of Materiel commented in May 1953 that experience with the system had demonstrated that composite loads of passengers and freight, with possibly six final destinations, when lifted to control points within Korea for transshipment usually resulted in delays in delivery of urgently required materiel, excessive handling of cargo, overburdened terminal facilities, and mishandled, missing, or stray freight.<sup>188</sup>

During the period of nearly a year in which they operated in the Far East, the C-124 Globemaster transports posed special requirements, but, when the final thinking about them was formalized, FEAF noted that the C-124, although plagued by certain parts shortages, "proved itself a valuable addition to the fleet of transport aircraft."<sup>189</sup> The FEAF Deputy for Comptroller also recommended a statement of policy in reference to the Globemaster as follows: "Although the runway and refueling facilities for the C-124 operation in the FEAF area are not the most desirable, the C-124 has, through its actual performance within this theater, fully accomplished its position as a cargo aircraft completely acceptable and vital to the accomplishment of the intra-theater airlift mission in the geographical areas of FEAF and the Far East Command." This same report, however, noted that an airlift command employing Globemasters would require a balancing capability of smaller type cargo aircraft which could move or transship small but urgently needed quantities of supplies to airfields which did not have large airlift requirements.<sup>190</sup> Not officially filed but nevertheless made of historical record was a dissenting opinion of the Fifth Air Force's Director of Materiel, who wrote: "The solution of the problem involving support of tactical air operations in this or any other theater would be Air Force procurement of long haul, ten-ton-payload aircraft that will not gross over 70,000 pounds landing weight [and] . . . would allow distribution of loads from depots directly to the consumer in forward areas."<sup>191</sup>

To the successful accomplishment of the airlift mission in the Far East, the C-119 Flying Box-

cars assigned to the 483d Troop Carrier Wing at Ashiya were of unique importance. These post-World War II transports had been especially designed for dropping paratroops and supplies: with their clamshell doors removed and their monorail equipment installed, the C-119's could release a full cargo of paratroopers or palletted supplies in one pass over a drop zone. The C-119 fleet was the 315th Air Division's main capability for launching the 187th Airborne Regimental Combat Team and for dropping supplies to beleaguered troops in Korea. The Flying Boxcars also possessed potential for hauling cargo: one of these planes could be called upon to haul up to 10 tons of cargo and their roomy and rear-loading cargo compartments could accommodate bulky items with an ease of handling not found in other transports. The C-119's had been brought to the Far East by the 314th Troop Carrier Group in September 1950, supposedly to launch a single airborne operation. Once in the theater, however, the C-119's had proven so versatile in handling cargo that they had been retained and used extensively for this purpose.

When the 314th Group had been dispatched to the Far East the USAF had not been able to provide it with a sufficient number of C-119's to launch the 187th in one lift, but in order to give it as many planes as possible the group had been augmented with a fourth squadron. From the beginning, however, the 314th Group had not had the 96 aircraft which it required to handle the 187th, and as time had passed its strength in C-119 aircraft had been eroded by combat losses. Therefore in October 1951, when USAF had suggested it, the 315th Air Division had readily agreed to trade the 61st Troop Carrier Group (C-54's) for another C-119 wing. As this proposal progressed through planning and action stages, however, the 315th did obtain the 403d Wing and its three squadrons but these organizations were sent to the theater without aircraft. Arriving in April 1952, the 403d had absorbed the personnel and aircraft of the fourth squadron in the 314th Group (the squadron designation returned to USAF), and the 403d Group additionally took over an equitable share of the 314th Group's other C-119's. In this reorganization the 403d and 314th Groups were authorized 48 C-119's each as unit equipment. The reorganization had a salutary effect on the C-119 situation: the 403d Wing provided the table

SECRET



of organization supporting units needed to operate Ashiya Air Base, and the wing would also be able to supervise the transport efforts of the 314th and 403d Troop Carrier Groups.<sup>192</sup>

The reorganization at Ashiya did not immediately provide the 315th Air Division with more C-119 aircraft nor did it provide any immediate alleviation for the tottering serviceability of these aircraft. The serviceability rates of these aircraft in fact hit their lowest levels in June and July 1952. Of 71 active aircraft on hand in the 403d Wing during these two months, only 28 were in commission in June and only 23 in July. Even these figures were deceptive for not a single one of the C-119's in the theater in June 1952 was considered to be safe for flight. The C-119 capability was so completely bankrupt that on 19 June FEAF reluctantly informed CINCFE that the Boxcars would have to be relieved from all routine airlift employments, except for a very minimum requirement which might be made upon them for hauling bulky material. Requirements made upon these planes to drop supplies or train with the 187th RCT would have to be pared to the bone. In case of a genuine emergency and after not less than 72 hours alert, CINCFE was told that the 315th Air Division could muster 40 C-119's for an airborne operation, but such an emergency employment would be virtually a one-time affair for the C-119's would have rapidly diminishing capabilities to provide resupply drops.<sup>193</sup>

This virtual collapse of the 315th Air Division's C-119 capability traced its origins to a variety of causes, but it was basically attributable to the fact that the Flying Boxcars were not as ruggedly and durably designed as earlier USAF transports, and yet, because of the urgency of the tactical situation in 1950 and 1951, the C-119's had been compelled routinely to make rough field landings at forward area strips with gross loadings in excess of 71,500 pounds.<sup>194</sup> In mid-1951, when the ground fighting had begun to stabilize, the 315th Air Division had limited gross takeoff weights of C-119's to 64,000 pounds, but by this time the excessive stresses already endured had gravely weakened the structures of these aircraft. The type of operations required from the C-119's in Korea had also had adverse effect upon the supply and maintenance support allocated to them. Supply support of spare parts for the C-119's, pro-

grammed initially in terms of peacetime operations off improved flight surfaces, had never been adequate. Maintenance services in the theater had been so hard pressed to accomplish the major modifications and component changes required to keep the C-119's in flyable status that they had been permitted very little time in which to conduct scheduled maintenance and effect technical order compliance. By June 1952 the accumulated maintenance burden had gotten completely out of hand: even if it could secure the supply support required to permit a general overhaul of the Boxcars, FEAF noted that the burden of such maintenance would be too great for its depot structure to bear and still support the combat units in Korea.<sup>195</sup>

In order to rehabilitate its C-119 capability the 315th Air Division needed to exchange its war-weary aircraft for later series, low-airframe-time aircraft. As early as April 1951 the 315th had requested that a C-119 reconditioning program be established in the United States to provide for depot inspection and repair (DIR) on its aircraft of this type when they had attained 1,000 hours of airframe time. FEAF had strongly endorsed this request on to the USAF Air Materiel Command,<sup>196</sup> but the latter organization was unable immediately to secure the tools and equipment which it required to stock a civilian contract reconditioning plant. By February 1952 all C-119's in the 315th Air Division had over 1,100 hours of airframe time, and FEAF again urged that a ZI reconditioning program should be established for these aircraft. Preparatory to releasing planes for DIR, FEAF asked that it be loaned 20 C-119's from the United States.<sup>197</sup> This proposal was evidently unacceptable, and final agreements looking toward a solution of the C-119 problems awaited a conference held at USAF on 1 April 1952 and attended by representatives of the Air Materiel Command, the Tactical Air Command, and FEAF. Here the major responsibility for bringing the 403d Wing up to strength with serviceable aircraft was laid on the Tactical Air Command. To accomplish this, TAC would transfer five C-119's to FEAF in the last half of June and after 1 July it would transfer one C-119 to FEAF for each new C-119 which it received from production. These transfers would continue until the 314th and 403d Troop Carrier Groups possessed 96 authorized aircraft, and thereafter TAC would



SECRET

maintain the two groups at this strength. As soon as possible, the Air Materiel Command would open a C-119 modification center at Birmingham, Alabama. The Military Air Transport Service was assigned ferrying responsibilities for all of the aircraft involved in the movements to and from the Far East.<sup>198</sup> This program promised eventual alleviation of C-119 problems in the Far East, but it stopped short of what FEAF wanted, which was to replace as rapidly as possible all of its C-119's with new or low-time aircraft drawn from units in the United States.<sup>199</sup>

Even as it mentioned the prospect of trading off all its war-weary C-119's, FEAF recognized the impossibility of any such immediate action. It nevertheless requested TAC to send as soon as possible the 21 aircraft owed to the 403d Wing as unit equipment, and, having done all that was possible to get replacements, FEAF buckled down to the task of locally rehabilitating as many C-119's as was practicable. The first matter demanding attention was the chaotic supply support for the Boxcars. Looking backward at C-119 supply support, it was evident that logistical failures were attributable to shortcomings both in the theater and in the United States. At the AMC level spares for the C-119's had been inadequately programmed during the first part of the Korean hostilities, and when additional spares had been put on order the producer had been slow to deliver them. During the spring of 1952, for example, the Fairchild Aircraft Corporation was so delinquent in shipping spare parts that AMC finally, on 2 June, threatened to curtail aircraft acceptances pending attainment of concurrent deliveries of spares. As a result of all-out effort on the part of the contractor, spare shipments increased from approximately 250,000 pounds in May and June 1952 to 577,000 pounds in July 1952. Supply deliveries remained responsibly high after July.<sup>200</sup> Called upon to operate a relatively new and inadequately supplied aircraft in an all-out situation, the C-119 units in the Far East groped blindly: "Stock levels weren't zeroed in, ordering procedures weren't standardized and effective, substitute items weren't known."<sup>201</sup> Unit supply discipline had broken down. Maximum cannibalization for parts, although protested by the 314th Group commander, was acceptable to the 315th Air Division, and, while cannibalization made an unsatisfactory supply set-up look better than it

was, such practices pyramided maintenance requirements and complicated orderly requisitions of needed supplies. On occasion, a plane was grounded for want of parts, and then the AOCOP was canceled and the aircraft was released for flying.<sup>202</sup> More or less as a matter of practice, the C-119 units requisitioned items needed in future scheduled or nonscheduled maintenance on AOCOP priorities.<sup>203</sup> Such chaotic supply discipline at the operating unit levels thwarted efforts to compute realistic supply requirements for the C-119 aircraft from historical experience in the theater.

On 20 June 1952, judging that some drastic action was necessary to improve logistical support for the C-119's, FEAF asked the Air Materiel Command to establish a crash procurement of 360 days of C-119 supplies for expedited delivery to the theater.<sup>204</sup> On 7 July a FEAF liaison team reached the Air Materiel Command and conferences with AMC and Fairchild representatives followed. It was agreed that all immediate requirements for the C-119's would be met and that an additional six months stock would be soon obtained and shipped to the Far East. In view of the AMC assurance of expedited deliveries of spare parts, FEAF canceled its demands for 360 days of C-119 spares. The AMC also furnished the FEAF representatives with certain data relative to the interchangeability of parts on the various series of C-119 aircraft, data which the 403d Wing had previously lacked and which promised to reduce supply requirements to lesser levels than had been thought.<sup>205</sup>

Starting off slowly in July 1952, the 315th Air Division's C-119 rehabilitation program gained speed in August and paid dividends during September 1952. During July and August the 403d Wing began to receive some replacement aircraft from TAC, and it was able to rotate some of its old planes to the now operational Birmingham modification center for overhaul.<sup>206</sup> By 29 August logistical support for the Boxcars was so improved that the 403d Wing commander assembled all his people and announced the beginning of "Operation Get Ready," which in the period 2 September through 2 October would be expected to put a standard 75 percent of the wing's aircraft in commission. Spurred on by this challenge and assisted by favorable logistical developments, the 403d Wing pushed its C-119 in-commission rate up to 60.2 percent during September. The

SECRET



SECRET

AACP's dropped from an average of 18 aircraft per day to 6 per day, a number which was considered to be fairly satisfactory in view of the length of the supply pipeline to the United States. This progress was readily notable in formation flights: on 6 September the wing flew a 27-aircraft formation and on 28 September to cap the climax of the logistical program it sent up a 52-aircraft formation.<sup>207</sup> The growing airlift capabilities of the C-119's, which soon reached 2.5 hours utilization per aircraft per day, allowed the 403d Wing on 12 September to release the 53d Troop Carrier Squadron, whose C-54's had been the main airlift capability out of Ashiya for several months, for movement to Johnson Air Base in preparation for return to the ZI with its parent 61st Group. In October, the 403d Wing was prepared to participate in "Operation Feint," the airborne phase of the CINCFE amphibious ruse conducted during that month.\*

After September 1952 the Flying Boxcars continued to present logistical and operational problems, but these planes never again lost their airlift capabilities. Rotation of combat-fatigued planes went more slowly than was satisfactory, with the result that at the end of January 1953 the 483d Wing (the 403d was so redesignated on 1 January 1953) still had 46 of the original C-119's which had come to the Far East in 1950. Many of these planes were now so decrepit that they contributed little to airlift commitments. The Tactical Air Command, however, continued to transfer in serviceable C-119's with each increment being a little larger than the one which the 315th was required to return to the ZI for overhaul. Benefiting from such a favorable balance of imports and exports, the C-119 fleet became more serviceable and grew towards authorized strength: in April 1953 the 483d Wing attained its unit equipment allocation of 96 C-119's. Supply support for the Boxcars was generally improved: in the first six months of 1953 the AACP rate for this type aircraft averaged 4.7 percent, and during five days in April the rate was reduced to zero. Able to devote their talents to generally serviceable aircraft, the maintenance technicians of the 483d Wing were able to keep well abreast of scheduled maintenance and were thus able to check many minor discrepancies before they could grow

\*See p. 292.

to major proportions. Profiting from better supply and maintenance and more modern aircraft, the 483d Wing kept an average of 67.2 percent of its planes in commission during the first half of 1953, and in June 1953 it had 78.8 percent of its planes in commission.<sup>208</sup>

Despite the adequate logistical support which they received during the first half of 1953, the Flying Boxcars continued to be temperamental aircraft, and they developed enough periodic malfunctions to cause trouble. The 315th Air Division generally limited C-119 cargo loadings on the Ashiya to Korea traffic channel to six tons per plane, because of landing gear weaknesses in the C-119. Landing gear malfunctions still continued, however, and two planes were lost in wheels-up crash landings. Propellers, like landing gears, had also been a weak article on the C-119's, and they proved to be the "next biggest headache" during 1953. The C-119 was equipped with hollow steel Hamilton Standard propeller blades, which were peculiarly susceptible to damage from loose rocks and gravel. Such debris was prevalent on runways and warm-up aprons in Korea and frequently caused minute dents, nicks, or scratches on C-119 prop blades. Such marks were often barely visible under the best of light conditions, but they started hard-to-see hairline cracks which rapidly progressed until the propeller blade failed. The infinitesimal warnings of disaster, together with the ease with which the blades picked up damage, imposed a need for a tremendous amount of inspection and maintenance work. Moreover, when a propeller failed in flight it usually tore out an engine and forced the crew to abandon the aircraft. The problem was not new: after two major accidents in January 1952 all C-119 propeller blades had been replaced with a newer type blade which was supposed to give better service.<sup>209</sup> In a period of a year, however, 210 of these new blades had to be changed for cause and three in-flight failures caused the total loss of two aircraft. The second of these two losses took place on 11 March 1953, and, although the crew of four parachuted to safety, the accident precipitated a sweeping investigation of the problem. A first consideration was as to whether the C-119's could safely transport passengers, especially in over-water flights. The conclusion was that it would be best to bar the use of C-119's for carrying casual passengers who were relatively unfamiliar

SECRET



with parachutes. Paratroopers and aircrew members were expected to have a good chance for survival and could still be transported in the C-119's.<sup>210</sup> Effective 26 March 1953 the C-119's were consequently restricted from airlifting passengers, but they continued to haul cargo and to engage in airborne training.<sup>211</sup> The Air Materiel Command promised new nickel-plated prop blades but such did not arrive during the Korean hostilities. As interim measures, the 315th stressed a thorough blade inspection prior to each flight, and FEALogFor demanded that all commands vigorously police their airfields to remove stones and gravel.<sup>212</sup>

Although the 315th Air Division managed a substantial modernization of its transport aircraft force in the last year of the Korean war, it continued to use three types of World War II aircraft to good advantage. Lacking any better type of newer plane, the 6461st Troop Carrier Squadron continued to fly the old C-47 aircraft in front-line and feeder-line employments in Korea. For shuttle runs into rough forward-area airstrips, the C-47's proved invaluable: logistical support for them was satisfactory and they could be each programmed for four hours of utilization a day. Their major limitation was a three-ton payload, which did not allow them rapidly to deliver the large quantities of supplies which the C-124's could lay down in Korea. In planning for the conversion of the 374th Troop Carrier Wing to C-124's, the 315th Air Division had selected to keep this wing's 21st Squadron equipped with C-54 aircraft, largely because the C-54 had the range and cargo capability which well suited it for scheduled inter-island transport tasks within the Far East theater. In the last year of the war these C-54's presented few problems, and the 315th Air Division expected 6.3 hours of utilization from each of them each day.<sup>213</sup> The C-54's ably performed the scheduled flights which were expected of them and additionally backed up the faltering Globemaster capability on the air routes out of Tachikawa.

At first because no other aircraft were available but later because of the demonstrated abilities of these planes to surmount situational factors, the 315th Air Division kept its 315th Troop Carrier Wing equipped with obsolete C-46 aircraft. What the old C-46's lacked in the way of modern performance, they made up in dependability. In the

latter half of 1952 the 315th Wing was able to keep an average of 75.8 percent of its aircraft in commission and in the first half of 1953 the rating was even better—78 percent in commission.<sup>214</sup> Supply support for the planes was generally excellent: in the first half of 1953 the wing's AOC rate averaged only 0.81 percent.<sup>215</sup> In view of the fact that the 315th Wing was the last such organization in the USAF to remain equipped with C-46's, a somewhat limited supply of aircrews and of trained mechanics held the utilization rate of its planes down to four hours per day. The wing, benefiting from high in-commission rates and good support, demonstrated an ability to carry a heavy workload on a steady, day-to-day basis. The Commando aircraft, moreover, displayed great versatility: they regularly spelled the logistically hampered C-119's in their task of dropping supplies and paratroops. In September 1952, when the C-54's left Ashiya, the 315th Wing began to handle routine airlift of medical air evacuation patients from Korea to southern Japan.<sup>216</sup> In March 1953 when the C-119's were forbidden to haul personnel, the 315th Wing's C-46's undertook the movement of all passengers to and from Korea and southern Japan.<sup>217</sup>

Although classed as obsolete, the C-46 aircraft provided a cushion of capability which permitted the 315th Air Division to maintain an adequate quantity of airlift even in those months when the more spectacular Globemasters and Flying Boxcars were in logistical doldrums. Despite the fact that the C-119 was "under normal circumstances . . . a more desirable aircraft" than the C-46, General McCarty in December 1952 announced that he feared the results of a USAF program which slated the 315th Wing for conversion to C-119's beginning in July 1953. McCarty explained his reluctance to convert the 315th Wing in the following manner: Brady Air Base was an old and slightly improved Japanese airfield and without a new runway it could not safely serve C-119 aircraft; conversion training in any new-type aircraft would for a time reduce the 315th Wing's contribution to the theater airlift; and the lower utilization rate of the C-119, combined with a long history of inadequate spare parts support, promised a lowered theater airlift capability even after the 315th Wing was converted.<sup>218</sup> Even as General McCarty was informing FEAF of these facts, an amendment to USAF programming post-



~~SECRET~~

poned the planned conversion of the 315th Wing from July 1953 to January 1954.<sup>219</sup> Even this latter date looked to be too soon, and FEAF in March 1953, adding an account of the C-119's propeller failures, poor ditching characteristics, and unsuitability for medical air evacuation purposes to General McCarty's arguments, requested USAF still further to delay the conversion of the 315th Wing. In fact, if USAF could continue to support the C-46's, FEAF wanted to keep them in service until the end of the Korean war.<sup>220</sup> USAF responded that the second-line C-46's would have to be replaced as scheduled with first-line C-119's. TAC, it explained, was hard pressed to supply replacement crews for the obsolete C-46's; moreover, if the 315th Wing did not convert as scheduled the C-119's earmarked to go to it would have to be placed in storage. For these reasons USAF intended to proceed with the programmed conversion of the 315th Wing on 1 January 1954.<sup>221</sup> As events transpired, the January 1954 date was sufficiently far in the future as to permit FEAF to continue to use the old C-46's through to the end of the fighting in Korea.

**Air Terminal Operations:** The function of receiving, loading, and unloading supplies delivered by air was an air force responsibility, but through expediency army troops had performed this function both in the Berlin Airlift and in exercise "Swarmer."<sup>222</sup> Following these precedents at the beginning of the Korean war, the Japan Logistical Command assumed responsibility for air terminal operations in Japan. After the Inchon invasion, however, the FEAF Combat Cargo Command had as a matter of necessity organized two Combat Cargo Support Units to manage air terminal activities in Korea, but on 30 September 1950 CINCFE had directed the Eighth Army and X Corps to take over the aerial ports in Korea. Under such an arrangement as this General Tunner, whose plan of operations required that a steady stream of transports ply between Japan and Korea, had no control over the loading or the unloading of his planes. Since a major factor in aircraft utilization is ground handling time, General Tunner was forced to inform FEAF that he could not guarantee any certain airlift capability unless he could himself control transport aircraft both while on the ground and in the air. General Tunner therefore recommended that the Air Force organize so as to handle all air terminal

activities both in the Far East and worldwide wherever transports operated. After a discussion of the problem, USAF directed FEAF to seek local solutions within the Far East Command, and in a theater action announced on 14 January 1951 the CINCFE directed FEAF to assume the responsibility for the operation of aerial ports in Japan and Korea. This responsibility for air-lifted cargo included manifesting, loading and lashing, unloading, and delivery to consignee. Control of air traffic was to begin and end at the air freight or passenger terminals. Moreover, the packaging, loading, and ejecting of airdropped supplies remained a responsibility of the Army, as did the establishment and operation of holding stations for medical evacuees at bases served by the airlift.<sup>223</sup>

Effective on 7 February 1951 the 315th Air Division organized the 6127th Air Terminal Group, and by 31 March all air terminals which had been under the control of the Army in the Far East were manned and operated by Air Force personnel. The principal mission assigned to the new air terminal group was to increase the effective utilization of FEAF airlift through prompt and proper onloading and offloading of transport aircraft. The group was also charged to organize and operate air movement teams which would indoctrinate and assist units which were required to move by air within the theater. Organized from table of distribution allotments, the 6127th comprised a group headquarters and supporting section at Ashiya and air terminal detachments at the principal airlift airfields. The commander of the 6127th was directly responsible to the commander of the 315th Air Division, and air terminal detachment commanders were responsible to the 6127th Group commander, not to local air base commanders.<sup>224</sup>

At its establishment the 6127th Air Terminal Group was authorized a total strength of 107 officers and 762 airmen, and the original tables of distribution allocated this strength on the basis of 10 air terminal detachments. Actually these strength figures presented a false impression because it was expected that the major portion of all physical labor would be done by Japanese and Korean civilians, and thus the detachments soon employed approximately 2,000 indigenous laborers who were provided by local air base commanders.<sup>225</sup> This initial concept of organization

~~SECRET~~



SECRET

proved almost immediately unsatisfactory on two counts: 10 detachments were not enough especially if they were fixed to given air bases and could not be moved where they were needed; and there was not enough administrative and supervisory support for so many scattered detachments. The 6127th Group therefore proposed that it be authorized additional personnel with which to man more detachments and to create three squadrons, one each to manage air terminal detachments in Japan, Korea, and at island stations. Neither FEAF nor the 315th Air Division was willing to allot any more troop spaces to the 6127th Group, but both were willing to authorize the group to treat its allotted strength as a pool and to permit the group to move existing detachments, open additional detachments, and vary the strength of detachments in proportion to the need for terminal services at airlift stations.<sup>226</sup> Under a similar arrangement never-plentiful cargo-handling equipment was controlled by the group and moved about between detachments where it was most needed. The 6127th was initially penalized by problems of personnel and equipment. Many of the persons assigned to it came from a FEAF levy; all of these new men were untrained and not a few unit commanders had taken advantage of the levy to transfer maladjusted airmen to the 6127th.<sup>227</sup> Cargo-handling equipment was initially in short supply and for several months the group borrowed lifts and trucks from the Army. Under the press of combat requirements in Korea, however, people and equipment were soon whipped into shape, and the routines needed to facilitate the movement of air traffic were perfected. The growing proficiency of the air terminal detachments was revealed by improving aircraft turnaround times, which decreased from an average of 1 hour and 33 minutes at all stations in March 1951 to 55 minutes in June 1951. In this latter month, moreover, the 6127th handled its biggest month of operations: its 13 detachments loaded 10,938 transport sorties with 25,480 tons of traffic, including 60,475 passengers, 17,146 tons of cargo, 899 tons of mail, and 10,520 air evacuation patients. Most of this cargo was also unloaded by air terminal detachments.<sup>228</sup>

The results achieved by the 6127th Air Terminal Group in its first year of operations were thoroughly satisfactory to the 315th Air Division, and General Henebry stated that the activation of

the group had been "one of the most important developments of the Korean operation." To Henebry the Korean experience had "shown it to be essential that the air transport commander . . . command the air terminal units which control the ground time of his aircraft and . . . be able to deploy these units and portions thereof between his operating points in coordination with his aircraft." Henebry also announced the rule that air terminal tasks "cannot be properly performed . . . by each air base commander [but] . . . must be accomplished by a separate unit, trained and equipped for the task, and not under the operational control or command of a base commander."<sup>229</sup>

The rule that the air terminal detachments were responsible to the 315th Air Division, administratively through the 6127th Group and operationally through Transport Movement Control, worked well enough until the autumn of 1952 when the giant C-124 Globemasters became operational in the Far East. Globemaster characteristics were such as to require weight and balance computations in flight as well as on the ground, and as the 374th Wing set about converting two squadrons to these planes it perceived that it would require trained loadmasters as aircrew members. Such men were recruited and trained for loadmaster duty, and during the period of transitional training a loadmaster section in the 374th Group supervised the loading of all C-124 aircraft. On 9 September 1952, however, all loadmasters were released to the two C-124 squadrons, and the responsibility for loading these planes was given to the 6127th's air terminal detachment at Tachikawa. Since the air terminal detachment continued to need the higher experience of the squadron loadmasters the delineation of exact responsibilities for loading the Globemasters was confused and uncertain. The 374th Wing believed that its squadrons would be best able to perform the loading functions.<sup>230</sup> Simultaneously with these special developments at Tachikawa, General McCarty noted throughout the 315th Air Division "an unwarranted increase and an apparent disregard of published departure times on scheduled and projected flights." On 22 October 1952 he also cautioned the commander of the 6127th Air Terminal Group concerning a reported lack of coordination between air terminal detachment personnel and personnel in the operational wings.<sup>231</sup>

SECRET



SECRET

As a matter of general policy, moreover, General McCarty favored consolidation of functions where possible and the strengthening of the troop carrier wings. Study of the causes of delayed aircraft departure times revealed the split responsibilities for preparing aircraft for takeoff; the wing commanders were responsible for planes meeting their scheduled block times yet they did not control the air terminal detachments which loaded their aircraft. A concomitant investigation also exposed the difficult command situation under which the 6127th Air Terminal Group labored: from a small headquarters at Ashiya, the 6127th group commander was expected to control 13 scattered air terminal detachments in Japan and Korea and liaison sections on Formosa, at Clark AFB in the Philippines, and at Kadena AFB on Okinawa. Such a span of control was simply too great for efficient supervision.<sup>232</sup>

When all of these facts relative to air terminal operations were put together, General McCarty effective 5 February 1953 relieved the 6127th Air Terminal Group of the responsibilities for operating the air terminal detachments at Tachikawa, Ashiya, and Brady. Complete control of these detachments passed to the commanders of the 374th, 483d, and 315th Wings on 15 February, and these officers were officially charged to conduct their own air terminal functions. At locations other than those occupied by troop carrier wings, the 6127th Air Terminal Group remained responsible for establishing, administering, deploying, and operating the necessary air terminal detachments. Loss of these three major terminals cost the 6127th approximately 35 percent of its personnel, and its table of distribution was reduced to 45 officers and 339 airmen. In February the 6127th's headquarters establishment was reorganized to provide individual deputy commanders and directors of traffic for Korea and Japan, thus providing closer control over the detachments in these areas. The results of this reorganization were generally wholesome: the 6127th was able to exercise closer supervision over the air terminal detachments which it retained. At Tachikawa at least, transfer of the control of the air terminal detachment to the 374th Group paid off in the form of increased punctuality in meeting C-124 flight schedules.<sup>233</sup>

In February 1951, when it was organizing the 6127th Air Terminal Group, the 315th Air Division had felt that it was unwise to disturb the

status of the 2348th Quartermaster Airborne Air Supply Packaging Company which was located at Ashiya Air Base and packed, loaded, and ejected all supplies dropped by troop carrier aircraft. At that time a great amount of supplies was being dropped to Eighth Army units in Korea; the Air Force, moreover, had no trained personnel to take over the function.<sup>234</sup> The 2348th Company therefore continued under Army control and in the spring of 1951 it was reorganized as the 8081st Army Unit, having, as such, an expanded capability to pack, load, and eject 215 tons of supplies a day. By all accounts this Army unit did an excellent job, but its status limited the authority of the 315th Air Division in the exercise of its responsibility for supply dropping. The 8081st Army Unit's capacity of 215 tons per day represented some potential restriction to the 315th Air Division, which had a drop capability of 450 tons per day. Existence of an air terminal detachment and the Army unit at Ashiya was also a wasteful duplication of manpower: when airlift was used for supply dropping the air terminal detachment marked time, when supplies were air landed the Army unit had little to do. On 29 June 1951 General Henebry therefore requested FEAF to secure authority and responsibility for the packaging, loading, and discharging of all airdropped supplies. FEAF indicated that the matter was under study at USAF, but the 315th Air Division on 17 August 1951 dispatched forward another recommendation that the 6127th should assume the responsibilities exercised by the 8081st Army Unit. Once again FEAF replied that the problem would have to be resolved not in the theater but at inter-departmental levels.<sup>235</sup> General Henebry continued to feel quite strongly about the matter: as long as he continued in command he insisted that the 6147th Group would maintain plans and training looking toward its assumption of the terminal functions of packaging, loading, and ejecting airdropped cargo. The 6147th proved quite able to load and eject para-supplies, but it lacked the equipment and parachutes needed to pack such supplies.<sup>236</sup> In a publication issued in November 1951, the 315th Air Division repeated its conviction that "the scope of Air Force responsibility [must] include the parachute preparation, and packaging of supplies, as well as the loading and 'kicking' operations for air resupply drops."<sup>237</sup>

SECRET



At the same time that the 315th Air Division was effecting its air terminal organization in the Far East, USAF planners were attacking the worldwide application of the air terminal problem. On 29 June 1951 the Air Force Council approved the proposition that the Air Force should man and operate air terminals, and at this same time USAF directed its Tactical Air Command to work out plans for cellular aerial port units which could be assigned to air bases to support airlift operations.<sup>238</sup> Armed with this authority, TAC's Eighteenth Air Force organized an Air Cargo Re-supply Squadron (Provisional) on 20 July 1951 and after a short period of training tested the organization in Exercise "Southern Pine." This provisional unit was redesignated as the Aerial Port Operations Squadron (Provisional) on 21 November 1951, and finally on 11 January 1952 the provisional yielded to regular status and the 1st Aerial Port Operations Squadron was activated and attached to the 443d Troop Carrier Group. During January and February 1952 the 1st Squadron was further tested in Exercise "Snowfall."<sup>239</sup> Meanwhile the USAF had been seeking a clear statement as to service responsibilities for air terminal activities, and such a decision was provided by the U. S. Joint Chiefs of Staff on 5 December 1951. Under this decision, Military Air Transport terminals were judged to be the responsibility of the Air Force. Such other air terminals as might be required were to be the responsibility of the service which furnished the airlift for the cargo and personnel moved through them. The service which shipped cargo, however, was to be permitted to establish facilities at the aerial port to perform functions pertaining to its cargo and personnel in accordance with detailed interservice agreements which would have to be worked out.<sup>240</sup>

Learning of the JCS decision, General Henebry drew up and sent to FEAF on 20 February 1952 a proposed Air Force regulation which he saw as a statement of policy. This draft regulation generally incorporated all of the concepts of air terminal operations which had been put into effect in the 315th Air Division. The responsibility for establishing and operating air terminal detachments was vested in the airlift commander who would exercise control through an air terminal group. Organized air terminal facilities would be provided at airfields where the volume of traffic

justified them; at other lesser-used airfields local air base commanders would provide the facilities. In unit movements or in joint airborne operations, air terminal personnel would supervise, but the organizations being transported would load and unload the aircraft. In other transport operations, the Air Force would take charge of cargo or personnel at delivery to the air terminal and retain responsibility until the cargo or people were delivered at their destination. The Air Force would have the responsibility for documentation, manifesting, loading of aircraft, unloading of personnel and cargo, and the releasing of air-dropped supply.<sup>241</sup> What disposition FEAF made of General Henebry's recommendations is not evident, but the USAF had already made plans for further testing the details of air terminal organization.

Without committing either service to the establishment of precedents, the Tactical Air Command and Army Field Forces agreed on 11 March 1952 to test new concepts of airborne and air landing assault activities in Exercise "Longhorn." The new concept granted that the Air Force was responsible for all loading, lashing, unloading or ejection activities conducted in its aircraft and gave it a free hand to manage airlift activities at forward landing grounds. Since the 1st Aerial Port Operations Squadron would not be able to handle all the terminal work involved, Quartermaster units would package para-supplies and would assist with loading and ejection, but Air Force personnel would supervise and bear the responsibilities for these activities.<sup>242</sup> The broadened concept of Air Force responsibility for terminal operations was tested in the maneuvers of Exercise "Longhorn" in March and April 1952, and the results of this testing were formalized in an Army-Air Force memorandum of understanding relating to the operation of Air Force air terminals, jointly approved by the chiefs of staff of the Army and Air Force on 23 December 1952. This agreement vested responsibility for operating the air terminals in the Air Force, but it permitted the Army to establish facilities and station personnel at these air terminals as were needed to perform such airlift functions as were charged to it. The Army and Air Force would jointly prepare instructions for packaging and crating airlift cargo, and, if the cargo was to be airdropped, such packaging would include the necessary parachutes or other aerial delivery equipment. The Air Force had the



SECRET

right to refuse to accept improperly packed supplies if they were presented to its air terminal. Receiving cargo at its terminal, the Air Force would manifest, load, tie down, provide enroute service and supervision, unload, notify, and deliver traffic to consignees at the destination air terminals. Although the Army would remain responsible for parapacking such supplies as were to be dropped to its forces, Air Force terminal personnel would load such cargo and eject it from aircraft over the drop areas. When Army units were required to make air movements, Air Force personnel would supervise and provide technical assistance and loading plans, but the Army units would load, tie down, and unload their cargoes. This agreement did not apply to MATS air terminals, nor to the subject of aeromedical evacuation.<sup>243</sup>

Following the accomplishment of the joint agreement with the Army, the USAF initiated plans to activate a number of aerial port operations squadrons on the model of TAC's 1st Squadron. These squadrons were to have an authorization of personnel and equipment which would enable each of them to meet the terminal needs of a troop carrier wing. Over a period of three years following July 1953, three of these new squadrons were programmed for deployment to FEAF,<sup>244</sup> but the Korean hostilities would have been long finished before the first of these units was activated in the Far East theater.\* In view of its earlier agitation which had developed the need for aerial port squadrons, the 315th Air Division might have logically been expected to have moved rapidly to effect the Army-Air Force agreement. Such, however, was not the case. In the last year of the Korean war there were no airborne troop employments and very few aerial supply drops in Korea. Moreover, General McCarty recognized that the existing terminal system was working very well: the 8081st Army Unit was satisfactorily performing the aerial drop functions planned for an aerial port squadron and the 6127th Group was tailor-made to meet the theater's air terminal functions. General McCarty there-

\*On 8 February 1955 the 6127th Air Terminal Group was replaced by the 7th Aerial Port Squadron. Since the 7th Squadron had a table of organization strength of only 7 officers and 209 airmen it was augmented with an additional 42 officers and 219 airmen, which brought it to the strength of the former 6127th Group. See Hlst. 315th Air Div. (Combat Cargo), Jan.-June 1952, I, 88-91.

fore saw no reason to hasten a reorganization of aerial port functions in the Far East.<sup>245</sup>

**Aeromedical Evacuation:** During World War II the air evacuation of sick and wounded military personnel had been utilized within every theater of operations. The AAF Air Transport Command had made substantial achievements in transoceanic and inter-theater aeromedical evacuation. In the theaters, however, aeromedical evacuation of casualties had been considered to be an emergency method of moving men who could not be practically transported by more normal motor ambulances or hospital trains. Air Transport Command transoceanic medical air evacuation had supplemented naval hospital ships but had never challenged the supremacy of the surface means of transport.† The end of World War II had cut short the development of air evacuation techniques within active combat theaters, but the Military Air Transport Service had continued to provide worldwide aeromedical evacuation, which by September 1949 had demonstrated such efficiency that the U. S. Joint Chiefs of Staff had made air the primary means for handling all transoceanic movements of military patients.<sup>246</sup>

Despite the fact that the value of aeromedical evacuation within active theaters of operations had been established during World War II, neither the Army nor the Air Force had studied the subject with a view toward the establishment of the most efficient system for such evacuation and toward the fixing of definite service responsibilities within the system. When the Korean war began, CINCFE had no regulation governing intra-theater aeromedical evacuation, and he did not issue such a theater directive until 18 December 1951.<sup>247</sup> Coming at this late date, the theater directive merely confirmed policies and practices which had been worked out and informally effected within the theater. These policies and practices did not necessarily represent the most efficient methods of aerial evacuation: most of them were nothing more than Air Force efforts to meet Army desires. There had been no examination as to whether time-honored Army transportation and hospitalization procedures, based as they were upon the speeds of foot-moving litter bearers and earth-bound motor ambulances, might have

†See Mae M. Link and Hubert A. Coleman, *Medical Support of the Army Air Forces in World War II* (Washington: Office of the USAF Surgeon General, 1955), pp. 352-412.

SECRET



SECRET

deserved change in context with the demonstrated rapidity and efficiency of aerial evacuation.

When American troops went to Korea in July 1950, the Eighth Army implemented traditional ground systems for handling military troop casualties. Fundamentally, this system was predicated on a concept of keeping a casualty as far forward as possible in order to return him to combat as soon as he was physically fit. The Army medical service established and used in Korea thus provided the typical medical installations of increasing size from the forward to the rear areas which would permit a patient to be sorted, treated, and disposed of in a manner depending on the nature of his medical condition. The echelons of this medical system and the normal surface means of transportation were as follows: a wounded soldier was transported from the battlefield to a battalion aid station by litter-bearers or litter-jeep. From this battalion aid station he was evacuated by motor ambulance to a regimental collecting station and thence on to a division clearing station, at which point he could be either dispatched immediately to an evacuation hospital or routed by motor ambulance to a mobile army surgical hospital (MASH) which could provide emergency surgery and short periods of hospitalization. Either directly from the division clearing station, or through the MASH, the more seriously wounded patient, or one requiring special treatment, moved by motor ambulance or hospital train to an evacuation hospital, where he was hospitalized pending recovery or removal to a general or convalescent hospital in the communications zone. In terms of the movement of casualties to medical facilities, the steps in this evacuation system were: battlefield pickup and movement to the mobile army surgical hospitals; mobile army surgical hospital to evacuation hospital; evacuation hospital to general or convalescent hospital.<sup>248</sup> The systems of aeromedical evacuation which were improvised in the Far East implemented this conventional Army medical system. Even within this conventional framework, there was general agreement that aeromedical evacuation made magnificent achievements: along with other scientific advances, aeromedical evacuation could claim a large part of the credit for the reduction of the death rate from combat casualties in Korea to one-half the rate of World War II and to one fourth the rate of World War I.<sup>249</sup> But when

tried against conceptual standards of potential economy and efficiency, Korean aeromedical evacuation left much to be desired.

When a frontline soldier is wounded in combat, the speed with which he receives medical attention and adequate hospitalization is frequently the controlling factor in whether he lives or dies. In Korea, the poor state of the roads and the railroads and the heavy logistical traffic which had to move over them would make air evacuation a virtual necessity for seriously wounded personnel. FEAF recognized this fact at the beginning of the hostilities, and as quickly as possible it moved its small 801st Medical Air Evacuation Squadron from Clark Air Force Base in the Philippines to Tachikawa, there attached the squadron to the 374th Troop Carrier Wing,<sup>250</sup> and on 4 July 1950 FEAF advised CINCFE that it was prepared to accomplish air evacuation of casualties from Korea.<sup>251</sup> During July and August 1950, however, the Eighth Army made token use of aeromedical evacuation: in these two months the 374th Wing evacuated only 1,631 patients whereas approximately 6,500 were moved from the front line to hospitals in Japan by combinations of rail and water transportation.<sup>252</sup> The reasons why the Eighth Army preferred to utilize conventional surface transportation for moving its casualties during this period were explained to the FEAF surgeon and a FEAF Combat Cargo Command representative. Taegu (K-2) airfield, the most advanced air facility available during the Pusan perimeter fighting, was eight miles from the mobile hospital in Taegu City, and the Eighth Army selected, because of the poor road and a shortage of ambulances, to move its casualties by train to the evacuation hospital at Pusan. Most of the patients at Pusan who required extended treatment waited for hospital-ship transportation to Japan; a few were taken to Pusan East Airfield (K-9) for air transportation to Japan but there were no holding facilities there and, since each packet of patients required especial arrangements for air transport, they often had to wait for excessive lengths of time before a transport aircraft picked them up. In this early period, the Air Force had not offered any sound program of air evacuation to the Eighth Army, and it was not unnatural that this force, which had to evacuate its casualties on an orderly and programmed basis, could scarcely afford to count

SECRET

on a  
tion.  
bat  
tion  
calcu  
but  
were  
shoul  
cal  
the  
pitals  
most  
If  
Eigh  
cal  
transp  
front  
woun  
tuou  
began  
eight  
not  
bilib  
and  
nal  
Fifth  
move  
to  
from  
Augu  
week  
Japa  
too  
ments  
tion  
equip  
aerom  
flight  
on, th  
tion  
exten  
1950  
many  
volv  
vision  
FEAF  
noted  
of  
squ  
tine  
Comm



SECRET

on a "catch as catch can" system of air evacuation.<sup>253</sup> Early in September 1950, the FEAF Combat Cargo Command devised and put into operation a system of aeromedical evacuation which was calculated to meet the needs of the Eighth Army, but even as it took this step other developments were afoot which would eventually divide what should have been one unified system of aeromedical evacuation into two systems: one system for the areas forward of the mobile army surgical hospitals and the other for the areas rearward of these most advanced medical facilities.

If in the early months of the Korean war the Eighth Army was lukewarm toward the aeromedical evacuation of its casualties by C-47 and C-54 transports, it knew a grave need for some form of frontline air pickup which would spare seriously wounded men the hazards of slow trips over tortuous roads to surgical hospitals. When the war began FEAF air rescue squadrons had possessed eight H-5 helicopters. These utility aircraft had not been designed for combat, but they had a capability of lifting a pilot and a medical technician and two patients, the latter being carried in external litter capsules. Early in August 1950 the Fifth Air Force had the 3d Air Rescue Squadron move three H-5's to Korea, where they were used to evacuate seriously wounded soldiers directly from the front lines to surgical hospitals. On 14 August, FEAF informed USAF that within the week it was going to move three more H-5's from Japan to Korea, but these six helicopters would be too few to meet emergency evacuation requirements. FEAF therefore asked that an evacuation and utility squadron be organized and equipped for it in the United States, with 25 H-5 aircraft, the necessary crews and mechanics, a flight surgeon, and medical technicians.<sup>254</sup> Later on, the Air Force would perceive that such a function as this was a logical and desirable forward extension of the troop carrier effort, but in August 1950 USAF Operations thought in terms of how many helicopters it had and the precedent involved in this proposed action. The Overseas Division, Directorate of Operations, handled the FEAF request at the USAF level. This division noted that USAF had only 103 helicopters, most of which were in the hands of overseas air rescue squadrons. By withdrawing helicopters from continental units of MATS, from the Caribbean Air Command, and from the Special Weapons Com-

mand, USAF could get together 14 H-5's for delivery to FEAF. The USAF action agency, however, observed that USAF planning for the air evacuation of wounded "has not included U. S. Army function of evacuation from front line battle stations," and it hesitated to set a precedent. The USAF Surgeon General nevertheless believed that the FEAF request should be met, and the USAF Directorate of Operations therefore proposed to send the 14 H-5's to the Far East. It cautioned that the aircraft would not be used to form a new evacuation squadron but would instead be assigned to the 3d Air Rescue Squadron. On 21 August 1950 these recommendations were approved at USAF, and FEAF was informed that the 3d Squadron would soon be augmented with 14 H-5's.<sup>255</sup>

From the beginning of their employment in Korea, the H-5 helicopters of the 3d Air Rescue Squadron gave badly needed service. Through 29 August 1950 they had moved 83 men from the frontlines to Pusan hospitals, men whom the Eighth Army surgeon said would have died had they made the 10- to 14-hour trip by motor ambulance.<sup>256</sup> On 24 September 1950 the helicopter flights in Korea were organized into Detachment F, 3d Air Rescue Squadron, and this detachment followed the ground war northward. How these helicopters could best operate was shown by trial and error: the best means for employing them appeared to be to base several of them at a mobile army surgical hospital and to authorize the surgeon-in-charge to dispatch them in response to valid requests from the front lines. Because of the short numbers of H-5's available, only those patients were carried who were wounded so badly that surface evacuation would have jeopardized their chances for recovery. By 20 February 1951 Detachment F had evacuated 750 critically wounded soldiers from the front lines.<sup>257</sup> During the spring ground campaigns of 1951, Detachment F with 15 H-5 helicopters continued to provide brilliant but essentially scarce support to UNC ground troops. When, on 15 and 16 February, elements of the U. S. 2d Division were surrounded in the central Korean town of Chipyeong, the H-5's flew in blankets, plasma, and medical supplies and carried out 52 wounded men. On 24 and 25 March the H-5's, now assisted by a single H-19 which had been sent to Korea for service tests, evacuated 148 wounded and injured paratroopers who had

SECRET



~~SECRET~~

jumped with the 187th Airborne RCT at Munsan-ni. By 5 April 1951 the 3d Air Rescue Squadron helicopters had evacuated 1,423 wounded or cut-off UNC soldiers from the battle lines. The USAF Surgeon General described these achievements as "one of the brightest chapters in the history of our Air Force."<sup>258</sup>

While the USAF helicopter pilots were thus distinguishing themselves in around-the-clock operations with aircraft which were never meant to fly at night or in bad weather, FEAF had been unsuccessfully attempting both to get more helicopters and to secure recognition for the forward area medical air evacuation function. On 16 January 1951, when General Vandenberg was in the theater, FEAF handed him a request for more capability: at this time FEAF had 14 H-5's and it wanted 31, most of which would be used to organize a provisional evacuation squadron. In answer to this request, USAF assigned MATS a responsibility for bringing the 3d Squadron up to a strength of 23 H-5's, but, other than this, it professed an inability to meet FEAF's helicopter requirements. It was unwilling to take away the few H-5's which its worldwide rescue squadrons still held, and the new and larger H-19 and H-21 helicopters were not going to be available from production in any appreciable quantities until early 1952.<sup>259</sup> Determined not to let the matter rest, the FEAF commander on 11 March 1951 requested General Vandenberg to provide to the Fifth Air Force a liaison squadron with 12 H-5's and 12 L-5's, which would give it an air evacuation and liaison capability separate and distinct from the 3d Air Rescue Squadron, which ought to be concerning itself with the emergency rescue of aircrews. The old L-5's and H-5's were not the most desirable aircraft but FEAF was willing to accept them. It nevertheless requested that it be given the highest priority for the new H-19's.<sup>260</sup> Once again USAF reminded FEAF that its policy was to give first priority for helicopters to the Air Rescue Service, but on 14 April it recognized that the Fifth Air Force needed a liaison squadron, which would be equipped with 12 L-5 aircraft. Beginning in the autumn of 1951 the squadron could be gradually provided with L-20 liaison aircraft, the new DeHavilland Beavers, which could accommodate three litter patients. Armed with this authority, the Fifth Air Force on 25 July 1951 activated the 10th Liaison Squadron and,

among other duties, charged it to perform air evacuation as required.<sup>261</sup>

But in mid-1951 FEAF still lacked the helicopter capability which it needed. On 24 July FEAF accordingly bespoke its thanks for the liaison squadron authorized to the Fifth Air Force and asked for another to be assigned to the Japan Air Defense Force, but it informed USAF that it additionally required one squadron of H-19 helicopters to perform frontline medical air evacuation functions. The function, FEAF explained, was being performed by Detachment F, 3d Air Rescue Squadron, but since this unit lacked the wherewithal adequately to provide forward area air evacuation services the Eighth Army had been compelled to make extensive use of its liaison aircraft for such purposes. "If FEAF is to carry out its responsibility of adequately providing this service for the Army," noted the FEAF letter to USAF, "one squadron of H-19-type helicopters is required for assignment to the 315th Air Division." On 23 August 1951, USAF replied that the Air Rescue Service would have first priority claims on critically short H-19 aircraft. Under the current composition of the USAF no other liaison or helicopter squadrons were available for deployment to FEAF.<sup>262</sup>

During the first year of the Korean hostilities, USAF and FEAF obviously disagreed as to whether the aeromedical evacuation of casualties from forward areas was correctly an Army or an Air Force task, and, oddly enough, both of them were correct. The vagueness in this service responsibility went back to World War II, when the Army had been permitted to assign organic liaison aviation to its units but the Army Air Forces had continued to provide the ground forces with supporting liaison squadrons. Following the establishment of the USAF, various Army-Air Force basic agreements had indicated the intent to maintain this same system. Thus the JAAF paper of 21 August 1948 charged the USAF to provide air transport for the Army "except as otherwise stated." A series of adjustment regulations had effected the details of the separation of the Air Force from the Army, and one of them, issued on 20 May 1949, had amounted to a basic agreement on the subject of Army organic aviation. As defined therein there were two types of Army aircraft: fixed-wing, not exceeding 2,500 pounds in weight, and rotary-wing, weighing no more than 4,000

~~SECRET~~



SECRET

pounds. Organic aircraft were to be used by the Army to expedite ground combat in battlefield areas, and one specified duty was to accomplish emergency aerial evacuation. The agreement also specified that USAF would continue to support the Army with liaison squadrons, which would perform courier and messenger service, aerial evacuation, aerial photography, aerial supply, and aerial wire-laying.<sup>263</sup>

In the several years prior to the Korean war, the Army had built up a modest inventory of organic liaison aircraft, and on 30 June 1950 it possessed a total of 725 such aircraft, including 57 utility helicopters.<sup>264</sup> The initial ground fighting in the rough terrain of Korea placed a premium on rotary-wing characteristics, and, after observing the work of 3d Air Rescue Squadron H-5's, the Eighth Army commander in mid-August 1950 requested CINCFE to provide Army units in Korea with organic helicopters. His specific requirements were for passenger helicopters like the H-5's which would be allocated 4 per division, 2 per corps headquarters, and 3 per army headquarters, and for cargo helicopters which would be capable of carrying 1,600 pounds and which would be allocated 3 per division, 2 per corps headquarters, and 2 per army headquarters. On 20 August 1950 CINCFE forwarded the Eighth Army's request to the Department of Army with the recommendation that it be implemented, either in whole or on whatever scale was feasible.<sup>265</sup> This request was favorably received by the Department of Army, and between 1 July and 31 December 1950 the Air Force, which procured aircraft for the Army, put on order about 1,230 helicopters and liaison aircraft, including such models as the H-13, H-19, H-23, and H-25.<sup>266</sup> New organic aircraft allotments were drawn up which authorized each infantry division 10 helicopters and made other authorizations of these aircraft to other Army units. Helicopter ambulance units were established, each being authorized 5 aircraft.<sup>267</sup> The effects of these authorizations and procurement actions were not immediately felt in Korea. Except within the 1st Marine Division where organic helicopters were possessed, all frontline aeromedical evacuations continued to be performed by USAF helicopters until January 1951. After this time, the Eighth Army began to receive some of its authorized aircraft and to undertake a part of the evacuation task, but as of 30 March 1951 some 85 percent

of frontline pickups was being accomplished by USAF aircraft.<sup>268</sup> As Army and Marine helicopters became available in greater quantities, air evacuation of wounded from the front lines was assumed, for the most part, by them, and medical evacuation of casualties became a secondary mission for USAF air rescue units. This task of backing up Army and Marine helicopters, however, remained a considerable responsibility, and all told, during the Korean hostilities, USAF helicopters evacuated more than 8,500 wounded UNC personnel from frontline positions either to hospitals or directly to airstrips for further air evacuation.<sup>269</sup>

The subject of Army organic aviation was to receive additional attention at Army and Air Force departmental levels. During 1951 the Army was increasingly dissatisfied with the weight limitations which it had agreed to observe in ordering aircraft for its field units. On 2 October 1951 the Secretaries of the Air Force and the Army signed a special Memorandum of Understanding relative to Army aviation, which eliminated the maximum weight provisions on Army organic aircraft in favor of a definition in terms of functions to be performed. As stipulated, organic aircraft would be used by the Army "as an integral part of its components for the purpose of expediting and improving ground combat and logistical procedures within the combat zone," a strip of territory which would extend backwards from the front line normally to a depth of 60 to 75 miles. Chiefly because of disputes concerning Army helicopter transport companies which the Army desired to equip and employ in Korea,\* the 1951 agreement was superseded by a Second Memorandum of Understanding on Army aviation which was concluded on 4 November 1952. This agreement renewed the weight restrictions on Army fixed-wing aircraft, whose maximum weight was now established at 5,000 pounds, but imposed no weight restrictions upon helicopters, whose employment by the Army continued to be defined in terms of functions. Among other details covered, this agreement charged the Army with limited aeromedical evacuation including "battlefield pickup of casualties, their air transport to initial point of treatment and any subsequent move to hospital facilities within the combat zone." In the case of

\*See pp. 294-96.

SECRET



SECRET

airborne operations, however, the Air Force was responsible for the evacuation of casualties from the objective area until such time as a ground linkup was attained.<sup>270</sup>

With the exception that it did not control forward area air evacuation, the FEAF Combat Cargo Command and its successor 315th Air Division established and demonstrated a system of aeromedical evacuation which was economical of scarce air effort, flexible enough to meet the changing needs of combat, and dependable enough to meet the Eighth Army's requirements. Having obtained in September 1950 the specific criticisms which the Army had in mind about the way in which aeromedical evacuation had been conducted up until then, the FEAF Combat Cargo Command promptly reorganized the effort. The control techniques which made air evacuation wherever possible a return-trip task of cargo aircraft which had delivered cargo to airfields in Korea have been noted,\* but the principal element of success in the system of aeromedical evacuation developed in Korea was close coordination through good liaison and reliable communications. Staff and liaison officers needed for the system were provided by the 801st Medical Air Evacuation Squadron. The squadron commander of the 801st served as the surgeon of the 315th Air Division, while the squadron executive, an experienced medical service corps officer, was in charge of the Division's air evacuation operations section. The squadron also kept two liaison officers in the field, one at Pusan with the Eighth Army Evacuation Officer and another at Taegu with the several hospitals there. These two officers forwarded requests for the movement of patients intra-Korea and from Korea to Japan. For intra-Japan patient movements the Hospital Regulating Officer of the Japan Logistical Command made known his requests for air transport space to the air evacuation operations section directly. These same arrangements continued after the reorganization of the FEC: MAE liaison officers were accredited to the Medical Section of the Eighth Army and to the Medical Section of the Korean Communications Zone, while in Japan the AFFE Medical Regulating Officer requested intra-Japan aeromedical evacuations. All means of communication—radio, telephone, and AACS facilities—

\*See p. 262.

were employed in the requesting and coordination of aeromedical evacuation.<sup>271</sup>

Given the assurance that aeromedical evacuees would be ready for movement at a specified time and place, the 315th's Transport Movement Control was able to add flight nurses, aeromedical technicians, and the necessary litters and other equipment to the cargo planes which carried supplies into the field from which the patients were to be lifted. If no cargo-carrying plane was scheduled for the airfield, an empty plane was scheduled for the sole purpose of air evacuation. In times of crisis, all types of transport aircraft were used for air evacuation: thus on 5 December 1950 a total of 131 flights of all types of planes lifted 3,925 patients for the largest single day of aeromedical evacuation in the Korean hostilities.<sup>272</sup> Normally, however, the 315th Air Division preferred to use C-47's and C-54's for aeromedical evacuation. The C-47's usually picked up patients at forward area strips and took them to hospitals in Korea, and the C-54's handled the Korea to Japan patient lift. In recognition of the limited space in the C-47's and their tendency to crowd forward fields, the 315th Air Division customarily used C-54's even for intra-Korea lift at any time that they could safely get into a forward airfield. Thus in October 1950, when the Eighth Army was driving northward, C-54's lifted patients from Sinmak (K-20) and carried them back to Kimpo where they were turned over to the 8055th Mobile Army Surgical Hospital. Except in emergency periods, the usual air evacuation day saw the airlift of about 300 patients, a total which could be handled fairly easily by the C-47's, which could handle 26 ambulatory and litter patients, and by the C-54's, which could accommodate 36 ambulatory and litter patients. Since the C-119 was virtually disqualified for evacuation tasks because of its cabin noise, deficiency in single-engine flight characteristics, and poor ditching possibilities, and the C-46 aircraft on hand lacked aeromedical accommodations such as litter straps and toilets, the 315th Air Division stated on 27 July 1951 that C-47's and C-54's would be primarily used for air evacuation purposes over all routes and into all areas, with the C-54's to be favored in all cases where airfield conditions permitted their use. The command further stated that C-46 and C-119 aircraft would be used for air evacuation only in cases of emergency.<sup>273</sup>

SECRET



In the autumn of 1952 the departure from the theater of two squadrons of C-54's and the conversion of two other squadrons of C-54's to C-124 Globemasters had an impact upon the medical air evacuation capabilities of the 315th Air Division. Theater operational tests of a C-124A in September and October 1951 had already shown that this plane was well suited for the air evacuation mission. As a practicable maximum, the C-124 could accommodate 127 litter patients or 200 ambulatory wounded, and the loading of such numbers of evacuees on a single C-124 took less time than the loading of equivalent numbers on several planes. Proportionate to the patient load, moreover, the C-124 required fewer flight nurses and aeromedical technicians. The patients carried in the large aircraft gained confidence from its size and power. The possibility that it might have to be ditched at sea was the C-124's worst feature: because of its size and type of escape exits, ditching would prove difficult even for the crew and for ambulatory patients.<sup>274</sup> When the Globemasters were put into full operational use they demonstrated that they were well qualified for aeromedical evacuation: during the LITTLE SWITCH and BIG SWITCH evacuations of UNC prisoners who were retrieved from the Communists the C-124's were able to handle large movements of patients with great ease. Their full potential for patient lift, however, could seldom be completely utilized in the Far East. They could not get into forward area airfields and thus had little utility for intra-Korea evacuation; they could not operate into Pusan East Airfield (K-9) and thus were unable to pick up patients from this point for return to Japan.<sup>275</sup> Having recognized that the C-124's would have some trouble utilizing their aeromedical capabilities, the 315th Air Division had already made plans and preparations to employ its C-46's for medical air evacuation. Now equipped with the necessary accommodations, the C-46's in September 1952 began to carry maximum loads of 26 litter and ambulatory patients and these aircraft proved equally versatile in the intra-Korea, Korea to Japan, and intra-Japan patient lifts. The 22d Squadron's C-54 aircraft also provided some aeromedical lift from Korea to central Japan.<sup>276</sup>

At any time during the Korean hostilities, the 315th Air Division possessed far more aeromedical airlift capability in terms of sorties by aircraft suited for the task than could be utilized by the

Eighth Army. The only limitation on the 315th's aeromedical evacuation capability was a scarcity of USAF medical service personnel. The 801st Medical Air Evacuation Squadron, present in the theater when the war began, was a small organization which was tailored to meet the needs of a MATS-type air evacuation operation running between regularly established terminals. It was authorized 29 officers (including 24 flight nurses) and 48 enlisted men (including some 18 aeromedical technicians), a strength which was adequate to maintain a squadron headquarters and three flights. Neither this strength nor the organization was suited to the problems of all-out aeromedical evacuation, and as soon as it was moved northward to Tachikawa the 801st discontinued its flights and transferred all personnel to the direct control of the squadron headquarters. Having gained this flexibility, the 801st established its people where they were needed. At each airfield which served as an embarkation or debarkation point for evacuees, a medical service corps officer or a senior NCO was placed in charge of an "operating location" and thus served liaison purposes with using medical units and supervised the loading and unloading of patients. Although the USAF medical service, within the means available to it, provided flight nurses and enlisted technicians in excess of the squadron's authorized strength, most of these nurses and technicians during 1950 and 1951 often flew as many as three round trips per day to Korea and literally worked themselves to exhaustion. As time passed, however, the 801st was authorized additional flight personnel: on 6 June 1951 it was reorganized to include 45 officers (including 37 flight nurses) and 72 airmen (including 36 flight technicians).<sup>277</sup>

The expansion of the 801st Medical Air Evacuation Squadron proved to be slower than was desirable because the USAF medical service, caught short in the sudden outbreak of the Korean war, was initially unprepared to meet the requirements posed by large-scale aeromedical evacuation. Another most serious shortcoming was the Air Force's inability to provide the medical personnel needed to man and operate the casualty staging and holding facilities at various evacuation airfields in Japan and Korea. More or less informally and in recognition of a need that the Air Force could not fulfill, the Army established the first casualty staging unit at an airfield in



Korea in November 1950, and, subsequent to this time, it assumed similar duties at the several evacuation fields in Japan and Korea.<sup>278</sup> The results of this informal assumption of what should have been a definitely established responsibility were not entirely satisfactory. On 22 February 1951 General Henebry observed that: "Such things as inadequate holding facilities, shortage of ambulances and litters, insufficient clothing, blankets, and lack of food for patients over long periods of time are a common occurrence within this theater. Although it is the understanding of this Division that these are responsibilities of the Army in this theater, when such deficiencies exist the air carrier is open to criticism."<sup>279</sup> In the spring of 1951, moreover, there were a good many instances wherein the Eighth Army holding units did not have patients ready to be airlifted as requested, or else requests were canceled at the last minute, after flights had been dispatched. In either event, the scarce services of flight nurses and technicians who were sent to care for the unavailable evacuees were wasted.<sup>280</sup>

The 315th Air Division attributed these irregularities in the preparation of patients for airlift to the lack of a theater directive defining service obligations in the aeromedical evacuation system, and finally in December 1951, after almost a year and one half of war and after repeated efforts of the parties concerned to reach agreements, a theater policy letter was drawn up and issued by CINCFE defining zones of responsibility and jurisdiction and confirming previous verbal agreements. Among its other provisions, this letter directed the commanders of medical facilities authorized to use air transportation and the commanders of holding companies or detachments to designate air evacuation coordination officers who would coordinate evacuation activities between the medical facility and the air evacuation agency. These air evacuation coordination officers were made responsible for such matters as loading and unloading patients, transporting patients to and from holding facilities and aircraft, providing in-flight meals as necessary, preparing records, furnishing special medications or diets, and replacing or exchanging supplies and equipment with the air evacuation agency as practicable.<sup>281</sup>

Although the Army had assumed the task of manning and operating aeromedical staging and holding facilities in Japan and Korea, USAF had

not intended to abdicate the function which, being physically located at airfields and concerned with loading and unloading aircraft, could obviously be most efficiently performed by USAF medical personnel. Based upon maneuver experience in the United States, the USAF Surgeon General on 26 May 1952 completed a table of organization for an aeromedical group which, among other features, possessed cellular casualty staging flights of a nature fitting them to serve, where needed, as staging and holding activities.<sup>282</sup> The USAF Surgeon General recognized at this time that medical services austerity programming was so pressing that personnel for overseas aeromedical evacuation groups would not be soon available. In the spring of 1953, USAF was at last able to direct FEAF, effective on 18 June, to replace the 801st Medical Air Evacuation Squadron with the 6481st Medical Air Evacuation Group. In deference to the unusual aspects of the aeromedical function in the Far East, the 6481st was activated as an especially designed table of distribution unit which absorbed the functions, personnel, and equipment of the 801st Squadron, but its authorized strength of 50 officers and 222 airmen gave it the ability to take over the processing, temporary care, and staging of military casualties for air movement.<sup>283</sup> The Army, however, was reluctant to release control of the aeromedical staging facilities and presented arguments in favor of maintaining the status quo. These arguments, which actually involved nothing more than an administrative control of patient movements by air, soon branched out into a maze of statements and counterstatements concerning manpower, vehicles, and the like. Although the Air Force continued to assert that it could man and operate the staging facilities far more economically than the Army, no agreement could be reached in the theater and the problem was finally passed to the Department of Defense for a decision. The question as to which service should man and operate aeromedical patient staging detachments was not resolved before the end of the Korean war.<sup>284\*</sup>

During the three years of the Korean hostilities, the 315th Air Division and its predecessor airlift commands provided air evacuation for more than

\*The argument was finally resolved in favor of the Air Force on 8 December 1953 by a joint agreement which confirmed the fact that the Air Force was responsible for providing an aeromedical evacuation system for the Army and for the Air Force. See AFR 160-5 (AR 40-95), 8 Dec. 1953.



SECRET

320,000 patients, a total which in some part included multiple movements of the same patients intra-Korea, Korea to Japan, and intra-Japan.<sup>285</sup> As the total experience of the 315th Air Division with aeromedical evacuation is viewed, certain facts stand out in sharp relief. Aeromedical evacuation was dependable, so dependable that the hospital ships in the Far East were used after September 1950 as floating hospitals rather than as transports. Air evacuation was safe: in the course of the whole patient movement only six patients were lost in one fatal accident, this in 1951 when an RHAF C-47, taking off at night from a forward airfield, collided with a jet fighter-bomber.<sup>286</sup> Air evacuation was humanitarian. Knowing that air would carry him speedily and comfortably to a hospital, a patient quickly assumed a "worst is over" attitude which lifted his spirits at the very time such was needed. The same speed brought a patient to a medical center where specialists were available with the best possible equipment. Air travel caused far less trauma than surface travel over rough roads or railways. Air evacuation was economical. It was not only statistically demonstrable that transoceanic air evacuation cost far less per patient than did water transportation,<sup>287</sup> but as it was managed in the Far East aeromedical evacuees generally occupied space which would have been otherwise unused on transports outbound from the battle area. The 315th's surgeon aptly pointed out that in Korea one medical air evacuation squadron, working with a single air transport command which maintained a 24-hour watch and integrated air evacuation with other transport operations, accomplished more than was customary for several MAE squadrons under divergent command in World War II. "For what is probably the first time in the history of warfare," wrote another physician, "the surgeon has had an abundance of air evacuation transport offered him without having to plead for it."<sup>288</sup>

Viewed either in terms of its achievements or in comparison with similar endeavors in World War II, the Korean medical air evacuation effort was clearly a major accomplishment in American military history. A candid reporter of the Korean aeromedical evacuation story may nevertheless inquire whether the systems employed there were as efficient as they might have been, and whether the achievements of the effort were, in fact, as great as they might have been, had other circumstances

prevailed. What, for example, was the cost in efficiency from the fact that aeromedical evacuation in Korea was engrafted upon the Army's existing medical system. The Korean experience and contemporary maneuver-experience in the United States\* clearly reveals that the Army's traditional system of evacuating casualties through many medical echelons did not permit aeromedical evacuation to attain its maximum utility. A chain of evacuation designed for walking litter bearers, horse-drawn vehicles, and, at best, earth-bound motor transportation could not achieve the maximum benefits attainable from an integrated aeromedical evacuation system. In Exercise "Southern Pine" in August 1951 the USAF Tactical Air Command, employing an integrated system of aeromedical evacuation and using two helicopters for frontline pickup and a transport aircraft for evacuation to simulated rear area hospitals, achieved such success that on the ninth day of the maneuvers the 43d Infantry Division surgeon suspended all but the most forward echelon of ground evacuation activity, idling an estimated 600 persons and 100 vehicles of the Army medical service.<sup>289</sup> The integrated aeromedical evacuation system employed in "Southern Pine" operated on the principle that sick, wounded, and injured men should be screened sufficiently in advanced areas to prevent excessive losses to the ground combat command as a result of "over evacuation" but that all legitimate casualties should be immediately and rapidly moved, with as few stops as practicable, to rear area or communications zone hospitals. Such a procedure lessened medical manpower and logistical loads in the forward areas, speedily removed the patient from the harassment and stress of the battle area and got him to adequate medical attention, and freed the ground forces of details which complicated the conduct of the ground battle.<sup>290</sup> No such integrated aeromedical evacuation system, operated through the depth of the theater by a single responsible agency, was ever utilized in the Far East, and as a result aeromedical evacuation never made its maximum potential contributions to the UNC war effort in Korea.

**The Last Year of the Korean Airlift:** In the last year of the Korean hostilities, the 315th Air Division continued to employ its combat cargo capa-

\*See AHS-129, Air Force Participation in Joint Army-Air Force Training Exercises, 1951-1954, pp. 46-48, 95-98.

SECRET



SECRET

bilities as directed by CINCFE through the FEC Joint Air Priorities Board and as requested by JALCO. Following a first year of all-out combat cargo activity in support of the blazing air-ground war in Korea, the Korean airlift requirements had been cut back at the beginning of the truce talks in July 1951, and airlift requirements remained relatively modest in the third year of the war.<sup>291</sup> The airlift command nevertheless continued its preparations to cope with sudden increases at any time. Transport achievements of the 315th Air Division in the period 1 July 1952 through 31 July 1953 are shown in figure 21.<sup>292</sup>

During the last year of the war the bulk of cargo carried by the 315th Air Division's transports was airlifted cargo and passengers. Unlike the early days in Korea, when vast quantities of ammunition, rations, gasoline, and other basic supplies had constituted the major items of airlift, priorities for air movement in the last year were awarded to those articles which could not be delivered in time for their effective use by any other means of transport. Under this rule, the bulk of airlifted cargo included replacement engines and aircraft parts for the Fifth Air Force and fresh vegetables from hydroponic farms in Japan for Army and Air Force troops in Korea. To conserve airlift space, most of these vegetables were shipped by refrigerator cars to Kyushu and flown from there to Korea.<sup>293</sup> In May 1953 an extra C-124 trip was added to the "vegetable lift" and it carried vegetables as filler cargo directly from Tachikawa to Taegu (K-2) and Seoul (K-16).<sup>294</sup>

Transporting passengers, including whole military units, to and from Korea, was the largest category of 315th Air Division operations in the period after June 1952. Except for October 1952, the number of medical air evacuees lifted in transport aircraft remained moderate until June and July 1953, when renewed ground fighting in central Korea caused increased numbers of evacuees. With the beginning of the truce talks the number of sick and wounded had sharply declined, but at this same time the Eighth Army and Fifth Air Force had increased the numbers of persons permitted to return to Japan for five-day rest and recreation (R & R) leaves.<sup>295</sup> Of 541,935 passengers transported by air in the last half of 1952, 282,101 were R & R personnel—216,249 from the Army and 65,852 from Fifth Air Force. By the end of June 1953, the 315th Air Division had lifted

315th AIR DIVISION ACHIEVEMENTS

1 July 1952—31 July 1953

Month	Effective sorties	Total tons	Passengers	Airdrop tons	Air evacuees
1952					
Jul.....	5,028	16,552.6	87,961	89.1	4,633
Aug.....	5,196	16,935.5	88,103	84.7	5,005
Sep.....	4,880	15,778.1	86,143	77.6	5,756
Oct.....	5,266	17,306.3	97,104	57.8	8,287
Nov.....	4,975	17,556.5	96,221	63.5	6,250
Dec.....	4,646	16,669.5	86,403	63.5	5,453
1953					
Jan.....	5,086	17,565.1	97,050	63.8	4,951
Feb.....	4,376	16,617.0	95,220	46.8	5,153
Mar.....	6,806	17,851.8	101,873	65.4	5,515
Apr.....	6,730	18,325.8	100,147	66.6	6,020
May.....	6,630	19,640.5	105,475	74.2	4,917
Jun.....	5,580	14,843.6	70,087	59.7	8,956
Jul.....	6,212	15,215.4	47,014	29.7	11,951

Figure 21.

800,000 R & R passengers between Korea and Japan, a sufficient number of people to populate a city the size of Boston, Massachusetts. During the early summer of 1953, however, several factors caused the discontinuance of the R & R program. The backbone of the R & R lift was broken when all C-124's were grounded after the fatal crash on 18 June, for these large planes were carrying the majority of R & R troops. The formidable Communist push into the UNC lines in June also prevented withdrawal of personnel from operating units: with this offensive all available airlift was needed to move troops, supply, and equipment into Korea to check the southward surge of the Red forces.<sup>296</sup>

In its mission assignment the 315th Air Division was required to conduct air transportability training and to assist air and ground units in making air movements within the Far East. Teams from the 6127th Air Terminal Group accordingly served to indoctrinate and to assist units in air movements, and a 315th booklet entitled "Here Today—Gone Tomorrow" taught principles and precepts of air movement. Although many air movements of units had been managed in the early phases of the Korean war, the largest single airlift of an Air Force unit extended over a two-and-a-half-week period beginning 8 July 1952, when

SECRET



SECRET

the 474th Fighter-Bomber Wing was moved by air from Misawa in northern Japan to Kunsan (K-8) in western Korea. In December 1952 and January 1953 the 315th Air Division lifted a large proportion of the personnel and equipment of the 18th Fighter-Bomber Wing from Chinhae (K-10) and Hoengsong (K-46) to the newly opened base at Osan-ni (K-55).<sup>297</sup> During the last days of June 1953, two Marine air squadrons were moved by air out of Kunsan, one going to Pyongyang (K-6) and the other to Pohang (K-3). These movements of air units were of some magnitude, but they caused the 315th Air Division little difficulty. On 21 June 1953, however, reinforcing ground troops were needed to stem the momentum of the last-minute Communist ground assaults in Korea, and CINCFE assigned highest priorities to the movement of the 187th Airborne RCT from southern Japan to central Korea, where it was to go into battle positions. This airborne unit was well accustomed to air movements, but flooded roads in southern Japan caused it some difficulty in getting its paraphernalia moved into airlift airfields. In view of these problems, which greatly complicated an orderly loading of aircraft serials, the 315th Air Division lifted the RCT from Itazuke and Ashiya in 53 C-46 and 249 C-119 sorties, between 21 and 23 June. On the night of 23 June shortly after a takeoff in foul weather, one C-119 crashed in the sea a few miles out of Ashiya: all aboard this plane perished but these were to be the only losses during the June troop-lifts. Getting the RCT landed in Korea was also a problem: the 187th was slated to go into the battle line near Chunchon (K-47) and daytime flights headed into this airfield. But Chunchon had no GCA and it was located in a hard-to-approach cup-like mountain basin, and night and bad weather flights accordingly had to go into Seoul (K-16). Here, on the second night of the airlift the Reds sent several "Bedcheck Charlie" light-aircraft harassing sorties, and tension ran high as the transports landed at the airfield, which, in a calculated risk, was kept lighted all the time that the Red planes were in the area. Although the transport traffic pattern and the fully lighted airfield offered the Reds some prime targets, the Red hecklers for some reason did not attack. This successfully completed movement of the 187th RCT, finished just before dawn on 23 June, lifted 2,094 soldiers

and 1,562 tons of equipment from southern Japan to Korea.<sup>298</sup>

Further to bolster the ground forces in Korea, CINCFE ordered the 19th and 34th Regimental Combat Teams of the 24th Infantry Division moved to Korea by airlift; both were to be landed in the Pusan area but the former had to be picked up from Misawa and the latter from Tachikawa. For two years the 315th Air Division had been working on air transportability maneuvers with the XVI Army Corps, and when these two RCT's had to be moved the training paid off in a fairly smooth accomplishment of a somewhat difficult transportation mission. The 315th wanted to land these troops at the all-weather base at Pusan East (K-9), but the B-26's based at this field had to stay operational, and instead of landing there the transports used Pusan West (K-1) for visibility landings and Taegu (K-2) for night and all-weather debarkations. For this operation C-46's, C-54's, and C-119's were available, and beginning at 0600 hours on 28 June, amidst extremely bad weather, the airlift got underway. In deference to fueling requirements, the aircraft flew this lift mission in a giant circle: they picked up passengers and equipment at Tachikawa and Misawa, flew them directly to Korea, returned to Ashiya for refueling and crew rotation, and then flew back to Tachikawa and Misawa to begin again. Although low ceilings delayed the lift from Misawa, the movements of the two regiments were completed on 2 July. In the movement of the 19th RCT from Misawa, 11 C-46, 4 C-54, and 55 C-119 sorties lifted 284.2 tons, including 898 troops. In the movement of the 34th RCT from Tachikawa, 63 C-46 and 123 C-119 sorties lifted 943.27 tons, including 3,039 troops.<sup>299</sup> Although he did not question the CINCFE order that the two regiments of the 24th Division were to be moved by air to Korea, General McCarty privately doubted that such a movement should have been made: for one thing, it used the entire 315th Air Division transport capability. The two regiments, moreover, were being moved into reserve positions and could have just as effectively, and at less cost to scarce air transport capabilities, been moved from Japan to Korea by water transport. As soon as these two regiments had been flown to Korea, CINCFE decided to airlift all of the remaining units of the 24th Division to the same

SECRET



reserve locations in southern Korea, chiefly for the training benefits to be gained from the maneuver. FEAF, however, secured an abatement of this order because it was patently unwise to continue to use up airlift capabilities when legitimate emergencies already required airlift. On 3 July, CINCFE saw reason in this viewpoint and ordered the remainder of the 24th Division moved to Korea by water transportation.<sup>300</sup>

During the entire course of the Korean hostilities, perhaps 5 percent of all troop carrier operations were concerned with air assault operations, but the maintenance of aircrew and paratrooper capabilities for airborne missions required that a large number of the 315th Air Division's flying hours be used for such training. Beginning in May 1952, when the 315th Air Division airlanded it in Korea, the 187th RCT was engaged for several months in quelling Red POW riots at Koje-do, and from this assignment the paratroop regiment moved to a stint of frontline infantry duty with the 7th Infantry Division. In the summer of 1952 airborne training was slack, and the 403d Troop Carrier Wing took advantage of the respite to get its C-119 aircraft restored to proper serviceability.\* But to maintain proficiency in the packaging and delivery of paradropped supplies, which had been a major air transport task in 1950 and 1951, a few C-46's, C-47's, and C-119's dropped water, rations, gasoline, and other heavy resupply items to isolated radar stations and shoran beacon units of the 502d Tactical Control Group.<sup>301</sup>

At the end of September 1952 the 187th Airborne RCT, now slightly out of practice in airborne work, had been withdrawn from the front lines and was encamped at Taegu. From this same airfield the paratroopers had been lifted to the Munsan-ni drop zones in the spring of 1951, and, as was the case prior to this combat jump, they were told early in October that they would participate in the period 10 through 13 October in a short period of intensive practice maneuvers with 315th Wing C-46's and 403d Wing C-119's. Officially unknown to paratroopers and aircrews alike, the 315th Air Division on 8 October cut an operations plan comprehending a combat drop of the 187th RCT near Simpo-Ri in eastern Korea, which was to be coordinated with an amphibious

\*See pp. 274-75.

landing in the same area.<sup>302</sup> On the four days of 10 through 13 October, C-46's and C-119's staged into Taegu (K-2) and conducted battalion-sized paratroop and heavy equipment drops in the nearby Naktong River valley. Following these four days of intensive maneuvers the men of the 187th were confined to their camp, and to all at the operating level it looked as if a combat jump was in the near offing. At 0300 hours on the morning of 14 October, the crews of the 403d Wing were called to a briefing, only to be informed that weather had forced the cancellation of the day's mission. After dark on the evening of 14 October it appeared that the airborne operation had been scratched because C-46's and C-119's and two Globemasters began airlifting the 187th back to Japan. This troop lift was well underway when, at 0300 hours on 15 October, 32 C-119 crews were assembled at Ashiya and instructed to implement the airborne phase of "Operation Feint," the UNC amphibious demonstration off eastern Korea. Despite the fact that airborne timing had been thrown off from the preceding day's schedule, CINCFE had determined that the airborne feint would be conducted a day late. Before dawn on 15 October the C-119's, with no paratroopers aboard, crossed the Japan Sea in tight formation. Shortly after daybreak they overflew Taegu and continued northward to the battle line, where in the vicinity of Chorwon they let down to a normal paratrooper-dropping altitude of 800 feet. Just before the C-119 formation crossed into enemy territory, it turned abruptly east and then wheeled southward and landed at Taegu, where it picked up more paratroopers and airlifted them back to Japan. Whether or not this delayed airborne phase of the Koje amphibious hoax\* had fooled the Communists was never determined, but it had occasioned serious training on the part of aircrews and airborne troops who had believed that an air assault operation had been impending.<sup>303</sup>

Counting the October airborne training in Korea and other joint exercises conducted in Japan following the return of the 187th Airborne RCT to its home stations, the 315th Air Division flew 664 airborne training sorties and dropped 17,727 paratroopers in the last half of 1952. In the first half of 1953 the division flew 445 such training sorties and dropped a total of 10,688

\*See Chap. IV, pp. 105-06.



~~SECRET~~

paratroopers. Much of this training was conducted in small increments, but in the course of Exercise "Paraphib" held in Japan in early March 1953 battalion-sized drops were made, and three battalion-sized drops were conducted between 23 May and 6 June in an exercise called "Triple Threat." Aerial resupply missions were continued, more for their training value than for tactical need. In addition to the resupply drops to mountain-top and island-based radar and shoran stations, a number of parasupply familiarization drops were made to infantry units in Korea during April and May 1953.<sup>304</sup> After the Globemasters were grounded in mid-June 1953, the FEC air transportation board recognized that all C-46's and C-119's were needed for airlift commitments: further airborne training was halted as long as hostilities continued in Korea.

**Divisive Factors Affecting Theater Airlift:** When the Korean war was over, FEAF reported that it had learned three major lessons relative to the command and employment of that scarce category of military aviation which comprised airlift:<sup>305</sup>

1. Airlift missions and priorities should be established by the theater commander.
2. Airlift cannot be allocated exclusively for the use of any service except for special one-time requirements.
3. All theater airlift should be concentrated to the maximum degree in one command for flexibility and best utilization.

These lessons were in accord with Air Force doctrine and they were again proven to be true in Korea, but there was evidence that they were not accepted by the Army, or by the Navy, nor were they wholeheartedly accepted within the Air Force.

Despite the fact that the FEAF Combat Cargo Command was established to control and provide FEC theater airlift, neither this organization nor its successor 315th Air Division was able to control Navy and Marine airlift in the theater. The Navy operated an air transport squadron into and within the Far East theater for fleet logistical support throughout the Korean hostilities. For a short time in 1950, however, a Marine R5D (C-54) transport squadron was attached to Combat Cargo Command: this came about on 12 October when the FEAF commander insisted that the Marine transport squadron had to be considered to be theater airlift and not, as ComNavFE suggested, Marine logistical support. This squadron contin-

ued under the operational control of the Combat Cargo Command until its departure from the theater on 25 December 1950.<sup>306</sup> After this, Marine transport units which subsequently came to the Far East were exempt from the control of the theater airlift commander. Later on in the war, moreover, the Marines operated a transport air terminal at Seoul (K-16) which was literally next door to and patently duplicated the 315th Air Division's terminal.<sup>307</sup> In the initial stages of the Korean war, the Navy and Marines accepted approximately 10 percent of the Combat Cargo Command's airlift capability, but later, when they had their own airlines in operation, they required something generally less than 1 percent of the 315th Air Division's capability.<sup>308</sup>

In the Joint Action Armed Forces (JAAF) agreements of 1948 the Air Force was assigned a primary responsibility for providing air transport and airlift support of the Army. These functions could not, however, spell out the mechanisms necessary to this arrangement, and, in August 1950 in the Far East, when the theater airlift command was being established, the prevailing Army opinion appears to have been that cargo aircraft ought to have been allocated to various organizations requiring air transport in blocks of aircraft or in units.<sup>309</sup> In November 1950 when his force was operating independently in eastern Korea, the commander of the U. S. X Corps requested that he be assigned operational control over six C-47's, a proposal which the FEAF commander refused on the grounds that it would undesirably piecemeal already scarce air transport effort.<sup>310</sup> As has been noted,\* the Eighth Army in August 1950 sent to the Department of Army a requirement for helicopters, which were to be assigned as organic aviation to division, corps, and army headquarters. "Helicopters," said the Eighth Army commander, "are urgently needed for communication, liaison, and supply of troops in Korea, with particular emphasis on mountain operation."<sup>311</sup> In response to this requirement the Department of Army ordered substantial numbers of utility helicopters, most of which would be assigned to ground units as organic aviation. But the Army went a step further and developed a table of organization and equipment for several transport helicopter companies, each of which

\*See p. 285.

~~SECRET~~



~~SECRET~~

would be able to transport in one lift an infantry rifle company. To equip these companies the Army ordered through USAF procurement channels a total of 72 Sikorsky H-19C helicopters, aircraft which were counted to be "light cargo" helicopters and whose airframe weight fell just short of the stipulated limits for organic Army aircraft.<sup>312</sup> After undertaking these actions in the autumn of 1950, Army interest in helicopter transport aviation evidently waned: in August 1951 an Army helicopter enthusiast wrote that the Army had displayed "considerable reluctance to embark . . . on a large scale program of helicopter procurement because of a general lack of knowledge of the machine or appreciation of its reliability and a great deal of concern over its high unit cost."<sup>313</sup>

Early in 1951 the Army displayed dissatisfaction regarding the weight limitations imposed by earlier Army-Air Force agreements relative to organic Army aircraft, and on 2 October 1951 these complaints were allayed by an agreement signed by Secretary of the Army Frank Pace and Secretary of the Air Force Thomas K. Finletter. This Pace-Finletter agreement deleted references to the weights of organic aircraft and stated that the Army would possess organic aircraft needed "as an integral part of its components for the purpose of expediting and improving ground combat and logistical procedures within the combat zone." The "combat zone" was understood to be an area from 60 to 75 miles to the rearward of the battle line. This agreement stipulated that the Air Force had a primary function of supplying airlift to the Army, but Army aircraft would also transport supplies, equipment, and small units within the combat zone.<sup>314</sup>

Unlike the Army, which had not maintained a sustained interest in cargo helicopters, the Air Force, almost from the beginning of the Korean war, had displayed a keen and continuing interest in rotary-wing cargo carriers. On 10 August 1950, Maj. Gen. Glenn O. Barcus, then commanding the USAF Tactical Air Command, had informed his superiors that the "helicopter is no longer a novelty aircraft but can be readily utilized as a personnel and cargo carrier." At this time, General Barcus had recommended that an experimental helicopter assault transport squadron be organized at the earliest practicable time and that it be initially equipped with Sikorsky H-19 heli-

copters and eventually equipped with Piasecki H-21 twin-rotored helicopters, the latter being especially designed for carrying 3,000-pound cargoes. On 23 September 1950 TAC submitted draft tables of organization and equipment for an assault transport wing, which would have one group of conventional assault transports and one group of rotary-wing aircraft.<sup>315</sup> USAF approved the concept of the assault transport wing in November. It had already established a program to procure H-19's and H-21's for the Air Rescue Service, but during the first year of the Korean war (fiscal year 1951) it increased the helicopter order to a total of 50 H-19A's, 73 H-19B's, 32 H-21A's, and 27 B-21H's.<sup>316</sup>

Although USAF had ordered the aircraft which it needed to implement the beginning of a substantial assault helicopter program, getting them delivered was more difficult. For the Army, the Air Force was able to procure lightweight utility helicopters in good quantity, but the larger cargo-carrying helicopters posed more complex design and production problems. The USAF did not accept its first H-19A until November 1951 and the delivery of all 50 of these aircraft was not completed until June 1952. All of the H-19A's went to the Air Rescue Service. The Piasecki H-21 program was delayed by engineering and production difficulties and by labor strikes, with the result that the first three H-21's were not accepted until 30 December 1952 and even then these three aircraft had to be immediately returned to the contractor for further test programs.<sup>317</sup> Eager to get on with the development of an assault helicopter squadron, the Tactical Air Command organized a provisional squadron at Sewart AFB, but this unit was penalized by a lack of aircraft: in order to participate in Exercise "Southern Pine" it borrowed a test model YH-12 from the Air Proving Ground Comand. By the latter part of 1951 TAC possessed cadres of helicopter pilots and maintenance technicians, but it had no cargo-type helicopters.<sup>318</sup>

In the autumn of 1951 events transpired in Korea which profoundly stimulated the Army's desire to possess rotary-wing cargo aircraft. On 30 August, Marine Helicopter Transport Squadron 161 landed at Pusan with 15 Sikorsky HRS-1 helicopters, and, in accordance with Navy wishes, CINCFE attached the squadron to the 1st Marine Division, which was in the battle line near Sohwa-

~~SECRET~~

ri. This  
to the  
ber 1951  
pressed  
squadron  
CINCFE  
available  
battalion  
helicopter  
In the  
each  
company  
army.  
Army  
should  
as to  
pand  
steady  
parts  
conclude  
needs  
In  
transport  
the  
ter  
vior  
port  
to  
Finletter  
than  
was  
have  
conclude  
four  
company  
The  
rotary  
were  
and  
Army  
USAF  
an  
helicopter  
As  
sp  
of  
the  
eral  
stabil  
ment  
the



SECRET

ri. This helicopter squadron lent great mobility to the mountain-fighting Marines.<sup>319</sup> By November 1951 Army commanders in Korea were so impressed by the performance of the Marine squadron that they requested similar units, and CINCFE asked the Department of Army to make available to him four Army helicopter transport battalions equipped with 20 H-23 Hiller utility helicopters and 260 H-21 Piasecki cargo models. In the future, CINCFE said that 10 battalions, each consisting of three helicopter transportation companies, should be allotted to a typical field army. He recommended that procurement of Army cargo helicopters in appropriate quantities should be immediately instituted on such a scale as to enable the helicopter manufacturers to expand their production to a point permitting a steady flow of aircraft and maintenance spare parts from a production line. Korea, he said, had conclusively demonstrated that the Army vitally needed helicopters for modern ground warfare.<sup>320</sup>

Instead of making this tremendous order for transport helicopters known to USAF through the Joint Chiefs of Staff, CINCFE took the matter directly to the Department of Army; his obvious intention was to create an Army air transport force which would operate within the 60- to 75-mile-deep combat zone laid out in the Pace-Finletter agreement. Although on a lesser scale than CINCFE proposed, the Department of Army was favorable to the idea that a field army would have its own helicopter transport units: it accordingly approved an allotment order by which four helicopter transport battalions, each of three companies, would be assigned to a field army.<sup>321</sup> The USAF, however, contended that the added rotary-wing requirements posed by CINCFE were largely identified with Air Force functions, and it exhibited a decided reluctance to process Army cargo helicopter procurement orders. The USAF also demonstrated its readiness to perform an assault helicopter function as soon as cargo helicopters could be obtained from production. As the discussions progressed, influential Army spokesmen emphasized their reluctance to admit of the performance of rotary-wing tasks within the combat zone by any but Army aircraft. General John E. Hull, Army deputy chief of staff, stated that: "under current Army plans, a requirement has not been established for support within the combat zone by Air Force rotary wing air-

craft against which the Air Force should program units."<sup>322</sup> This jurisdictional controversy remained deadlocked until 4 November 1952 when a second memorandum of understanding on Army aviation was jointly approved by the Army and Air Force. This second memorandum renewed a weight restriction upon Army fixed-wing aircraft, which now could not exceed 5,000 pounds weight, but the Army's authorization for rotary-wing aircraft was defined in terms of functions to be performed within the Army combat zone, an area defined as extending 50 to 100 miles behind the front lines. Within this combat zone the Army was responsible for the performance of the typical tasks of its old organic aviation, and, in addition, Army aviation was specifically charged with the function of transporting Army supplies, equipment, personnel, and small units within the combat zone. Primary functions of Air Force aircraft in support of Army ground forces were restricted to airlift of Army supplies, equipment, personnel, and units from the outside to points within the combat zone; airlift for the air movement of troops, supplies, and equipment in the assault and subsequent phases of airborne operations; airlift for the evacuation of personnel and materiel from the combat zone; and aeromedical evacuation of casualties from initial points of treatment or subsequent hospitalization to points outside, and, in the area of airborne operations, the evacuation of casualties from the objective area until such time as a ground link-up was attained.<sup>323</sup>

The establishment of an Army category of troop carrier aviation had little significance to the Korean war because these hostilities were in their last stages before either the Army or the Air Force obtained cargo-type helicopters. Starting in June 1952 and completing in December 1952, Sikorsky delivered to the Army the 72 H-19C's which it had ordered from fiscal year 1951 funds.<sup>324</sup> Desiring to test these new aircraft in combat, the Army sent its 6th Transportation Company (Helicopter) to Korea. In May 1953, the 6th Company employed 12 H-19's to supply logistical support to three frontline infantry regiments for three days in a test exercise called "Skyhook." Late in June, the 6th and 13th Transportation Companies (Helicopter) formed an air bridge to an RCT which was cut off from highway support, enabling it to maintain a commanding position against Red

SECRET



SECRET

ground attacks. On the basis of these limited combat tests, General Taylor stated: "The cargo helicopter, employed in mass, can extend the tactical mobility of the Army far beyond its normal capability. I hope that the United States Army will make ample provisions for the full exploitation of the helicopter in the future."<sup>325</sup> Unlike the Army, which ordered cargo-type helicopters only in fiscal year 1951, the USAF ordered 110 H-19B's and 45 H-21B's in fiscal year 1952 and 61 H-19B's and 81 H-21B's in fiscal year 1953, but, of the quantity for which procurement orders were issued, USAF received prior to the end of the Korean war only 50 H-19A's, 71 H-19B's, and 11 H-21B's, all of which were deliveries from fiscal year 1951 procurement orders. The H-19A's went to the Air Rescue Service, and the H-19B's and H-21B's were accepted in the spring of 1953, too late to be of service in Korea.<sup>326</sup> According to USAF programming documents, the 315th Air Division was slated to receive a troop carrier assault wing in the first quarter of fiscal year 1955,<sup>327</sup> but these plans were canceled after the end of the Korean war.

During the Korean war the Navy and Marines maintained their own private airlift. The Army got an authority to operate its own airlift within its combat zone. And had they been permitted to do so, either the Fifth Air Force or the FEAMCom/FEALogFor would have liked to have operated an air logistical airlift which would have been separate from the theater airlift command. The argument in favor of a separate air logistical airlift went somewhat as follows: tactical air units in Korea maintained slim levels of spare parts and other supplies, and, in order to keep operating, they depended upon airlifted resupply from Japan.\* Since some 95 percent of aircraft support items consigned to air units in Korea were shipped by air, the Fifth Air Force's combat capability depended directly upon the airlift support which it received from the theater airlift command. This theater airlift command, however, served Army, Navy, and Air Force forces, and the theater air transportation board could direct the airlift command to devote its entire capability to the support of any one of these services. Shortly after the FEAF Combat Cargo Command had been established, the Fifth Air

\*See Chap. V, pp. 168-69.

Force noted that "in altogether too many instances supplies for combat units of the Air Force were backlogged . . . due to assignment of a higher priority to Army personnel, supplies and equipment." Having reported this observation, a USAF board drew from it the lesson "that the Air Force, through its depots, must operate its own airlift."<sup>328</sup> Under normal circumstances the Fifth Air Force received a fair allocation of the 315th Air Division's airlift capability, but on those occasions when the theater airlift was committed to airborne operations, or when a part of the combat cargo aircraft were grounded, the Fifth Air Force ran short of supplies. One such occasion was in April and May 1951 when the C-119's had to be grounded for modifications during a bitterly fought Communist ground offensive: at this time the Eighth Army got the first priority on remaining airlift capabilities and Fifth Air Force logistical resupply was cut sharply at the very time that it needed more support for all-out air operations.<sup>329</sup> Early in 1952, Maj. Gen. George W. Mundy, Air Materiel Command director of supply, services, and maintenance engineering, after an inspection trip to the Far East occasioned by a threatened collapse of support for Fifth Air Force jet fighters, recommended that "organic air transport should be provided to FEAMCom in sufficient quantity to satisfy their normal and continuing requirements." This logistics airlift would not be subject to withdrawal at any time for other purposes: such a dependable logistics airlift, he pointed out, would not only expedite the flow of air supplies from depots to users but it would also enable the Air Force to reduce pipeline stocks and thus to produce monetary savings.<sup>330</sup>

In the late spring and summer of 1952 when the C-119 transports were being rehabilitated, the Fifth Air Force's airlift allocations had to be reduced. Especially serious was the reduction in intra-Korea airlift for the C-119's commonly and efficiently handled aircraft engine movements to and from the air depots, the REMCO detachments, and the Korean airfields. This reduction in intra-Korea lift caused delays in the movement of aircraft engines and AOCP parts within Korea.<sup>331</sup> In the autumn of 1952, when the C-119's returned to the airlift Fifth Air Force supply returned to a more even keel.<sup>332</sup> But once again, in June and July 1953, crisis in the 315th Air Division severely dislocated the Fifth Air

SECRET



SECRET

Force's closely scheduled logistical support. On 18 June all C-124's were grounded, and on 21 June the 315th Air Division got the peremptory CINCPAC order to move the 187th RCT to Korea. On this latter date FEAF had to notify the Fifth Air Force that for an expected period of five days its airlift support was reduced to the small amount which could be handled by normally scheduled courier flights.<sup>333</sup> Instead of five days, Fifth Air Force airlift allocations continued at such minimum levels for nearly two weeks, and during this same time bracket Fifth Air Force tactical wings had to step up their operations against the Communist ground attacks in Korea. The result was a serious dislocation of Fifth Air Force logistical support,\* and to its director of materiel this near disastrous episode indicated that: "In order that Air Force tactical operations be sustained under existing methods of resupply from rear echelon maintenance and supply activities, the Air Force must have its own fleet of logistics-support-type aircraft."<sup>334</sup>

The arguments offered and episodes cited by FEAF and Fifth Air Force logistics officers to support their contention that a separate air logistical airlift was a must were impressive, but arguments and episodes alike reflected exceptional circumstances. Each serious reduction of the logistical airlift which supported air units was

caused by the grounding of some part of the 315th Air Division's transport aircraft. Had these same transports been assigned to FEALogFor or to the Fifth Air Force they would have been just as prone to mechanical defects. Twice during the time that General McCarty commanded the 315th Air Division, the FEALogFor made strong efforts to attain its own organic airlift, but in each case General Weyland, recognizing the validity and advantages of a single theater airlift command, disapproved the request. Both officers recognized that with the growing importance of mobility, airlift would always be a scarce item. The tasks to be performed by airlift would be varied, and, from time to time, first one and then another of these tasks would take precedence and require a concentration of all or most of the airlift capability within a given theater or geographical area for its accomplishment. The responsibility for determining these priorities of tasks had to be vested in the theater commander who alone could dispassionately assess the relative importance of airlift uses. The concentration of airlift resources for the performance of priority tasks could be best accomplished when all airlift resources were controlled by a single airlift commander. The piecemealing of airlift resources was just as dangerous as the piecemealing of any other scarce Air Force resource.<sup>335</sup>

### SEARCH AND RESCUE

At the beginning of the Korean war, for the performance of search and rescue functions, FEAF possessed the 2d and 3d Air Rescue Squadrons. Administratively these units were a part of the worldwide MATS Air Rescue Service (ARS), but their operations were controlled by FEAF and its subordinate air commands. In June 1952, Headquarters, 2d Air Rescue Squadron, and Flight A and Flight B were at Clark AFB, where they were subject to the operational control of the Thirteenth Air Force. Flight C and Flight D of the 2d Squadron were based at Kadena AFB on Okinawa and were under the operational control of the Twentieth Air Force. Serving the Japan-Korea area was the 3d Air Rescue Squadron, whose headquarters and Flight A were at Johnson Air Base, Flight B was at Komaki Air Base,

Flight C was at Misawa Air Base, and Flight D was at Ashiya Air Base. The 3d Squadron and its lettered flights were under the operational control of the Japan Air Defense Force. Detachment 1, 3d Air Rescue Squadron was based at Seoul Airfield (K-16) and was under the operational control of the Fifth Air Force. Effective on a worldwide scale on 14 November 1952, all ARS units were reorganized on a group-squadron basis. At this time, the 2d Air Rescue Group replaced the similarly numbered squadron and the flights were redesignated as the 31st, 32d, 33d, and 34th Air Rescue Squadrons. The 3d Air Rescue Group replaced the 3d Air Rescue Squadron, and the flights were designated as the 36th, 37th, 38th, and 39th Air Rescue Squadrons.<sup>336</sup> Effective 1 March 1953, Detachment 1, 3d Air Rescue Group, was redesignated as the 2157th Air Rescue Squadron without change of duties or responsibilities.<sup>337</sup> Opera-

\*See Chap. V, p. 169.

SECRET



SECRET

tional control of the new ARS groups and squadrons in the Far East remained with the same commands which previously had controlled the former squadrons and flights.

Since its area of responsibility was remote from the Korean war zone, the 2d Air Rescue Squadron devoted only a part of its capabilities to the support of combat flying. On occasion, however, the crews and aircraft were rotated to Japan and Korea to back up the 3d Squadron. Flights C and D, moreover, afforded rescue services to the 19th Bombardment Group and the 307th Bombardment Wing, which flew missions from Kadena to Korea. Equipped initially with obsolete H-5's, SA-10's, and SB-17's, the Okinawa-based air rescue flights were effectively confined to short-range rescue services under the direction of the Kadena Rescue Control Center (RCC), but new model H-19's, SA-16's, and SB-29's received in 1951 and 1952 permitted the Okinawa flights to broaden their activity. In March 1952, Flight D received its fourth SB-29, which brought it up to strength and permitted it to offer a new service to the B-29 combat crews. Long cognizant that the dispatch of search planes after a B-29 was overdue or reported in trouble was not always productive of the best results, Flight D in March proposed to provide route coverage for Okinawa-based medium bombers as they plied to and from Korea. The bomber crews liked the idea, and on 6 May 1952 FEAF approved Flight D's plans. After 8 May an SB-29 flew "precautionary escort and orbit" support for every B-29 combat stream which went from Kadena to Korea.<sup>338</sup> The tactics employed by these "Airdale" (the name was so spelled) SB-29's were devised by Flight D and were continued by its successor, 34th Air Rescue Squadron: an SB-29 took off prior to the first B-29 of a bomber stream and escorted each bomber from takeoff until it was safely aloft. After the bombers were all airborne, the SB-29 took a position upwind from the bomber stream and accompanied it to the Korean coast-in point, where it remained on orbit until the last bomber returned from the target. When all crews had reported their separate conditions, the SB-29 shepherded the bomber stream home. Under this procedure the Airdale was generally the first plane to leave Kadena and the last plane to return.<sup>339</sup> These "guardian angels" were always in the neighborhood of a crippled B-29. They could alert other rescue

facilities as necessary, and if a B-29 had to ditch the Airdale could promptly drop its 30-foot A-3 lifeboat and light the ditching area with flares.

Operating rescue control centers at Misawa, Johnson, Komaki, and Ashiya Air Bases, the 3d Air Rescue Squadron afforded search and rescue services over the land areas of Japan and its adjacent sea frontiers. Each of these rescue control centers maintained a 24-hour watch, and each was joined to the other by a rescue radio net. At Johnson, the 3d Squadron rescue center additionally maintained a flight-following service which had at its command every channel of theater communications. By close cooperation with Air Traffic Control (MATCon), the rescue flight-following service monitored ETA's and overdue position reports and so discovered untoward incidents involving aircraft at the earliest possible moment. If a civil or military aircraft became distressed in flight, its pilot so signaled and the rescue coordination officer dispatched a search and rescue (SAR) aircraft to intercept and escort the distressed plane. For the performance of their mission, each of the Japan-based flights possessed an SC-47 transport, one or two Sikorsky H-5 helicopters, and all of the flights except Flight B had a principal complement of 6 Grumman SA-16 amphibian aircraft. Flight B operated a complement of four SB-29 aircraft.<sup>340</sup>

In support of the Korean war, the Japan-based flights of the 3d Air Rescue Squadron provided several rotational SA-16's for service at a forward airfield in Korea. They also handled air-sea search and rescue in the waters between Japan and Korea. From Komaki, Flight B's long-range SB-29's offered rescue escort services to FEAF Bomber Command organizations based in Japan. These SAR escort responsibilities built up as the Korean war continued. From their first employment in the Far East, the RB-45's of the 91st Strategic Reconnaissance Squadron were considered to be so unsafe for ditching as to demand that an air rescue aircraft be on a station-orbit each time that these jet reconnaissance aircraft made a water crossing between Japan and Korea.<sup>341</sup> On specific occasions, when they were scheduled to enter sensitive areas on classified electronics reconnaissance missions, the RB-50's of the 91st Squadron were similarly provided with SB-29 escort.<sup>342</sup> During most of the war the B-29 medium bombers based in Japan did not receive

SECRET



SECRET

SB-29 route escort and orbit support, but by November 1952 hostile night fighters had begun to wreak damage upon the medium bombers to an alarming degree and the FEAF Bomber Command asked that an Airdale SB-29 be provided to support 98th Wing missions from Japan to Korea. At a meeting on 24 November it was mutually agreed that the 37th Air Rescue Squadron (formerly Flight B) would provide a single SB-29 to cover the 98th Wing bomber stream from Japan to its coast-in point in Korea, to orbit over a designated area, and to return with the bombers as far as a coast-in point in Japan.<sup>343</sup> Begun late in November 1952, the SB-29 escort for Japan-based medium bombers soon utilized standardized procedures: the 37th Squadron received the flight plan of the 98th Wing's mission and, on the night of a bombing mission, sent up an SB-29 from Komaki at a takeoff time which permitted it to parallel the last of the bombers as the stream passed over Nagoya. Keeping continuous watch on "D" channel, the SB-29 escorted the B-29's to their coast-in point in Korea and then orbited at a point at which it could render assistance to distressed bombers when they coasted out of Korea. When the bombers attacked targets in eastern Korea, the SB-29 routinely orbited over Yo-do, a friendly held small island in Wonsan Harbor; when targets in western Korea were attacked, the SB-29 orbited over Cho-do. If a bomber crew had to ditch or parachute the waiting SB-29 was prepared to launch its boat and to aid the crew in boarding it by providing flare illumination. When a crippled bomber could still be flown, the SB-29 gave it close escort back to an emergency landing either in South Korea or in southern Japan.<sup>344</sup>

During World War II the rescue of downed aircrew personnel from land areas behind enemy lines had been so unusual as always to be spectacular, but in Korea in the autumn of 1951 the Fifth Air Force rounded out a comprehensive rescue system designed to exploit the capabilities of helicopters and amphibians for snatching downed airmen from enemy territory. The rescue organization which would distinguish itself as Detachment 1, 3d Air Rescue Squadron, and which, in the closing months of the war would become the 2157th Air Rescue Squadron had originated in August 1950, when, to perform frontline medical air evacuation, the 3d Air Rescue Squadron had sent a few

H-5 helicopters to Korea.\* At first these helicopters and a few rotational SA-16's had operated quite informally: they stood strip alerts and answered distress calls which came to their operating location. As the number of calls increased and better communications was available, some centralization of the SAR effort in Korea became at once necessary and practicable. The original helicopter Detachment F, 3d Air Rescue Squadron was accordingly reorganized as Detachment 1 on 22 June, and at this time the detachment was augmented with the experienced ARS personnel needed to man and operate an SAR Coordination Center. Because he was primarily responsible for SAR in Korea, the Fifth Air Force commander located the Coordination Center, composed of a rescue control officer, air operations officer (JOC), and a tactical air controller, in the Fifth Air Force TACC. At this central location within the tactical air force, the Fifth Air Force RCC received requests for rescue action through the facilities of the tactical control system and used the same system to direct the necessary actions to effect the rescue.<sup>345</sup> In addition to the communications facilities of the tactical control system, the RCC employed a SAR radio net to connect the several rescue elements in Korea.

In recognition of the fact that H-5 helicopters had a radius of action of only 85 miles, Detachment 1, 3d Air Rescue Squadron, had always divided its personnel and aircraft into elements which were deployed to operating locations where they were apt to be most needed. In the autumn of 1951 these helicopter elements were variously located. One element was located at the 8055th Mobile Army Surgical Hospital, where it handled frontline medical air evacuations. Another element was situated at a point near the middle of the UNC battleline, in the vicinity of the 45th Infantry Division command post: this operating location handled pilot pickups. An element at Munsan-ni served the UNC truce negotiators but was also available for rescue when needed. Still another helicopter element was held on strip alert at Seoul Airfield (K-16), which was the main base for Detachment 1. The people and helicopters at these several elements were rotated into K-16 every 10 days for the necessary rest, inspections, maintenance, and repairs. In addition to

\*See pp. 283-84.

SECRET



SECRET

Detachment 1, the 3d Squadron had maintained several SA-16 amphibian aircraft at some base in Korea, and in the autumn of 1951 these planes were at Seoul (K-16). These Grumman amphibians drew only six feet of water and were well suited for sea rescues, but they had some serious operational limitations: they could not normally chance landings when waves were over five feet high, in freezing temperatures they could accumulate so much ice on open-sea landings as to be incapable of again becoming airborne, and floating ice in the water posed hazards to the hull of the aircraft, either on a landing or a takeoff.<sup>346</sup>

So long as the ground war waged in Korea and large numbers of air strikes attacked hostile targets along the front lines a deployment of SAR elements laterally behind the front was correct, but after July 1951 the Fifth Air Force began to send most of its strikes deep into enemy territory, first against communications targets and then against air pressure targets. The most lucrative of these communications and air pressure targets were to be found in northwestern Korea. Since its tactical aircraft were penetrating deeper into northwestern Korea, the Fifth Air Force required an augmented long-range air rescue capability. In November 1951 it accordingly laid a requirement on the 3d Squadron for three SA-16's which were to be kept in commission at Seoul (K-16) at all times: the 3d Squadron promptly required its Flights A, C, and D each to furnish one rotating SA-16. With winter coming on the SA-16's could be expected to have difficulties with water landings, and yet, in the frigid waters off northwestern Korea, a downed pilot, even when protected by an exposure suit, could not be expected long to survive. On 15 November the Fifth Air Force accordingly directed Detachment 1 to move a helicopter element from K-16 to Cho-do, at which island, within the radius of action of the H-5, it would be able to handle rescues which were too dangerous for SA-16's. Such coordinated amphibian-helicopter rescues would demand the closest cooperation of both type aircraft: effective on 17 November the 3d Rescue Squadron therefore abandoned its old arrangement whereby the SA-16 aircraft had been controlled as a separate detachment and placed these planes and crews under the control of Detachment 1.<sup>347</sup> At this time, however, Cho-do was not secure enough from the danger of enemy raids, and, instead of basing H-

5's at that island, Detachment 1 stationed two of these planes on Paengnyong-do. Each day that weather permitted, these two helicopters moved forward to Cho-do, and there stood by for possible pilot rescues. In January 1952 two additional H-5's were stationed at Paengnyong-do.<sup>348</sup>

The ARS command arrangements and deployments effected by the Fifth Air Force in November and December 1951 gave that necessary degree of control which was required smoothly to coordinate SA-16 and H-5 activities. For greater effectiveness, however, the Fifth Air Force needed the larger and newer H-19 helicopters.\* Two of these new aircraft were flown directly from the factory to Japan in MATS C-124 transports early in February 1953. They were assembled, test-hopped, and delivered to Korea on 28 February. During March, Detachment 1 gained four additional H-19A's, and these six new aircraft permitted the detachment to effect a new rescue plan. Several of the H-19's were equipped with floats, and Cho-do was now judged secure enough for a regular helicopter element. In March, Detachment 1 therefore stationed an H-5G and an H-19A at Cho-do, the idea being that the H-5 would make land pickups and that the H-19 would be used for water pickups. That same month, another float-equipped H-19A was added to the helicopter element at Paengnyong-do.<sup>349</sup> This deployment was based at least in part on an idea that the new helicopters were going to land either on ground or water to pick up downed airmen; actually, however, most H-19 pickups, whether on land or from the water, would use that aircraft's hydraulic hoist. In the latter part of 1952 an appreciation of this fact brought changes in the island rescue elements. Two H-19's were finally stationed at Cho-do, and one H-19A handled the rescue work from Paengnyong-do.

Many of the search and rescue operating procedures had been standard for some time, but during the spring and summer of 1952 the Fifth Air Force built up over northwestern Korea a comprehensive SAR system. When the fighter-bombers struck targets in northwestern Korea, an SA-16 from Seoul orbited north of Cho-do, and when a pilot ran into trouble he was expected to call out the fact and, if possible, head toward the orbit-

\*In 1951 Detachment 1 had received and service-tested two YH-19 helicopters, but a lack of proper support and operational accidents had put these two aircraft out of commission.

SECRET



SECRET

rescue point. If he had to parachute or crash land, the pilot's own flight gave him rescue combat air patrol (ResCAP) until such time as a regularly designated ResCAP flight of four aircraft, which orbited in the vicinity of Cho-do while fighter-bomber strikes were in progress, arrived to assume the duty. Since many water pickups and all land pickups were made by helicopters from Cho-do or Paengnyong-do, the closer a pilot got to these two points before he abandoned ship, the better were his chances of rescue. The radius of action of the H-5 was 85 nautical miles whereas that of the H-19 was 120 miles. To land and take off these aircraft required an unobstructed area 100 feet square, but, provided there were not too many obstacles to flight in the area, they could hover and drop a hoist or a rope ladder to a downed man. Both helicopters were slow of speed (about 70 knots), vulnerable to enemy ground fire, and, because of a lack of training on the part of H-19 crews and of instrumentation in the H-5's, were generally incapable of night or all-weather operations. The limitations and vulnerabilities of the rescue helicopters circumscribed the area in which inland pickups were practicable. The best area for inland rescue within enemy territory was that reach of coastal area in northwestern Korea lying westward of the active MSR's. There were less than a normal number of enemy troops in the area, and it was close to helicopters based at Cho-do. The area south and west of the Pyongyang-Sariwon-Kaesong MSR was similarly favorable either for evasion or for helicopter rescue. Because of the concentrations of enemy weapons, the H-5's and H-19's were generally forbidden to cross the main west coast supply routes.<sup>350</sup>

In view of the fact that the majority of Fifth Air Force targets lay in northwestern Korea, the northwestward deployment of ARS capabilities was sensible, but it nevertheless left other sections of Korea less well prepared for emergency rescue than was desirable. When Fifth Air Force planes attacked targets in east-central Korea, an SA-16 and a ResCAP flight customarily orbited over Yo-do just outside in Wonsan Harbor, and several short-range Navy helicopters were usually available to cover the area from the bomblines to Wonsan. To cover the central front along the main line of resistance, the Fifth Air Force announced an ultimate intention in February 1952 to establish helicopter standby points in the U. S. IX and X

Corps sectors, similar to the one which it operated near the 45th Division command post in the U. S. I Corps area. Such points, however, would never be established. South of the bomblines, especially at or near its coastal airfields, the Fifth Air Force required standby emergency rescue helicopters, which would be able to save airmen who crashed or bailed out in friendly territory. Although most of these Korean bases were served by amphibian DUKW vehicles and crash boats, these surface vessels often could not get to pilots who went down in the tidal swamps and offshore mud flats. In July 1952 the Fifth Air Force was sufficiently impressed by a 3d Bombardment Wing reporting of the hazardous rescue situation at Kunsan Airfield (K-8) as to order Detachment 1 to station an H-5 there, but there were no more helicopters which could be spared for a behind-the-lines employment. Mustering a strength of only 1 SC-47, 3 SA-16's, 6 H-19's, and 11 H-5's in August 1952, Detachment 1 did not have a capability permitting it to perform all of the missions which would have been desirable.<sup>351</sup>

During the last year of the Korean war the Fifth Air Force achieved a small augmentation of its rescue capabilities. The problem of deficient rescue facilities within South Korea was explained to the commander of the Air Rescue Service when he visited Korea on 30 October, and this officer undertook some remedial action. At his order, the 2d Air Rescue Squadron provided two SA-16's, two H-19 helicopters, a paramedic team, and the necessary aircrews, and in December 1952, after an indoctrination stint at Ashiya, these men and equipment were organized as Detachment 2, 3d Air Rescue Group and stationed with the 1st Marine Air Wing at Pohang Airfield (K-3).<sup>352</sup> In December 1952 the Fifth Air Force sent forward a requirement looking toward the assignment of at least one helicopter to each of its operational air bases and expressing an immediate desire to station an H-19 and an H-5 at Kunsan (K-8) and at Kangnung (K-18), the latter airfield being situated just behind the battleline on the east coast of Korea.<sup>353</sup> When nothing came of this request, the Fifth Air Force in March 1953 moved one H-19 from Pohang to Kangnung, designing thereby to give additional SAR coverage to the east coast of Korea.<sup>354</sup> The helicopter authorization of Detachment 1 and the 2157th Air Rescue Squadron was not increased but as the H-5's were used up

SECRET



SECRET

they were replaced with H-19's: in July 1953 this squadron possessed 10 H-5's and 10 H-19's and was at its authorized strength. The Fifth Air Force also got a small windfall of helicopters on detached duty from the Philippines-based 581st Air Resupply and Communications Wing. To give this newly arrived wing's crews training in combat, FFAF ordered the wing to send its flying units to Korea: under this arrangement four H-19's of the 581st Air Resupply Squadron reached Seoul (K-16) in December 1952. These aircraft and crews were supposed to fly clandestine night missions into enemy territory, but pending the development of exhaust flame arrestors they were used in frontline MAE work. In March 1953 two SA-16's from the same squadron were sent to Seoul (K-16) to fly covert missions and to support the 2157th Air Rescue Squadron.<sup>355</sup>

Although rescue aircraft resources continued to be spread thin, these aircraft and the men who flew them added a third year of distinguished service to their already outstanding Korean record. During the summer river floods of July 1952 the helicopters were frequently required to evacuate stranded UNC troops: in this month 710 flood victims were lifted to safety when swirling river waters cut off their positions. Enemy opposition and aircraft mechanical defects sent pilots to the Cho-do bailout zone, where air-alert SA-16's and ground-alert H-19's picked them up. Using standardized rescue procedures, Detachment 1 pilots worked fast and efficiently. In probably the fastest air-sea rescue on record, an H-19 from Cho-do hoisted a reconnaissance pilot from the water in just 15 seconds: the helicopter hovered directly over the parachuting pilot as he floated down and had a rescue line dangling within his reach with he hit the water. In September, an H-19 crew rescued both a downed airman and two men from a naval helicopter which had crashed as it attempted a rescue. In August a helicopter went inland, landed, and rescued a cool-headed Marine colonel whose F4U had been knocked down by flak. This cooperative survivor let the ResCAP and helicopter know his survival plans by means of his URC-4 radio, lighted a fire which served both to focus the attention of nearby enemy troops on a false position and to orient the rescue aircraft, and then moved on to a nearby ridge where the helicopter was able to land, make the pickup, and then take off out of range of the

startled Red troops. This rescue demonstrated ingenuity, cool planning, and survivor cooperation of the highest caliber.<sup>356</sup>

The SA-16's commonly flew escort for the H-19's on pilot pickups, and when the range to the bailout point was too great for the helicopters the amphibians made the rescue. One of them in September 1952 made a water landing to lift Major Frederick C. Blesse, then the currently leading Korean Sabre ace, who ran out of fuel over the Yellow Sea after combat in Mig Alley.<sup>357</sup> On 13 January 1953 another SA-16 crew chanced rough and icy waters when a fighter pilot elected to ditch his jet in the Yellow Sea near Sok-to: the fighter pilot was evidently killed in the landing, and the SA-16 took on so much ice that it had to be abandoned, but the Fifth Air Force nevertheless praised the amphibian crew (which was rescued by a naval vessel) for its heroic efforts to save one of the fighter pilots. In the spring of 1953 other outstanding rescues continued. On 12 April, an H-19 rescued Capt. Joseph C. McConnell, Jr., who had had to parachute from his battle-damaged Sabre over the Yellow Sea; McConnell was already an ace and thanks to the helicopter rescue he would return to combat and become the leading jet ace of the Korean war.<sup>358</sup> As achievements in 1953, the 2157th Squadron cited five aircrew pickups and six lives saved on the three days, 16-18 May. The H-19's made all of these rescues, the first four of which lifted fighter pilots from the Yellow Sea. In the last of these episodes, on 18 May, an H-19 from K-16 penetrated far into enemy territory to save two survivors from a B-26 crew that had crashed north of Haeju.<sup>359</sup>

Benefiting from friendly air superiority over their operating area, USAF air rescue crews in three years of the Korean war ably accomplished their mission. The primary ARS mission was to rescue downed airmen. During the Korean air war, 1,690 USAF aircrew members went down into enemy territory, and ARS units picked up 170, or 10 percent, of these men who landed behind enemy lines. The ARS also retrieved 84 other airmen of the other UNC air services from areas held by the enemy. Counting both aircrew and nonaircrew personnel, the ARS saved a total of 996 men who, in one way or another, found themselves in enemy territory. Within friendly territory, the ARS crews rescued and evacuated

SECRET



SECRET

AIR RESCUE ACHIEVEMENTS IN KOREA

June 1950—July 1953

Number of Persons Retrieved from Behind Enemy Lines

	Aircrew personnel					Non-aircrew personnel					Total
	USAF	USN	USMC	USAR	OTHER	USAF	USN	USMC	USAR	OTHER	
SA-16.....	66	2	4	-----	9	1	5	-----	2	33	122
SC-47.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	11	11
H-5.....	59	1	12	5	14	4	-----	1	529	105	730
H-19.....	43	8	19	-----	10	-----	-----	-----	34	2	116
L-5.....	2	-----	-----	-----	-----	-----	-----	-----	-----	15	17
SB-29.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	Negative	-----
SB-17.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	Negative	-----
Total.....	170	11	35	5	33	5	5	1	565	166	996

Number of Persons Evacuated from Areas other than from Behind Enemy Lines

	Aircrew personnel					Non-aircrew personnel					Total
	USAF	USN	USMC	USAR	OTHER	USAF	USN	USMC	USAR	OTHER	
SA-16.....	9	-----	-----	-----	2	48	8	4	74	55	200
SC-47.....	-----	-----	-----	-----	-----	4	1	-----	34	-----	39
H-5.....	42	-----	5	5	9	33	14	150	4,364	1,853	6,475
H-19.....	5	-----	1	-----	5	25	17	37	1,258	550	1,898
L-5.....	1	-----	-----	-----	1	-----	-----	-----	52	6	60
SB-29.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	Negative	-----
SB-17.....	1	-----	-----	-----	-----	-----	-----	-----	-----	11	12
Total.....	58	-----	6	5	17	110	40	191	5,782	2,475	8,684

SOURCE: DCS/Comptroller, Air Rescue Service, Air Rescue Service Combat Operations Summary Report, 25 Jun 50-27 Jul 53 (RCS: ARS-VI).

Figure 22.

a total of 86 aircrewmembers. As a secondary mission, the ARS organizations in Korea performed frontline medical air evacuation and other similar emergency evacuation tasks. In fulfillment of this secondary mission ARS crews evacuated a total of 8,598 men, most of them being frontline Army casualties. A statistical capitulation of the ARS combat record in Korea is shown in figure 22.<sup>360</sup>

In the Korean war, Air Rescue met and overcame many problems and demonstrated for the first time that aircrews could be rescued from behind enemy lines as a normal operation. Contributing to the successful accomplishment of air rescue functions was friendly air superiority, which allowed vulnerable rescue aircraft to operate without hindrance of enemy air attack; a centralized control and coordination of rescue capa-

bilities within the JOC/TACC; the employment of such new type aircraft as the SA-16 amphibian and the H-19 helicopter; and the use of new-type emergency survival equipment, including the URC-4 emergency radio, which was ultimately carried by all aircrews.<sup>361</sup> Without in any way reducing the luster of the ARS accomplishments in Korea, it is appropriate to note that rescue aircraft were required to perform many missions which were not necessarily in context with the primary ARS mission. Foremost of these diversionary tasks was that of frontline medical air evacuation: FEAF on numerous occasions called attention to the fact that the MAE function should be separate and distinct from the work of the 3d Air Rescue Squadron, which should have been solely concerned with search and rescue tasks.<sup>362</sup>

SECRET



From time to time, Detachment 1 helicopters were also required to land covert intelligence agents on the mud flats along the coasts of northwestern Korea, a hazardous undertaking which did not contribute to the SAR mission. Although the air rescue organizations used their equipment to develop previously unexpected capabilities, the test of combat also exposed existing limitations. One of the chief detriments to the ARS in Korea was its inability to continue operations after nightfall. The H-5 helicopters were not instrumented for night flying, and when the fully instrumented H-19's arrived the helicopter crews lacked night

training and remained unable to effect rescues after dark.<sup>363</sup> Air rescue units engaged in the Korean war, moreover, worked under unique conditions which lent them special advantages and circumscribed their accumulation of experience. The units had little opportunity to encounter problems relating to long-range, inland rescue tasks. The Korean experience nevertheless indicated that as new SAR equipment was produced and rescue units gained the capability to penetrate deeper into enemy territory, a larger search and rescue force would be required to support a tactical air force in combat.<sup>364</sup>

### AIR WEATHER SERVICES

As was the case with air rescue, weather services in the Far East were provided by the worldwide Air Weather Services (AWS) of the MATS. Topmost echelon of the Far East weather service was the 2143d Air Weather Wing, which maintained its headquarters in Tokyo and there operated the Tokyo Weather Central. Providing staff weather services to the JADF and to the 315th Air Division and giving local observation and forecasting services at Japanese air bases was the 20th Weather Squadron, which had its headquarters at Nagoya and manned weather detachments at each principal defense and combat cargo airfield. The 15th Weather Squadron provided similar meteorological services in the area of the Ryukyus, Philippines, Marianas, and Marshalls, while the 30th Weather Squadron maintained its headquarters at Seoul and provided weather services to the Fifth Air Force and Eighth Army. Assigned to the 2143d Air Weather Wing for the performance of synoptic-weather and typhoon-tracking observations were the Guam-based 54th and the Yokota-based 56th Strategic Reconnaissance Squadrons, Medium, Weather. Tactical weather reconnaissance over enemy-held Korea was performed by the 6166th Tactical Reconnaissance Flight, Weather, which was a part of the Fifth Air Force's 67th Tactical Reconnaissance Wing. A part of this theater-wide weather organization had existed at the beginning of the Korean war: how it had developed and how it operated has been described in earlier historical monographs.\* In the last year of the Korean hostili-

ties, the only striking developments in the Far East weather establishment occurred in Korea, where the 30th Weather Squadron sought to provide the weather services required by the Fifth Air Force and Eighth Army.

For the daily planning and execution of its air-pressure operations in Korea, the Fifth Air Force needed to know what the weather was going to be at least 24 hours in advance. Early in the morning of an operational day, it needed to know what the weather was over a wide number of specific pinpoint targets. For the safety of its force, it needed to keep currently conversant with what the weather was and what it was going to be at each of its operational air bases. Forecasting weather under any circumstances is not an easy task, and it was doubly difficult in Korea. While weather phenomena in Korea was generally characterized by cold and dry winter months (November through March), wet and hot summer months (June through August), and transitional months in the spring and autumn, the accurate prediction of weather in any season was complicated by the fact that Korea was a mountainous peninsula surrounded by several thousand square miles of warm ocean currents. The flow of weather into Korea and Japan, moreover, was predominantly from enemy held areas from which sparse reports of meteorological readings were obtainable: the USSR continued to broadcast weather during the Korea hostilities but the Red regime in China had ceased to share weather information with the rest of the world even prior to the war in Korea.<sup>365</sup> Largely on the basis of synoptic weather data, the 30th Weather Squadron in the first two years of

\*See AHS-71, pp. 112-13 and AHS-72, pp. 250-56.



~~SECRET~~

the Korean war had been able to provide the Fifth Air Force with satisfactory general area forecasts which were sufficient for its needs at a time that its targets were chiefly those of opportunity, but beginning in July 1952 the air-pressure strategy brought demands for "pinpoint forecasts," which were not easily or completely met even though the 30th Squadron exerted its best efforts in an attempt to accomplish the requirement.<sup>365</sup>

The organization of the 30th Weather Squadron in June 1953 generally paralleled that of the Fifth Air Force. The commander of the 30th Squadron served as staff weather officer to the commander of the Fifth Air Force, and from his headquarters in Seoul the 30th Squadron commander controlled all-weather detachments in Korea. One of these detachments was located at each airfield in Korea. At Seoul, the Fifth Air Force Weather Station supported the Fifth Air Force and the Joint Operations Center, and in the latter activity staff weather officers briefed the planning conference and rendered the spot reports required by air and ground operations officers. In the same manner in which the Fifth Air Force Weather Station served the JOC with forecasts and briefs, a staff weather officer at each combat wing base made local forecasts and briefed the wing commander and his combat crews. Although the work of these tactical staff weather officers differed somewhat from that of the station weather detachments, these officers were assigned to and controlled by weather detachment commanders. Each echelon in the weather service prepared its own weather forecasts: the Tokyo Weather Central prepared a 24- to 36-hour weather forecast which was presented to the FEAF commander and his staff each morning; the Fifth Air Force Weather Station prepared several weather briefing forecasts daily, the most comprehensive of which was the planning forecast, issued at 1300 hours each day covering the weather expected that night and all the next day; the tactical staff weather officers began to prepare their forecasts anytime between 0230 and 0700 hours and usually gave comprehensive briefings early in the morning and thereafter during the day as necessary. As was entirely natural, the forecasters at the different echelons made differing interpretations of the same weather data and not infrequently arrived at different opinions as to what weather was to be expected. Recognizing that such displays of uncertainty were hardly

likely to maintain the confidence of using agencies, the Tokyo and Seoul weather forecasters held periodic telephone conferences several times each day in which they attempted to resolve such differences as they might have in their forecasts. The 30th Weather Squadron instituted similar internal procedures: each tactical staff weather officer was under direction to discuss his proposed forecasts by telephone with the Fifth Air Force Weather Station prior to briefing at the tactical airfield.<sup>367</sup>

The meteorological observations from which analyses were made flowed into the Tokyo Weather Central and Fifth Air Force Weather Station from a variety of sources. Normally good Russian intercept data coverage was available east of 90 degrees east longitude.<sup>368</sup> Naval ships in Korean waters furnished other data, and each day the "Buzzard King" flight of the 56th Strategic Reconnaissance Squadron left Yokota at about 0600 hours, dropped southward down through the East China Sea, then turned northward up through the Yellow Sea, and finally headed home across Korea. "Buzzard King" or "Buzzard Kilo," as it was called after July 1952, was flown in a WB-29, and the flight observed the weather as it made up along the China Coast and in the Yellow Sea, weather which, a day or two later, could be expected to cross over Korea.<sup>369</sup> The 54th Strategic Reconnaissance Squadron, assisted as necessary by special 56th Squadron flights, provided typhoon observation and tracking services. The WB-26's of the 6166th Tactical Reconnaissance Flight, Weather, also flew prebriefed routes over the Yellow Sea. Each weather detachment in the 2143d Wing forwarded hourly weather observations, and, in addition to its station detachments, the 30th Weather Squadron maintained weather observer teams on Cheju-do and Paengnyong-do as well as with the three U. S. Army corps in Korea. In-flight reports from Mosquito planes and tactical aircraft comprised another source of meteorological observations, which were to become increasingly important before the end of the fighting in Korea.<sup>370</sup>

The air-weather establishment and procedures existing in Korea in June 1952 had been developed to support typical tactical operations of the Fifth Air Force, and with the beginning of the air-pressure campaign the 30th Squadron modified its organization and developed new procedures and



SECRET

techniques in order to keep pace with the new air strategy. In context with a growing centralization of forecasting responsibilities and increased weather support for the Eighth Army,\* the Fifth Air Force Weather Station was renamed the JOC Weather Forecast Station in the later half of 1952, and in April 1953 it was again redesignated as the JOC Weather Forecast Center. The change in operational policy which was subtly represented in these changes in designations was more positively indicated in forecasting procedures. Under the system whereby independent weather forecasts were prepared both in Seoul and at the tactical airfields, supposedly with coordination to resolve any differences, tactical wing commanders were not infrequently presented with two and sometimes three different forecasts for the same time and area. Under such circumstances a tactical commander not only lost confidence in weather predictions, but if he wished he could "shop around" until he found a weather forecast which suited him.<sup>371</sup> In recognition both of the importance of the task and of the fact that tactical staff weather forecasters were prone to be unconsciously influenced by tactical wing commanders, the 30th Weather Squadron sought always to designate forecasters with the rank of major as tactical staff weather officers. In the latter half of 1952, however, the experience level of replacement forecasters sharply declined, with the result that, of 10 tactical staff weather officers assigned in December 1953, three were majors, four were captains, and three were lieutenants. Recognizing that these lesser experienced men required more supervision, the commander of the 30th Squadron in November relieved all tactical staff weather officers from the control of weather station detachments and placed them under his direct command.<sup>372</sup> In the spring of 1953 the experience and rank of forecaster personnel continued to decline, and, since there was nothing else which could be done, the 30th Squadron accorded the JOC Weather Forecast Center a first priority on rank and experience, with the result that the tactical staff weather officers became more and more dependent upon the Weather Forecast Center for advice.<sup>373</sup>

The demands of Fifth Air Force combat wings for current target- and terminal-weather reports

\*See pp. 308-10.

compelled the 30th Squadron to stress every intrinsic capability to observe weather which was available or obtainable. As much as was possible the 30th Squadron pushed its weather observer net northward. In the latter part of 1952 two new island weather observer teams were put in operation, one on Cho-do, the other on Yo-do near Wonsan. These small observer teams took hourly surface readings and two to four upper wind observations each day.<sup>374</sup> Looking toward a more comprehensive collection of weather data over enemy territory, a joint 30th Squadron-Fifth Air Force effort studied and revised the operational procedures governing the 6166th Tactical Weather Reconnaissance Flight. This table of distribution flight was attached to the 67th Tactical Reconnaissance Wing, and the technical control of it was exercised by the Fifth Air Force. The 30th Squadron's responsibilities for the flight required it to assign a rated weather officer flight commander and nine aerial weather observers to the flight crews. The 30th Squadron also recommended the tracks and schedules which the flight was supposed to fly, but the 30th Squadron noted that the flight's weather missions usually secured inadequate coverage on assigned tracks. In early September, following a series of conferences, the Fifth Air Force accepted and published a new tactical weather reconnaissance operating procedure which had been drafted in the 30th Squadron. Thereafter, the 30th Squadron exercised technical control over the 6166th Flight through the JOC Weather Forecast Station. The 67th Wing remained responsible for supporting the flight and for its operational control in such matters as flight security, stand-downs, and diversions necessitated by the enemy situation. While much improved by the changes in control, the organization and operations of the tactical weather reconnaissance flight were still inadequate for maximum effectiveness. The table of distribution flight possessed six WB-26's, not a suitable aircraft for the mission, and only three of the planes were properly equipped with synoptic weather instruments.<sup>375</sup> Because of the performance capabilities of the WB-26's—insufficient speed and inability to protect themselves—the usefulness of the 6166th Flight declined as the Korean war continued, and by the spring of 1953 the synoptic mission of the flight had become secondary to "Snowflake" patrols along the bomblines, patrols which provided

SECRET



~~SECRET~~

weather reports of interest in launching close support missions.<sup>376</sup>

Lacking intrinsic weather reconnaissance capabilities within the tactical weather establishment for securing the target weather observations needed by the Fifth Air Force, the 30th Weather Squadron was compelled to seek assistance from the combat air wings. Although it recognized that the employment of tactical aircraft for weather reconnaissance was wasteful of combat effort, the 30th Squadron saw no better solution for the problem. The utilization of pilot reports (PiReps) as sources of weather data was not new and in the earliest days of the war weather observers had been placed aboard bombers and reconnaissance aircraft that operated over enemy territory, but in the last year in Korea tactical aircraft—chiefly RF-80's, F-86's, and F-94's—were more extensively used to reconnoiter targets and determine weather than ever before. In the period, 1 April through 30 June 1953, out of 943 weather reconnaissance sorties flown, 421 were flown by jet fighter-type aircraft, 426 by WB-26 aircraft, and 96 by other tactical-type planes. And, in the final month of the war, the 30th Squadron commander estimated that 90 percent of all weather reconnaissance north of the bomb-line was performed by jet aircraft.<sup>377</sup> The lack of weather instrumentation in combat-type aircraft limited the amount of detail which its pilot could report, but whether in an in-flight report while on a combat mission or on a special weather reconnaissance sortie the combat pilots were expected to provide information as to the extent of cloud cover, the heights of the bases and tops of clouds, visibility, and other weather phenomena hazardous to flight such as icing, turbulence, rain, or freezing rain.<sup>378</sup> On the basis of this experience, the 30th Weather Squadron stated the rule that tactical weather reconnaissance squadrons ought to be assigned "first line, production-type jet fighter aircraft, including all-weather types, stripped to increase speed and range," as augmentations to the basic synoptic-type aircraft. These augmentation aircraft would be employed for scanning and target weather reconnaissance and for deep penetrations into enemy territory. Their pilots would have additional weather training over and above that received by the average fighter pilot. Although the 30th Squadron recommended that eight fighter-type aircraft be as-

signed to the 6166th Flight, nothing came of the recommendation.<sup>379</sup> On 18 September 1953, moreover, when the 11th Tactical Reconnaissance Squadron was activated to perform an electronics and weather reconnaissance mission, the new squadron was authorized 9 RB-26's and 9 WB-26's but no jet fighter types.\*

By March 1953 the interplay of several factors brought about an increased centralization of weather responsibilities in Seoul. The experience level of both forecasting and observing personnel had fallen to a new low, the spring weather was increasingly poor and varied greatly within the hour, and the Fifth Air Force's tactical responsibilities required it to get off as many missions as terminal and target weather permitted. The JOC needed up-to-the-minute weather information, and it could not afford to depend upon periodic weather reports which were usually more than a half hour old by the time that they reached Seoul. To meet the situation, the 30th Weather Squadron increased the weather section in the JOC from two to nine people, and used this personnel to man a station in the JOC and another in the TACC. This JOC-TACC Weather Section was charged to accumulate, from every means available, the "present" weather existing throughout Korea. From the air bases in South Korea tactical staff weather officers were authorized to telephone special weather observations and PiReps directly to the junior weather duty officer in the TACC. As necessary, the TACC duty officer also requested weather PiReps from strike crews in flight, and when they were required the senior weather duty officer in the JOC requested the combat wings to fly special weather reconnaissance flights. A third functionary, the duty weather observer, maintained a current weather status board in the TACC. This JOC-TACC Weather Station kept the JOC conversant with terminal and target weather, furnished information to those officers who made longer range forecasts, and briefed tactical staff weather officers on the latest weather reports.<sup>380</sup> Shortly after its creation, the new function was renamed the JOC Present Weather Section, under which name the section provided invaluable weather services to the JOC, especially in June and July 1953 when the Communists timed ground attacks to coincide with bad flying

\*See p. 251.

~~SECRET~~



SECRET

weather. When hostile targets presented themselves during these offensives the JOC had immediate information as to which friendly airfields were open, on the target weather up forward, and as to what alternate airfields were available for recovering jet aircraft when their base weather deteriorated.<sup>881</sup>

At the same time that the 30th Weather Squadron was developing the organization and procedures which enabled it to support the tactical air operations of the Fifth Air Force it also built a new program designed to make weather services available to the units of the Eighth Army. Recognizing that the Air Weather Service mission required it to support both Army and Air Force, air weathermen in Korea as early as July 1950 sought to discover what kind of meteorological service the Eighth Army required. Army officials, however, were vague about their requirements, and the Eighth Army indicated that almost any type of weather forecast would be adequate. At top-level the Eighth Army continued to display little apparent regard for weather, but its subordinate organizations were greatly troubled by the frigid weather of the winter of 1950-1951 and evinced strong interest in knowing what services the 30th Weather Squadron could give them. Principally to extend its weather observer net, the weather squadron, beginning in August and October 1950, had sent several two-man observing detachments to the front lines. These located themselves at the corps headquarters, where, in addition to reporting weather observations, they disseminated some 12 specialized daily forecasts which the 30th Squadron prepared for the Army. In 1951 the 30th Squadron was well aware that the Eighth Army was not getting weather services comparable to those received by the Fifth Air Force, but the Eighth Army had no complaints. Subordinate units of the Eighth Army, however, remembered that in the winter retreats of 1950-1951 their men had suffered for want of proper clothing and cold-weather supplies. Resolved not to let its combat soldiers get caught short again, the Department of Army in October 1951 organized and sent to Korea a "Winter Environment Team," headed by Dr. Paul A. Siple, a cold-weather expert. This Siple team stayed in Korea from December 1951 through February 1952, and in May 1952 it issued a report of its findings. The report noted widespread disagreement among the echelons of the

Eighth Army as to the need for weather forecasts: in general each higher headquarters believed that it needed forecasts but that its subordinate units, which were expected to execute orders as received no matter what the weather was, did not need forecasts. The Siple report, however, established the fact that the need for weather services went down to the lowest echelon commanders, to whom such factors as when valley fogs would lift, what the local snowfall would be, or how much cloud cover could be expected were matters of consequence in planning their execution of orders. The 30th Weather Squadron drew commendation for its efforts to give the Eighth Army better services than those which satisfied the latter command, but the Siple report nevertheless noted that the general area forecasts which the 30th Squadron had been providing to the Army lacked the detail which would have made them particularly useful to tactical ground commanders below the corps level. If AWS forecasts were to be of maximum value to lower-echelon ground commanders, more weather data would have to be gathered by Army observer teams in the frontline area.<sup>882</sup>

The 30th Weather Squadron welcomed the Siple investigation as the first real evidence of the Army's interest in establishing comprehensive requirements for weather services. Even before the Siple team filed its final report, the 30th Squadron had, on 8 April 1952, recommended that it be assigned the forecaster personnel needed to provide more extensive services to the Eighth Army. It recommended that three AWS forecasters should be assigned to the JOC Weather Forecast Station with the mission of forecasting exclusively for the Eighth Army. It suggested that AWS should organize a forecasting station at each corps headquarters, which station would keep the corps commanders constantly informed of the particular weather likely in their individual sectors. Because of a shortage of AWS forecaster personnel such a program as this could not be immediately implemented, but in April 1952 the 30th Squadron assigned one forecaster to duty as Eighth Army Liaison Officer. Negotiations between this liaison officer and the Eighth Army staff meteorologist worked out the details of an expanded frontline observer network. Since the Eighth Army believed it inadvisable to locate AWS personnel forward of corps headquarters, the recommendation was that Signal Corps personnel should be trained

SECRET



and sent to Korea to serve as weather observers in forward areas. Concerning communications, it was recommended that the Signal Corps would install facsimile circuits between the JOC Weather Forecast Station and each corps headquarters forecasting station. Between the staff weather officers at corps and the forward weather observers, organic Army communications would be utilized for passing information. These arrangements were acceptable to both USAF and the Army as the basis for a 90-day test. At Fort Monmouth, New Jersey, the Signal Corps personnel needed as forward weather observers were placed in a special six-week weather observer training course.<sup>383</sup>

Although planning continued, the new system awaited the arrival in the theater of the AWS forecasters and the Signal Corps observers who would man it. On 5 October 1952 the Eighth Army, for the first time, presented a formal statement of its meteorological requirements. Late in November 1952, six Signal Corps lieutenants and 44 enlisted men who had progressed out of basic training into the accelerated weather observer course at Fort Monmouth arrived in Korea, and, after a short period of orientation most of these men were divided into two-man teams and sent to predetermined forward-area sites to start the surface observation net. Five-man teams, each comprising an officer and four enlisted men, were established at each corps headquarters and at the JOC Weather Forecast Station to take observations, to collect and disseminate observations, and to supervise the operations at the observer teams under their jurisdiction. In early December 1952, the 30th Weather Squadron dispatched Corps Forecast Teams, each consisting of one weather officer forecaster, one airman weather technician, and two senior observers, to the U. S. I, IX, X, and ROK I Corps headquarters, where they became operational on 14 December. By the end of January 1953 another forecast team was installed at the headquarters of the ROK II Corps. In the JOC Weather Forecast Station two additional forecasters were assigned to meet added requirements placed on the station by the augmented Army weather program.<sup>384</sup>

From the start of their operations, the corps forecast teams were well received and rendered a type of service individually tailored to ground operations in the sector where they were stationed. Personal contact between forecasters and using

agents permitted the preparation and dissemination of such weather data as was specifically required. Communications problems nevertheless hindered the operations of the corps forecast teams. Facsimile equipment connecting each corps team with the JOC Weather Forecast Station was initially unavailable, and the Seoul station had to send out coded map analyses to the corps teams over Eighth Army command and administrative teletype circuits. These circuits served other traffic, and the corps forecast teams not infrequently met delays of two to four hours in getting receipt of this vital weather data from Seoul. As a consequence of these delays, the corps staff weather officers frequently relied on such weather briefings as they could get by telephone from the JOC Weather Forecast Station. Eventually, the Signal Corps installed the promised facsimile machines, but in June 1953 it was reported that "reception on these machines has, so far, been erratic and unsatisfactory." The corps teams thus continued to depend upon the administrative teletype channel and the telephone, neither of which permitted dissemination of anything more than the barest minimum of weather information.<sup>385</sup>

Second only to communications as a major problem of the Army weather service was the question as to whether the experimental system setup in November and December 1952 would be permanently continued. The Signal Corps weather observers had arrived in Korea on 90-day temporary duty orders, and, to the surprise of the 30th Squadron, a new Eighth Army signal officer in January 1953 voiced the opinion that this Army personnel was provided as a "supplementary service" to the AWS. The Signal Corps observers proved highly cooperative and wanted to learn but their course of instruction at Fort Monmouth had not fully prepared them for duty as weather observers, and, even before they could be properly broken in for observing, they were slated to depart from the theater.<sup>386</sup> Earlier, the Eighth Army had posed certain objections to the presence of USAF weathermen forward of a corps headquarters on the grounds that men who lacked combat training might encounter trouble, but somewhere along the line this objection was forgotten. On 23 March 1953, when the 30th Squadron inquired as to whether it should be prepared to man the front-line observer posts when the Army TDY person-



SECRET

nel departed, the Eighth Army replied that such, indeed, was its wish. The Eighth Army wanted the meteorological support continued by the AWS, and it requested that as soon as possible after 30 April 1953 the Signal Corps observer teams should be relieved by equivalent AWS teams.<sup>387</sup> Between 28 and 30 April, 30th Squadron personnel moved into the frontline observer sites, and the change-over from Signal Corps to AWS personnel went very smoothly and with no break in observations. After 1 May 1953 the Eighth Army weather program became exclusively a 30th Weather Squadron project, and, except for continued communicating problems, the program gave increasingly better weather support to Eighth Army units during the remaining three months of the Korean hostilities.<sup>388</sup> Back in the United States, some Signal Corps officers continued to agitate a proposition that the Army ought to develop its own organic weather services, but the manner in which the 30th Weather Squadron had supported the Eighth Army in Korea was counted to have been so satisfactory that in January 1954 the Department of Army elected not to develop its own competing weather services but instead to depend upon USAF Air Weather Service support.<sup>389</sup>

As was equally true anywhere in the world, the efficiency of the Air Weather Service depended to a great degree upon the effectiveness of its system of communications. Properly to support the weather mission, such a communications system has to convey accurate data rapidly from each observer station into a collection center, and then distribute these collections to the forecasting stations, which are the ultimate users of meteorological observations. In Korea, as was the case elsewhere, the AWS depended for its communications upon the Airways and Air Communications Service (AACS). The communications used by weather in the Far East were, in broad outline, as follows: in Korea there were three continuous wave (CW) weather collection nets, each with about five reporting stations, which channeled into a weather communications center at Taegu. These collection nets were "reasonably efficient" but the speed of CW transmissions was insufficient to allow these nets to handle both periodic reporting and special weather observations, and the latter were accordingly not passed on this net. At the Taegu communications center the Korean station weather reports were edited and retrans-

mitted to all users by the Taegu blind weather broadcast. Other synoptic and raw weather data was received from a Tokyo radio-teletype blind broadcast which, for Korean users, was intercepted at Taegu, was automatically converted into teletype impulses, and was fed into landline and/or frequency modulated (FM) circuits to all weather forecast stations. The communications facilities handling the Taegu and Tokyo broadcasts of synoptic and raw weather data were woefully inadequate: frequent circuit outages and more frequent transmission garbles deprived the weather stations of accurate and comprehensive data. The 30th Weather Squadron frequently protested this situation but few positive results followed the protests since AACS organizations, technicians, and operators were not subject to AWS control. No AACS communications support was available to the forecasting and observing teams with the Eighth Army: communications for the Army weather program were supplied by the Army, and, like those furnished by the AACS, were subject to no degree of AWS control. Since the AACS communications available to the 30th Weather Squadron were not fast enough to handle special weather observations, the Fifth Air Force permitted weathermen to use its operational telephone "hotline" circuits between the JOC and station weather detachments. Special weather reports, pilot reports, and short synoptic and forecast discussions were exchanged by this facility.<sup>390</sup>

During the spring of 1953 an always serious weather communications problem became acute. The existing system, which had always been too slow, became increasingly unreliable and was unable to provide the weather data required by the JOC. Use of the Fifth Air Force "hotline" telephone circuits allowed the weather service to get through the crisis but represented no permanent solution to a long-enduring problem. Seeking a more permanent solution to weather communications difficulties, the 30th Squadron communications officer stated that: "Existing AACS-Weather relationship is definitely not satisfactory and has never been satisfactory. . . . There are many facets to the problem but, to put it simply, weather commanders cannot exercise authority over personnel providing weather communications." This officer proposed that in future operations, the tactical air force and not AACS should be charged with providing communications for its

SECRET



supporting weather organization. As a bare minimum, weather communications would include: (1) A high-speed blind weather broadcast of basic weather data emanating from the weather forecast center serving the JOC. This communications center would be near the forecast center: physical separation of the two functions, as was the case in Korea, was undesirable. This blind weather broadcast would be received at all forecast stations, both Air Force and Army. (2) Operational voice circuits interconnecting all tactical and army staff weather officers, base forecasting stations, the JOC-TACC weather section, and the Weather Forecast Center. (3) An exclusive air-ground channel available to the TACC weather duty officer which would permit him to request and receive weather reports from reconnaissance and combat aircraft and to transmit up-to-the-minute reports and forecasts to any tactical aircraft. The types of circuits and communications equipment to be employed in these three weather nets would de-

pend upon the discretion and capabilities of the tactical air force which provided them, but radio-teletype and FM/telephone normally recommended themselves to weather communications.<sup>301</sup> A few of the features of this desirable weather communications system were improvised in Korea, but for the most part weather communications remained obsolete. The use of radio-teletype communications for weather collection and dissemination in Korea was recommended and approved as early as November 1950, but it was not until late in July 1953 that the 30th Weather Squadron finally located in Japan a sufficient quantity of AN/GRC-26 sets to meet its needs. At the request of the Fifth Air Force this equipment was committed to the 30th Weather Squadron, which planned to use it to replace CW radio and land-line teletype nets, but the fighting ended in Korea before this equipment could be shipped to the 30th Squadron.<sup>302</sup>

SECRET



SECRET

Faint, mostly illegible text in the left column of the page.

Second paragraph of faint, mostly illegible text in the left column.

Faint, mostly illegible text in the right column of the page.

Second paragraph of faint, mostly illegible text in the right column.

SECRET

- 1. FRAP
- 4-5
- 2. FRAP
- 3. FRAP
- 4. FRAP
- 5. FRAP
- 6. FRAP
- 7. FRAP
- 8. FRAP
- 9. FRAP
- 10. FRAP
- 11. FRAP
- 12. FRAP
- 13. FRAP
- 14. FRAP
- 15. FRAP
- 16. FRAP
- 17. FRAP
- 18. FRAP
- 19. FRAP
- 20. FRAP



## FOOTNOTES

## Chapter I

1. FEAF Report on the Korean War, 26 Mar. 1954, I, 4-5. See also 82d Cong. 1st Sess., Hearings before the Committee on Armed Services and the Committee on Foreign Relations U. S. Senate: Military Situation in the Far East, May-Aug. 1951, pp. 1681, 1812-1813, 1816-1819.
2. AHS-71, USAF Operations in the Korea Conflict, 25 June-1 Nov. 1950, p. 1.
3. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 10-11, 13.
4. U. S. Dept. of Army [DEPTAR], Teleconference #3426, 27 June 1950.
5. Lt. Gen. George E. Stratemeyer's Diary, 29 June 1950.
6. Msg. JCS-84681 to CINCFE, 29 June 1950.
7. Msg. FEAF AX-1705-D/O, 29 June 1950.
8. Circular, U. S. Dept. of State to Supreme Commander Allied Powers [SCAP], 30 June 1950.
9. Msg. VC-0210-INT-IT, CG FEAF to C/S USAF, 23 Aug. 1950.
10. UN Doc. A/1435, Resolution Adopted by the General Assembly, 7 Oct. 1950, in U. S. Dept. of State, *United States Policy in the Korean Conflict*, July 1950-February 1951, pp. 17-18.
11. Msg. JCS-97917 to CINCFE, 3 Dec. 1950.
12. Msg. JCS-98400 to CINCFE, 8 Dec. 1950; Draft Korea Rpt. of U. S. Secy. of Defense, pt. V, pp. 47-48.
13. Memo for U. S. Secy. of Defense from Gen. Omar N. Bradley, Chairman JCS, sub: Korea, 4 Dec. 1950.
14. 82d Cong. 1st Sess., Compilation of Certain Published Information on the Military Situation in the Far East, pp. 146, 155-56.
15. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 30-31.
16. FEC Comd. Rpt., Jan. 1951, p. 11; ltr., MacArthur to Hon. Joseph W. Martin, Jr., 20 Mar. 1951, in 82d Cong. 1st Sess., Compilation of Certain Published Information on the Military Situation in the Far East, p. 186.
17. Radio address of the President. . . , Apr. 11, 1951, in 82d Cong. 1st Sess., Compilation of Certain Published Information on the Military Situation in the Far East, pp. 189-194.
18. FEC Comd. Rpt., Apr. 1951, p. 3.
19. *Ibid.*, May 1951, pp. 42-43 and June 1951, pp. 2, 38, 59; msg. JCS-95977 to CINCFE, 10 July 1951.
20. 82d Cong. 1st Sess., Military Situation in the Far East, p. 1764.
21. C. R. Attlee, *As It Happened* (New York: The Viking Press, 1954), p. 280.
22. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 1378-79.
23. *Ibid.*, p. 360.
24. Msg. JCS-95977 to CINCFE, 10 July 1951.
25. AHS-72, USAF Operations in the Korean Conflict, 1 Nov. 1950-30 June 1952, p. 3.
26. Stratemeyer diary, 27-30 Sept. 1950.
27. Msg. JCS-95977 to CINCFE, 10 July 1951.
28. FEAF Comd. Ref. Bks., June 1950 through Apr. 1952.
29. Msg. C-60965, CINCFE to JCS, 25 Apr. 1951 quoting CINCFE ltr. of instructions to CG Eighth Army, 22 Apr. 1951.
30. Msg. C-61367, CINCFE to JCS, 30 Apr. 1951 quoting "text of instructions issued this date to CG FEAF."
31. Ltr., Brig. Gen. Jacob E. Smart, Depy. for Opns. FEAF to Brig. Gen. Gilman C. Mudgett, AC/S G-3 FEC, 25 July 1952.
32. Ltr., Maj. Gen. O. P. Weyland, CG FEAF to C/S USAF, sub: Requirements for Increased Combat Effectiveness, 10 June 1951.
33. Msgs. JCS-96930 to CINCFE, 21 July 1951 and JCS-98713 to CINCFE, 11 Aug. 1951.
34. Msgs. C-67474, CINCFE to JCS, 21 July 1951; JCS-96938 to CINCFE, 21 July 1951; C-67520, CINCFE to JCS, 23 July 1951; JCS-97223 to CINCFE, 25 July 1951; CX-67652, CINCFE to JCS, 25 July 1951.
35. Msg. C-66444, CINCFE to JCS, 6 July 1951; msg., JCS-95735 to CINCFE, 6 July 1951.
36. Interview with Brig. Gen. Don Z. Zimmerman, Depy. for Intel. FEAF by Project Officer, Air War College Project "Control," ca. Feb. 1954.
37. Msg. CX-68188, CINCFE to JCS, 2 July 1951.
38. Msg. C-66444, CINCFE to JCS, 6 July 1951.
39. Msg. C-68428, CINCFE to JCS, 6 Aug. 1951.
40. Msg. DEPTAR-98288 to CINCFE, 7 Aug. 1951.
41. Staff study for FEAF Depy. for Opns., by Col. R. L. Randolph and Lt. Col. B. I. Mayo, sub: The Application of FEAF Effort in Korea, 12 Apr. 1952. Hereinafter cited as Randolph and Mayo, Application of FEAF Effort in Korea.
42. Msg. C-67670, CINCFE to JCS, 28 Apr. 1952.
43. Msg. JCS-98713 to CINCFE, 11 Aug. 1951.
44. Msg. C-68437, CINCFE to JCS, 6 Aug. 1951.
45. Msg. C-68428, CINCFE to JCS, 6 Aug. 1951.
46. Msg. C-62217, CINCFE to JCS, 25 Jan. 1952.



47. The review of Armistice negotiations here presented is contained in msg. C-67670, CINCFE to JCS, 28 Apr. 1952.
48. Msg. HNC-1509, CINCUNC (ADV) to CINCUNC, 12 Sept. 1952.
49. Msg. C-60744, CINCFE to JCS, 4 Jan. 1952.
50. Ltr., Brig. Gen. James Ferguson, V/Comdr. FAF to CG FEAF, sub: North Korean Hydroelectric Power Systems as a Target, 5 Jan. 1952; 1st ind., CG FEAF to CINCFE, 29 Jan. 1952.
51. Msg. VCO-118-CG, CG FEAF to USAF, 29 Apr. 1952; FEC Comd. Rpt., May 1952; Hist. FEAF, Jan.-June 1952, I, 44.
52. Msg. HNC-1033, CINCUNC (ADV) to JCS, 11 Mar. 1952.
53. FEC Comd. Rpts., Apr. 1952, p. 46 and May 1952, p. 32.
54. Mark W. Clark, *From the Danube to the Yalu* (New York: Harper & Brothers, 1954), pp. 69-74.
55. Hist. FEAF, Jan.-June 1952, I, Introduction.
56. FEAF Comd. Ref. Bk., May 1952, dtd. 18 June 1952.
57. FEC Comd. Rpt., July 1952, pp. 4-5.
58. FEC Comd. Rpts., Oct. 1952, p. 4 and Nov. 1952, pp. 6-7.
59. Msg. JCS-915579 to CINCFE, 8 Aug. 1952.
60. Msg. C-54277, CINCFE to JCS, 27 Aug. 1952.
61. Msg. #188571, PresUS to CINCFE (personal for Clark), 26 Sept. 1952; msg. JCS-919368 to CINCFE, 25 Sept. 1952.
62. FEC Comd. Rpts., Sept. 1952, pp. 18-20 and Oct. 1952, pp. 9-11.
63. Msg. JCS-919187 to CINCFE and CINCPAC, 23 Sept. 1952; msg. CX-56022, CINCUNC to JCS, 29 Sept. 1952.
64. Memo for U. S. Secy. of Defense from Bradley, sub: United States Position on Korea in the General Assembly of the United Nations, 17 Nov. 1952.
65. GO 1, GHQ, UNC, 24 July 1950; FEAF Rpt., I, 23.
66. GHQ FEC Circular #44, sub: Joint Strategic Plans and Operations Group, General Headquarters, Far East Command, 20 Aug. 1949.
67. Dept. of Air Force [DAF], Rpt. on Korean Air Opns., 16 Jan. 1951.
68. Ltr., Maj. Gen. C. A. Willoughby, Asst. C/S G-2 GHQ FEC to Asst. C/S A-2 FEAF, sub: Air Officer to Serve in Theater Intelligence Division, G-2 Section, General Headquarters, Far East Command, 26 Jan. 1948.
69. FEAF Rpt., I, 24.
70. AHS-71, pp. 12-13.
71. Rpt. of FEAF representative at FEC Ad Hoc Committee on Unconventional Warfare, n. d., in Hist. FEAF, July-Dec. 1953, vol. I, chap. V, doc. 1.
72. USAF, Air Force Logistical Lessons Resulting from Conflict in Korea as prepared by FEAF, pp. 82, 85. This study, printed and distributed by USAF, was in large part prepared by Fifth Air Force officers.
73. Weyland, Some Lessons of the Korean War, 10 Oct. 1950.
74. Clark, *From the Danube to the Yalu*, p. 133.
75. FEC Comd. Rpts., Aug. 1952, p. 2 and Sept. 1952, p. 3; Hist. FEAF, July-Dec. 1952, I, Introduction; GO 114, FEC, 30 Sept. 1952.
76. FEC Comd. Rpt., Jan. 1953, p. 3.
77. Hist. FEAF, July-Dec. 1952, I, Introduction.
78. Clark, *From the Danube to the Yalu*, p. 134.
79. FEAF Rpt., I, 25.
80. USAF, Air Force Logistic Lessons Resulting from Conflict in Korea as prepared by FEAF, pp. 82, 85.
81. Hist. FEAF, July-Dec. 1953, vol. I, chap. V, doc. 1.
82. Memo for MacArthur from Stratemeyer, 8 July 1950.
83. Ltr., Maj. Gen. E. M. Almond, C/S FEC to USNAVFE and CG FEAF, n. d., file AG 370.2 (8 Jul 50) CG.
84. AHS-72, pp. 75-76.
85. FEAF Rpt., II, 142.
86. AHS-72, p. 77.
87. Statement by Clark at Pentagon Press Conference, 6 Aug. 1953, quoted in *U. S. News and World Report*, 14 Aug. 1953, p. 84.
88. Hist. FEAF, Jan.-June 1952, I, 40-58; FEC Comd. Rpt., July 1952, pp. 3-4.
89. Minutes FEAF Tgt. Com. Mtg., 21 Aug. 1952.
90. COMNAVFE Comd. and Hist. Rpt., July 1952, sect. 1, pp. 4-6.
91. Daily diary, Cmbt. Opns. Div. FEAF, 6 Sept. 1952; COMNAVFE Comd. and Hist. Rpt., Oct.-Nov. 1952, sect. I, pp. 18-22 and May-June 1953, pp. 18-20.
92. COMNAVFE Comd. and Hist. Rpt., May-June 1953, sect. 1, p. 16; Rpt. on Joint Air-Ground Opns. Conf. held at FAF, 8-22 Aug. 1953.
93. FEAF Rpt., II, 82.
94. Minutes FEAF Tgt. Com. Mtgs., 23 June and 22 July 1953.
95. AHS-72, pp. 70-71.
96. Hist. FAF, July-Dec. 1952, I, 289-293 and Jan.-June 1953, I, 18-22.
97. FAF Review, 1 June 1952.
98. FEAF Comd. Ref. Bk., May 1952.
99. FEAF Reg. #23-3, Organization: FEAF Bomber Comd. (P), 8 Sept. 1952; FEAF Comd. Ref. Bk., May 1952.
100. Ltr., Col. E. E. Toro, AG FEAF to CG 315th Air Div. (ComCar), sub: Mission Directive, 29 Jan. 1951.
101. FEAF Comd. Ref. Bk., June 1952.
102. Hist. JADF, IV (July-Dec. 1952), pp. 2-7.
103. Hist. FEALogFor, July-Dec. 1952.
104. Hist. Twentieth AF, July-Dec. 1952, pp. 36-42.
105. Hist. Thirteenth AF, July-Dec. 1952.
106. FEAF Comd. Ref. Bk., May 1952, p. 26.
107. Dep. for Intel. FEAF, Air Trends in the Far East, 2 Sept. 1952, in Hist. FEAF, July-Dec. 1952, vol. II, chap. IV, doc. 16.
108. Msg. V-0254-CG, CG FEAF to C/S USAF, 12 July 1951.
109. FEC Comd. Rpt., Feb. 1952, pp. 87-88.
110. FEAF Comd. Ref. Bk., May 1952.
111. AHS-72, pp. 83-84.
112. *Ibid.*, pp. 84-86.
113. FAF Review, 1 June 1952; Randolph and Mayo, Application of FEAF Effort in Korea, 12 Apr. 1952.



114. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 1378-79.
115. Memo for Maj. Gen. W. F. McKee from Maj. Gen. Roger M. Ramey, D/Opns. USAF, sub: Air Staff Comments on "Relationship of Production to Korean Operations," 29 Nov. 1951.
116. Hist. FAF, Jan.-June 1952, I, 36-37.
117. FEAF Comd. Ref. Bk., Sept. 1952.
118. FEAF Hist., Jan.-June 1952, Introduction.
119. Msg. AFOOP-AL-54027, USAF to FEAF, 18 July 1952.
120. FEAF Operations Policy, Korea Mid-1952, pp. 2-3.
121. Hist. 18th Ftr.-Bmr. Gp., June 1952.
122. Hist. 474th Ftr.-Bmr. Wg., July-Dec. 1952, p. 1; FAF Review, 1 Sept. 1952.
123. Ltr., Col. D. R. LeMaster, AG FEAF to CG FAF, sub: Operational Planning Factors, 12 June 1952.
124. Hist. FEAF BC, July-Dec. 1952, p. 110.
125. Ltr., LeMaster to CG FAF, sub: Operational Planning Factors, 12 June 1952.
126. Gen. O. P. Weyland, "The Air Campaign in Korea," in *Air University Quarterly Review*, vol. VI, no. 3 (Fall 1953), p. 26. Hereinafter cited as Weyland. "The Air Campaign in Korea."

Chapter II

1. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 3063 and 3067.
2. Stratemeier diary, 27-30 Sept. 1950.
3. Staff study, D/Intel. Estimates FEAF, sub: Intelligence Required by Commander FEAF for Present and Future, in FEAF Comd. Rpt., Nov. 1953, vol. II.
4. Weyland, "The Air Campaign in Korea," p. 22.
5. FEAF Operations Policy, Korea Mid-1952, pp. 1-2.
6. FEAF Intel. Roundups, #64, 18-24 Nov. 1951 through #78, 23-29 Feb. 1952.
7. FEAF Operations Policy, Korea Mid-1952, pp. 2-3.
8. Randolph and Mayo, Application of FEAF Effort in Korea, 12 Apr. 1952.
9. 82d Cong. 2d Sess., Hearing Before Committee on Armed Services, U. S. Senate, p. 14.
10. Msg. AX-4576-D/O, CG FEAF to CG FEAF BC, 28 Apr. 1952.
11. Hist. FAF, Jan.-June 1952, I, 64-65.
12. *Ibid.*, Introduction.
13. FAF, Intelligence Summaries [INTSUMS], 10 July 1952 and 12 Feb. 1954; Hist. FEAF, Jan.-June 1952, I, 40-41.
14. Memo for Depy. for Intel. FEAF from Mr. C. H. Prueffer, 21 Sept. 1950; memo for Depy. for Intel. from Weyland, 25 Sept. 1950; Stratemeier diary, 27 Sept. 1950.
15. AHS-71, p. 86; msg. JCS-92658 to CINCFE, 26 Sept. 1950.
16. Msg. JCS-94799 to CINCFE, 21 Oct. 1950; msg. C-67154, CINCFE to JCS, 22 Oct. 1950.
17. Msg. JCS-95949 to CINCFE, 6 Nov. 1950.
18. Msg. C-68465, CINCFE to JCS, 7 Nov. 1950.
19. Memo for U. S. Secy. of Defense from Gen. Omar N. Bradley, Chairman JCS, sub: Chinese Communist Intervention in Korea, 9 Nov. 1950.
20. Msg. JCS-97287 to CINCFE, 24 Nov. 1950; 82d Cong. 1st Sess., Military Situation in the Far East, pp. 1229-30.
21. Msg. C-69808, CINCFE to JCS, 25 Nov. 1950.
22. Msg. JCS-99713 to CINCFE, 26 Dec. 1950; msg. C-52125, CINCFE to JCS, 27 Dec. 1950.
23. Msg. CX-56453, CINCFE to JCS, 26 Feb. 1951; msg. JCS-84577 to CINCFE, 1 Mar. 1951.
24. 82d Cong. 1st Sess., Military Situation in the Far East, p. 613.
25. Ltr., Ferguson to CG FEAF, sub: North Korean Hydroelectric Power Systems as a Target, 5 Jan. 1952.
26. 1st ind. (ltr., Ferguson to CG FEAF, 5 Jan. 1952), CG FEAF to CINCFE, 29 Jan. 1952.
27. Msg. VCO-118-CG, CG FEAF to USAF, 29 Apr. 1952; FEC Comd. Rpt., May 1952; Hist. FEAF, Jan.-June 1952, I, 44.
28. Msg. VCO-118-CG, CG FEAF to USAF, 29 Apr. 1952.
29. Msg. CX-67909, CINCFE to JCS, 3 May 1952.
30. Msg. JCS-908100 to CINCFE, 6 May 1952.
31. Hist. FEAF, Jan.-June 1952, I, 45; Clark, *From the Danube to the Yalu*, pp. 69-74.
32. Msg. CX-50328, CINCFE to COMNAVFE and CG FEAF, 17 June 1952.
33. Memo for U. S. Secy. of Defense from Bradley, sub: Removal of Restrictions on Attacks Against Yalu River Hydroelectric Installations, 19 June 1952; msg. JCS-911683 to CINCFE, 19 June 1952.
34. Hist. FEAF, Jan.-June 1952, I, 47-48.
35. FAF INTSUM, 10 July 1952; COMNAVFE Comd. and Hist. Rpt., June 1952, sect. I, pp. 3-9; Hist. FEAF, Jan.-June 1953, I, 51.
36. FAF Daily INTSUM, 4 July 1952.
37. FEAF Photo Interpretation Rpt. #77, 30 June 1952.
38. COMNAVFE Comd. and Hist. Rpt., June 1952, sect. I, pp. 3-9; FAF Daily INTSUM, 10 July 1952; Hist. FEAF, Jan.-June 1952, I, 52.
39. Hist. FEAF, Jan.-June 1952, I, 52; COMNAVFE Comd. and Hist. Rpt., June 1952, sect. I, pp. 3-9.
40. Daily diary, Cmbt. Opns. Div. FEAF, 24 and 25 June 1952; Hist. FEAF, Jan.-June 1952, I, 77.
41. FEAF Photo Interpretation Rpt. #77, 30 June 1952.
42. Hist. FAF, Jan.-June 1952, I, 83-84.
43. COMNAVFE Comd. and Hist. Rpt., June 1952, sect. I, p. 1.
44. Hist. FEAF, Jan.-June 1952, I, 50.
45. COMNAVFE Comd. and Hist. Rpt., June 1952, sect. I, pp. 3-9.
46. Hist. 8th Ftr.-Bmr. Gp., June 1952.
47. Gen. O. P. Weyland, "The First Jet Air War," in FEAF Intel. Roundup #144, Nov. 1953, p. 75.
48. Daily diary, Cmbt. Opns. Div. FEAF, 29 June 1952.
49. FEAF Intel. Roundup #126, 24-30 June 1953, sect. II, pp. 1-22.
50. FAF INTSUM #22, 12 Feb. 1954.



51. COMNAVFE Comd. and Hist. Rpt., July 1952, sect. I, pp. 8-8; 500th Mil. Intel. Serv. Gp., Interrogation Rpt. #KT-3719, 18 Oct. 1952; FEC INTSUM #3611, 29 July 1952.
52. FAF Daily INTSUM #355, 26 Apr. 1953.
53. Msg. C-50060, CINCFE to JCS, 12 June 1952.
54. Clark, *From the Danube to the Yalu*, pp. 73-74; FEAF Rpt., I, 113.
55. Msg. JCS-912750 to CINCFE, 3 July 1952; msg. C-51395, CINCFE to JCS, 5 July 1952.
56. FEAF Rpt., I, 113.
57. Dally diary, Cmbt. Opns. Div. FEAF, 25 June 1952.
58. *Ibid.*, 29 June 1952.
59. Minutes FEAF Formal Tgt. Com. Mtg., 8 July 1952.
60. Msg. AX-6798-D/O, CG FEAF to CG FAF and CG FEAF BC, 11 July 1952; FAF INTSUM, 31 July 1952, pp. 57-60.
61. Msg. VCO-118-CG, CG FEAF to USAF, 29 Apr. 1952.
62. Weyland, "The Air Campaign in Korea," p. 22.
63. Memo for Depy, for Intel. FEAF from Smart, sub: Utilization of Air Power in Korea, 16 Sept. 1952.
64. W. F. Craven and J. L. Cate (eds.), *The Army Air Forces in World War II*, V (Chicago: University of Chicago Press, 1953), 656-57.
65. Minutes FEAF Tgt. Com. Mtg., 22 July 1952; Hlst. D/Intel. FAF, July 1952.
66. Minutes FEAF Tgt. Com. Mtg., 22 July 1952.
67. *Facts on File*, vol. XII (1952), p. 221.
68. Hlst. D/Intel. FAF, July 1952.
69. FAF INTSUM, 16-31 July 1952, pp. 74-76.
70. Msg. 051900I, U. S. Secy of State to AmEmbassy Tokyo, 6 Aug. 1952, cited in FEC Comd. Rpt., Aug. 1952, pp. 6-7.
71. Msg. JCS-915579 to CINCFE, 8 Aug. 1952.
72. Staff study, Depy. for Intel. FEAF, sub: Proposed Attacks on the Agricultural Reservoir System on the Haeju Peninsula, ca. Apr. 1953.
73. Weyland, "The Air Campaign in Korea," p. 25.

Chapter III

1. FEC Comd. Rpt., Mar. 1953, p. 9.
2. AHS-71, pp. 33-34.
3. Rept. of Spl. Avn. Insp. Gp., General Staff, Mil. Affairs Commission, Red China, ca. 1 Sept. 1951, quoted in FEAF Intel. Roundup, #69, 28 Dec. 1951, sect. III.
4. FEC INTSUM #3029, 25 Dec. 1950.
5. FEAF Intel. Roundup #40, 10 June 1951.
6. Msg. A-3758-CG, CG FEAF to C/S USAF (Personal Vandenberg from Weyland), 26 Sept. 1951.
7. USAF Stat. Rpt. on Korea, 30 June 1952, p. 3.
8. Depy. for Intel. FEAF, Air Trends in the Far East, 2 Sept. 1952, in Hist. FEAF, July-Dec. 1952, vol. II, chap. IV, doc. 16.
9. FEAF Intel. Roundup #147, Feb. 1954, pp. 3-6; FAF Daily INTSUMS #186, 8 Nov. 1952, #234, 26 Dec. 1952, #271, 1 Feb. 1953.
10. Hist. FAF, Jan.-June 1953, pp. 7-15.
11. FEAF Intel. Roundup #147, Feb. 1954, pp. 13-21.
12. *Ibid.* #131, 6 Mar. 1953, sect. I, pp. 1-11.
13. *Ibid.* #141, 27 July 1953, sect. I, p. 18.
14. *Ibid.* #131, 6 Mar. 1953, sect. II, pp. 1-11; ltr., Brig. Gen. W. P. Fisher, CG FEAF BC, to Maj. Gen. J. B. Montgomery, D/Opns. SAC, 17 Nov. 1952.
15. Staff study, Col. Leo W. Killen, Depy. for Opns. FEAF BC, sub: Effectiveness of Searchlights . . . and Effective Means of Searchlight Suppression, n. d., in Hist. FEAF BC, July-Dec. 1952, II appen. 24.
16. R&R, FEAF Intel. Eval. to FEAF Intel. Rqmts., sub: Enemy Night Fighter Capabilities, 12 Jan. 1953.
17. FEAF Intel. Roundup #138, 13 June 1953, sect. II, pp. 1-4.
18. *Ibid.* #147, Feb. 1954, pp. 14-15; FAF Wkly. INTSUM #6, 16 Oct. 1953.
19. FAF Daily INTSUM #249, 10 Jan. 1953.
20. *Ibid.*, 21 July 1953.
21. FEAF Intel. Roundup #40, 10 June 1951.
22. *Ibid.* #149-150, Apr.-May 1954, pp. 25-29.
23. *Ibid.* #151, June 1954, pp. 4-11.
24. FAF Daily INTSUMS #186, 8 Nov. 1952 and #234, 26 Dec. 1952.
25. Statement by Col. John W. Mitchell, Comdr. 51st Ftr-Intr. Wg., ca. Nov. 1952.
26. FEAF Intel. Roundup #144, Nov. 1953, pp. 17-22.
27. FEC Comd. Rpt., Nov. 1952, pp. 8-9.
28. Mitchell statement, ca. Nov. 1952.
29. FEAF Intel. Roundup #136, 16 May 1953, sect. II.
30. Mitchell statement, ca. Nov. 1952.
31. FEAF Intel. Roundup #144, Nov. 1953, p. 8.
32. *Ibid.* #137, 30 May 1953, sect. I, p. 5.
33. Hist. 51st Ftr-Intr. Wg., Jan.-June 1953, pp. 3-4.
34. FEAF Intel. Roundup #147, Feb. 1954, pp. 36-38.
35. *Ibid.* #69, 28 Dec. 1951, sect. III.
36. Msg. V-0518-CG, CG FEAF to C/S USAF, 2 Dec. 1951.
37. FEAF Intel. Roundup #69, 28 Dec. 1951, sect. III.
38. Weyland, "The Air Campaign in Korea," p. 22.
39. FEAF Intel. Roundup #69, 28 Dec. 1951, sect. III.
40. *Ibid.* #202, 15 Aug. 1952.
41. FEAF Rpt., II, 2.
42. FAF Wkly. INTSUM #3, 25 Sept. 1953.
43. Maj. Robert B. Greenough, "Communist Lessons from the Korean Air War," in *Air University Quarterly Review*, vol. V, no. 4 (Winter, 1952-53), pp. 22-29.
44. FEAF Intel. Roundup #26, 3 Mar. 1951.
45. FAF Daily INTSUM #276, 6 Feb. 1953.
46. FEAF Intel. Roundup #292, 22 Feb. 1953; FEAF Fourth-Intel. Symposium, 7 Mar. 1953.
47. Greenough, "Communist Lessons from the Korean Air War," p. 29.
48. AHS-72, pp. 18-19; FEC Comd. Rpt., Mar. 1953, p. 17.
49. FAF Reviews, 31 May 1952, 31 Dec. 1952, and 31 July 1953.
50. FEAF Comd. Rpt., Jan. 1953, p. 48.
51. FAF Reviews, 31 Dec. 1952 and 30 June 1953.
52. FAF Prgms. Bk., 9 Aug. 1953, p. 23.



SECRET

53. Mitchell statement, ca. Nov. 1952.
54. Weyland, "The First Jet Air War," p. 73.
55. Ltr., Brig. Gen. Dudley D. Hale, V/CG FAF to CG FEAF, sub: Day Fighter Requirements, 2 Sept. 1952.
56. Hist. Wright Air Development Command [WADC], Jan.-June 1952, II, 178-193; ltr. Lt. Col. J. L. Jones, Depy. Comdr. 4th Ftr.-Intr. Gp. to Comdr. 4th Wg., sub: F-86E Combat Evaluation, 1 Nov. 1951; FEAF Intel. Roundup #85, 18 Apr. 1952; FAF Wkly. INTSUM #4, 2 Oct. 1953.
57. FAF Opns. Anal. Off., Memo #50, sub: A Critique on the F-86E versus the MIG-15 Aircraft in the Korean Theater, 1 Apr. 1952; 4th Ftr.-Intr. Gp., Tactical Doctrine, 29 Sept. 1952.
58. Hist. WADC, Jan.-June 1952, II, 190-193.
59. *Ibid.*, II, 307-309; Hist. 4th Ftr.-Intr. Wg., Aug. 1952, maint. sect., pp. 9-10; Hist. 4th Ftr.-Intr. Wg., July-Dec. 1952, pp. 12-13.
60. 4th Ftr.-Intr. Gp., Operations in MIG Alley, 17 June 1953, pp. 13-14.
61. Hist. 4th Ftr.-Intr. Wg., Jan.-June 1953, p. 18.
62. FAF Daily Journal, D/Mat. entries, 9 May and 3 June 1953; FEAF Comd. Rpt., May 1953, p. 23; Hist. D/Mat. FAF, July 1953, p. 21.
63. FEAF Fourth Intel. Symposium, 7 Mar. 1953.
64. FAF Opns. Anal. Off., Memo #60, sub: Observations on the Spin Characteristics of the MIG-15, 12 Jan. 1953.
65. *Ibid.*, Memo #63, 5 June 1953.
66. FEAF Intel. Roundup #137, 30 May 1953, sect. I, p. 5.
67. FAF Opns. Anal. Off., Memo #63, 5 June 1953.
68. FEAF Intel. Roundup #10, 11 Nov. 1950.
69. *Ibid.* #116, 21 Nov. 1952, sect. IV, pp. 21-22.
70. Hist. 4th Ftr.-Intr. Wg., Jan.-June 1953, pp. 70-71.
71. FAF Opns. Anal. Off., Memo #63, 5 June 1953.
72. FEAF Intel. Roundup #145, Dec. 1953, pp. 27-28.
73. 51st Ftr.-Intr. Gp., Tactical Doctrine, 1952.
74. USAF Stat. Digest, FY 1953, p. 53; FEAF Intel. Roundup #116, 21 Nov. 1952.
75. Hist. 49th Ftr.-Bmr. Gp., June 1952; FEAF Intel. Roundup #101, 8 Aug. 1952; FAF Daily INTSUM #73, 18 July 1952; USAF Stat. Digest, FY 1953, p. 53.
76. FEAF Rpt., II, 8-9.
77. Hist. 4th Ftr.-Intr. Gp., May 1952; supplement to FAF Daily INTSUM #28, 4 June 1952; FAF Daily INTSUM #59, 4 July 1952.
78. Hist. Depy. for Commun. FAF, July-Dec. 1951; Hist. D/Commun. FAF, Feb. 1952.
79. Hists. D/Commun. FAF, Apr. and May 1952; Hists. 502d Tac. Cont. Gp. and 606th AC&W Sq., May 1952.
80. FEAF Intel. Roundup #116, 21 Nov. 1952; Hist. 49th Ftr.-Bmr. Gp., June 1952; FEAF Intel. Roundup #101, 8 Aug. 1952; FAF Daily INTSUM #73, 18 July 1952.
81. Hist. 51st Ftr.-Intr. Gp., June 1952, p. 4.
82. Msg. HNC-1475, CINCUNC (ADV) to CINCUNC, 11 Aug. 1952.
83. FAF Daily INTSUM #100, 10 Aug. 1952; USAF Stat. Digest, FY 1953, p. 53.
84. FAF Daily INTSUMS #129, 12 Sept. and #135, 18 Sept. 1952; USAF Stat. Digest, FY 1953, p. 53.
85. FEAF Comd. Rpt., Oct. 1952, p. 4; FEAF Intel. Roundup #116, 21 Nov. 1952.
86. FAF Daily INTSUM #211, 3 Dec. 1952.
87. FEAF Comd. Rpt., Oct. 1952, p. 4.
88. Hist. FAF, Jan.-June 1953, p. 324; memo for Gen. Smart from D/Opns. & Tng. FEAF, 24 Nov. 1952; msg. VCG-10984, CG FAF to CG FEAF, 23 Nov. 1952.
89. Hist. D/Opns. FAF, Nov. 1952, p. 3; Hist. FAF, Jan.-June 1953, pp. 336-337.
90. FAF Daily INTSUM #292, 22 Feb. 1953.
91. Hist. 51st Ftr.-Intr. Wg., Jan.-June 1953, pp. 3-4; FAF Daily INTSUM #276, 6 Feb. 1952.
92. 4th Ftr.-Intr. Gp., Opns. in MIG Alley, 28 Dec. 1952, p. 17.
93. Hist. 51st Ftr.-Intr. Wg., Jan.-June 1953, p. 6.
94. FEAF Rpt., II, 9.
95. Hist. FAF, Jan.-June 1953, pp. 330-331.
96. *Ibid.*, pp. 331-340; Hist. D/Intel. FAF, Apr. 1953, pp. 20-24.
97. Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 59-60.
98. Hist. D/Opns. FAF, May 1953, p. 1; FAF Review, May 1953, p. 33; FEAF Intel. Roundup #137, 30 May 1953, sect. I, pp. 2-3; D/Intel. FAF, Estimate of Enemy Capabilities, 15 May 1953 and 31 May 1953.
99. Hist. D/Opns. FAF, June 1953, p. 1; D/Intel. FAF, Estimate of Enemy Capabilities, 15 June 1953 and 30 June 1953; FEAF Intel. Roundup #140, 11 July 1953, sect. I, p. 3; Hist. 4th Ftr.-Intr. Wg., Jan.-June 1953, p. 61.
100. FAF INTSUM, 5 Aug. 1953, p. 10; FEAF Intel. Roundup #143, Oct. 1953, pp. 27-28.
101. FEAF Rpt., II, 5.
102. Hist. FAF, July-Dec. 1952, foreword.
103. FEAF Rpt., II, 16.
104. Mitchell statement, ca. Nov. 1952.
105. Hist. FAF, Jan.-June 1953, foreword.
106. 4th Ftr.-Intr. Gp., Opns. in MIG Alley, 17 June 1953.
107. Depy. for Comptroller FEAF, Comparison of Selected Data on Pilots who had Destroyed MIG's and those who have no Destruction Records, ca. Mar. 1953.
108. 4th Ftr.-Intr. Gp., Opns. in MIG Alley, 15 Jan. 1952.
109. Memo for D/Tng. DC/S Pers. USAF from Brig. Gen. John K. Gerhart, Depy. D/Opns. DC/S Opns. USAF, sub: F-86 Replacement Crews for FEAF, 26 Dec. 1951.
110. 4th Ftr.-Intr. Gp., Opns. in MIG Alley, 15 Jan. 1952.
111. Hist. 4th Ftr.-Intr. Wg., 335th Ftr.-Intr. Sq. Sect. Mar. 1952, p. 3.
112. Hist. 4th Ftr.-Intr. Wg., June 1952.
113. Hist. 4th Ftr.-Intr. Wg., July-Dec. 1952, pp. 10-11, 59, 61-62.
114. FEAF Rpt., II, 7-8.
115. 4th Ftr.-Intr. Gp., Tactical Doctrine, 29 Sept. 1952.
116. Hist. FAF, Jan.-June 1953, p. 334.
117. Hist. FAF, Jan.-June 1952, appen. #1; Hist. FAF, July-Dec. 1952, appen. #3; Hists. 4th, 51st, and 18th Wgs., Jan.-June 1953.
118. FEC Comd. Rpt., Apr. 1953, pp. 7-8.
119. Clark, *From the Danube to the Yalu*, pp. 205-06.



120. Don Murray, "How to Knock the Reds off Balance," in *Saturday Evening Post*, 8 May 1954, p. 36.
121. FEC Comd. Rpt., Apr. 1953, pp. 7-8.
122. FAF Opns. Plan 119-53, 21 Apr. 1953.
123. Clark, *From the Danube to the Yalu*, p. 207.
124. AFCE Comd. Rpt., May 1953, pp. 23-24.
125. Murray, "How to Knock the Reds Off Balance," p. 36.
126. Clark, *From the Danube to the Yalu*, p. 208.
127. FAF Daily INTSUMS #356-#371, 27 Apr.-12 May 1953.
128. AFCE Comd. Rpt., May 1953, pp. 23-24.
129. FEAF Intel. Roundup #144, Nov. 1953, p. 7; Clark, *From the Danube to the Yalu*, p. 207.
130. 1st ind., Capt. W. J. Clover, Asst. AG FEAF, to CG FEC (ltr., Hq. FEC, subj: Psychological Warfare, Operations Department of the Army Request for Information Regarding, dtd. 7 Oct. 1953), 10 Oct. 1953, in FEAF Comd. Rpt., Nov. 1953, vol. II.
131. FEAF Intel. Roundups #136, 16 May 1953, sect. II and #147, Feb. 1954, pp. 36-38; FAF INTSUM, 20 Nov. 1952, p. 47.
132. AHS-72, pp. 118-19.
133. Hist. WDAC, July-Dec. 1952, II, 529-30; Hist. D/Opns. FAF, Jan. 1953, p. 15.
134. Ltr., Maj. Raymond E. Evans, GUN-VAL Proj. Off., 4th Ftr.-Intr. Wg., to CG AFGC, sub: Progress Report-Project GUN-VAL, 31 Jan. 1953.
135. Hist. WDAC, Jan.-June 1953, II, 307-19.
136. *Ibid.*, pp. 318-19; Hist. 4th Ftr.-Intr. Wg., Jan.-June 1953, p. 57.
137. Hist. AMC, Jan.-June 1952, I, 202-07.
138. USAF, Air Force Logistic Lessons Resulting from Conflict in Korea as Prepared by FEAF, pp. 10-11.
139. AHS-72, pp. 118-19.
140. FAF Opns. Anal. Off., Memo: Operational Survey of Type A-1CM Sighting System as Used by 49th and 136th Fighter-Bomber Wings (F-84 Aircraft) in the Korean Theater, 24 Feb. 1952.
141. FAF Staff Mtg. Sum., 12 Feb. 1952.
142. Hist. 49th Ftr.-Bmr. Gp., June 1952; Hist. 4th Ftr.-Intr. Wg., July-Dec. 1953, pp. 53-54.
143. Hist. AMC, Jan.-June 1952, I, 202-07.
144. Hist. 4th Ftr.-Intr. Wg., July-Dec. 1952, p. 35.
145. USAF, Air Force Logistic Lessons Resulting from Conflict in Korea as Prepared by FEAF, pp. 10-11.
146. Hist. 51st Ftr.-Intr. Wg., Jan.-June 1953, pp. 28-29.
147. Hist. D/Opns. FAF, Nov. 1952, p. 5.
148. Hist. 51st Ftr.-Intr. Wg., Jan.-June 1953, pp. 28-29; Acft. Maint. Study in Hist. AMC, Jan.-June 1953, vol. III, Appen. G; FEAF Comd. Rpt., Feb. 1953, p. 41.
149. Hist. D/Materiel FAF, Aug. 1953, p. 7; Hist. 58th Ftr.-Bmr. Wg., July-Dec. 1953, p. 3.
150. Hist. WADC, Jan.-June 1953, II, 307-19.
151. FEAF Rpt., II, 11.
152. Acft. Maint. Study in Hist. AMC, Jan.-June 1953, vol. III, Appen. G.
153. Rpt., FAF Eval. of F-86F as a Fighter-Bomber, 16 Aug. 1953.
154. AHS-72, p. 120; FEAF Rpt., II, 11-12.
155. 4th Ftr.-Intr. Gp., Opns. in MIG Alley, 15 Jan. 1952, sect. VII.
156. Ltrs., Col. John C. Meyer, Larson AFB, Wash., to Lt. Gen. E. E. Partridge, 26 Dec. 1951; Brig. Gen. A. R. Maxwell, Actg. Depy. for Devel. ARDC, to CG WADC, sub: F-86 Aircraft, 11 Jan. 1952.
157. Hist. WADC, Jan.-June 1952, II, 178-93.
158. Hists. 4th Ftr.-Intr. Wg., Oct. and Dec. 1952.
159. Hists. WADC, Jan.-June 1952, II, 178-93 and July-Dec. 1952, II, 422-39 and Jan.-June 1953, II, 307-19; FAF Daily Journals, D/Materiel entry, 31 May 1953 and D/Opns. entry, 22 July 1953.
160. Hist. D/Opns. FAF, Aug. 1952, incl. #11.
161. Hists. WADC, Jan.-June 1952, II, 178-93 and July-Dec. 1952, II, 422-39; Hist. 4th Ftr.-Intr. Wg., July-Dec. 1952, pp. 12-13; Hist. D/Opns. FAF, Nov. 1952, p. 5; FAF INTSUM, 5 Dec. 1952, pp. 43-54; ltr., CWO Alfred Goldfarb, Asst. AG FEAF to D/Opns. USAF, sub: F-86 In-Flight Thrust Augmentation, 3 Jan. 1953.
162. Ltr., Lt. C. B. Thomas Jr., Asst. AG FAF to CG FEAF, sub: Modification of F-86 Aircraft, 26 Apr. 1952.
163. Hist. WADC, Jan.-June 1952, II, 178-93.
164. *Ibid.*, July-Dec. 1952, II, 422-39; Hist. AMC, July-Dec. 1952, I, 543-44; Hist. D/Opns. FAF, Sept. 1952.
165. Hist. WADC, Jan.-June 1953, II, 309; ltr., Maj. R. E. Grote, Adj. 51st Ftr.-Intr. Wg. to CG FAF, sub: Report on Modified Aircraft, 28 Aug. 1952; Hist. 4th Ftr.-Intr. Wg., Jan.-June 1953, p. 40; Hist. D/Materiel FAF, Apr. 1953, pp. 22-23.
166. Hist. WADC, July-Dec. 1952, II, 422-39; Ltr., Col. J. K. Johnson, Comdg. 4th Ftr.-Intr. Wg. to CG FAF, sub: Altitude Thrust Loss, 27 Mar. 1953.
167. Msg. AX-4748-D/O RQMT, CG FEAF to C/S USAF and CG ARDC, 21 Apr. 1953.
168. FAF Monthly Analyses, May and June 1953.
169. Hist. FAF, Jan.-June 1953, foreword.
170. AHS-72, pp. 110-11.
171. FEAF BCM History during the Korean Conflict, 3 May 1954, p. 5.
172. R&R, FEAF Intel. Eval. to FEAF Intel. Rqmts., sub: Enemy Night Fighter Capabilities, 12 Jan. 1953.
173. 3d Bomb. Gp., Tactical Doctrine, Dec. 1952; FAF Reviews, May 1953, p. 14 and July 1953, p. 12.
174. FAF Daily INTSUM #291, 21 Feb. 1953; Staff Study, Col. D. P. Word, Depy. for Opns. FEAF BC, sub: To determine the most effective means of penetrating enemy defenses . . . , n. d., in Hist. FEAF BC, July-Dec. 1952, II, doc. #31; ltr., Brig. Gen. W. D. Ganey, CG FEAF BC to CG FEAF, sub: Searchlight Suppression for Bomber Command Aircraft, ca. Aug. 1952, in Hist. FEAF BC, Jan.-July 1953, II, doc. H.
175. Hist. FEAF BC, Jan.-June 1952, pp. 52-53, 74-76; FEAF BC Msn. Sum. Sheet, 19th Bomb. Gp., 10 June 1952; Hist. 19th Bomb. Gp., June 1952.
176. Narrative Mission Rpt. #905, FEAF BC, 12 Sept. 1952; Hist. 98th Bomb. Wg., Nov. 1952; FAF Daily INTSUM #201, 23 Nov. 1952.
177. Hist. FEAF BC, July-Dec. 1952, I, 63-64.



178. *Ibid.*, 65; Hist. 19th Bomb. Gp., Dec. 1952; FAF Daily INTSUM #246, 7 Jan. 1953.
179. Hist. FEAF BC, Jan.-July 1953, I, 28-30; Hist. 307th Bomb. Wg., Jan. 1953.
180. Hist. FEAF BC, Jan.-July 1953, I, 30-32; Hists. 28th Bomb. Sq. and 307th Bomb. Wg., Jan. 1953.
181. Hist. 98th Bomb. Wg., Feb. 1953, appen. B; FAF Daily INTSUM #291, 21 Feb. 1953.
182. Ltrs., Brig. Gen. W. P. Fisher, CG FEAF BC to Maj. Gen. Emmett O'Donnell, Jr., CG Fifteenth AF, 13 Jan. 1953, and Fisher to Montgomery, 30 Jan. 1953.
183. Hist. FEAF BC, Jan.-July 1953, I, 35.
184. *Ibid.*, July-Dec. 1952, I, 13-14.
185. Ltr., Ganey to CG FEAF, sub: Searchlight Suppression for Bomber Command Aircraft, ca. Aug. 1952.
186. Hist. FEAF BC, July-Dec. 1952, I, 41.
187. *Ibid.*, I, 52-55.
188. Ltr., Fisher to LeMay, 6 Mar. 1953; Hist. 98th Bomb. Wg., Feb. 1953.
189. Msg. AX-6468-D/O, CG FEAF TO CG FAF, 1 July 1952; Daily diary, Combat Opns. Div. FEAF, 28 June 1952.
190. Daily diary, Combat Opns. Div. FEAF, 9 July 1952.
191. *Ibid.*, 10 July 1952 and 9 Sept. 1952.
192. *Ibid.*, 2 Aug. 1952.
193. Rpt. on Searchlight Suppression Efficiency in Sui-ho Attack of 12 Sept. 1952, in FEAF ECM Hist., annex #22; Hist. 307th Bomb. Wg., Sept. 1952; Narrative Msn. Rpt. #905, FEAF BC, 12 Sept. 1952.
194. Narrative Msn. Rpt. #924, FEAF BC, 30 Sept. 1952; FEAF Daily Combat Opns. Rpt., 2 Oct. 1952; Hist. FEAF BC, July-Dec. 1952, I, 25-27.
195. Memo for Gen. Smart from D/Opns. & Tng. FEAF, sub: Summary of Activities, 20 Oct. 1952; Hist. D/Opns. FAF, Sept. 1952, p. 3.
196. Daily diary, D/Opns. & Tng. FEAF, 31 Oct. 1952; comments on manuscript by Col. E. H. LeBailey, former Comdr., 3d Bomb. Wg., 19 Nov. 1956.
197. Daily journals FAF, D/Opns. entries, 9/10 Jan. and 14/15 Jan. 1952; FAF Staff Mtg. Sum., 26 Feb. 1952; Hist. D/Opns. FAF, June 1952, p. 7.
198. Daily diary, Comb. Opns. Div. FEAF, 8 July 1952; Hist. D/Opns. FAF, Sept. 1952, p. 3; Hist. FEAF BC, July-Dec. 1952, I, 22.
199. Killen staff study in Hist. FEAF BC, July-Dec. 1952, II, doc. 37.
200. Ltr., Col. Edgar S. Davis, Depy. Comdr. 98th Bomb. Wg. to CG FEAF BC, sub: Report of "No-Glo" Project, 1 Oct. 1952; Daily diary, D/Opns. & Tng. FEAF, 31 Oct. 1952.
201. COMNAVFE Comd. and Hist. Rpt., Jan.-Feb. 1953, sect. I, p. 38.
202. Daily diary, Comb. Opns. Div. FEAF, 14 Nov. 1952; FAF INTSUM, 20 Dec. 1952; memo for G-2 FEC from Brig. Gen. C. Y. Banfill, Depy. for Intel. FEAF, sub: Enemy Air Activity, 9 Nov. 1952.
203. Hist. D/Opns. FAF, Nov. 1952, p. 11.
204. Hist. 319th Ftr.-Intr. Sq., Jan.-June 1953.
205. COMNAVFE Comd. and Hist. Rpt., Jan.-Feb. 1953, sect. I, pp. 38-39.
206. FAF Daily journal, D/Opns. entry, 3 July 1953; Hist. D/Materiel FAF, July 1953, p. 30.
207. FAF Opns. Prgm. Bk., Feb. 1953, p. 26; Hist. D/Opns. FAF, Jan. 1953, p. 17.
208. FEAF BC, Opns. and Intel. Sum., Jan. 1953.
209. Hist. 319th Ftr.-Intr. Sq., Jan.-June 1953.
210. *Ibid.*; Hist. FEAF BC, Jan.-July 1953, I, 35-36.
211. Hist. 319th Ftr.-Intr. Sq., Jan.-June 1953.
212. Hist. FEAF BC, Jan.-July 1953, I, 36-37.
213. *Ibid.*, July-Dec. 1952, I, 34, 44.
214. Hists. 98th and 307th Bomb. Wgs., Jan. and Feb. 1953.
215. FEAF Rpt., II, 61.
216. FEAF ECM Hist., pp. 1-9.
217. *Ibid.*, pp. 8-9; Hist. FEAF BC, Jan.-July 1953, I, 40-42.
218. FEAF ECM Hist., pp. 16-18.
219. Hist. FEAF BC, Jan.-July 1953, I, 40-42; FEAF ECM Hist., pp. 12-16.
220. FEAF BC, Rpt. on the Effectiveness of ECM Against Radar Controlled Searchlights in North Korea from 1 January 1953 thru 27 July 1953.
221. FEAF ECM Hist., pp. 23-24.
222. Hist. FEAF BC, July-Dec. 1952, I, 55, 118-119; ltr., Col. Charles B. Westover, Comdg. 98th Bomb. Wg. to CG FEAF BC, sub: Searchlight Test, 1 Dec. 1952; msg. BC-12161-DMM, CG FEAF BC to COM 98th Bomb. Wg. *et al.*, 1 Dec. 1952.
223. Hist. FEAF BC, July-Dec. 1952, I, 117-18.
224. *Ibid.*, Jan.-July 1953, I, 61.
225. *Ibid.*, July-Dec. 1952, I, 101-02; ltr., Fisher to Montgomery, 17 Nov. 1952.
226. FEAF Rpt., II, 61-62; Hist. 98th Bomb. Wg., Feb. 1953; ltr., Westover to CG FEAF BC, sub: Test of Night Visual Bombing Techniques and Defense Measures, 26 Feb. 1953.
227. Hist. FEAF BC, Jan.-July 1953, I, 60; Hist. WADC, Jan.-June 1953, II, 403-04.
228. Ltr., Fisher to Montgomery, 30 Jan. 1953.
229. Hist. D/Opns. FAF, Feb. 1952; *see also* AHS-72, pp. 132-37.
230. Hist. 502d Tac. Cont. Gp., June 1952; Hist. FAF, July-Dec. 1952, II, appen. #121.
231. Hist. D/Commun. FAF, Sept. 1952, pp. 11-12.
232. *Ibid.*, Feb. through Oct. 1952.
233. Hist. FAF, July-Dec. 1952, I, 114-15.
234. Msg. AX-8562-OP-COMM-E, CG FEAF to C/S USAF, 9 Sept. 1952.
235. Hists. D/Commun. FAF, Aug.-Nov. 1952.
236. Hist. 502d Tac. Cont. Gp., July-Dec. 1952, pp. 2-3, 7-14.
237. Hist. D/Commun. FAF, Aug. 1952, pp. 13-14; Hist. FAF, July-Dec. 1952, I, 111-12; FEAF Comd. Rpt., Jan. 1953, I, 21; Hist. 502d Tac. Cont. Gp., July-Dec. 1952, p. 40.
238. Hist. D/Opns. FAF, Aug. 1952, p. 10.
239. Hist. FAF, July-Dec. 1952, I, 114-15; FAF INTSUM, 20 Nov. 1952, pp. 63-64.
240. Hist. 502d Tac. Cont. Gp., July-Dec. 1953, pp. 59, 66.
241. FEC Comd. Rpt., Feb. 1953, pp. 3-5; Daily diary, D/Opns. & Tng. FEAF, 28 Nov. 1952.



- ~~SECRET~~
242. D/Hist. Serv. Air Defense Comd., Hist. Study No. 4: Army Antiaircraft in Air Defense, 1946-1954, pp. 1-33.
  243. Ltr., Col. W. B. Riley, AG FAF to CG FEAF, sub: Operational Control of Non-Divisional Antiaircraft Artillery, 5 Oct. 1952.
  244. Ltr., Col. George R. Carey, Comdg. 10th AAA Gp., to CG Eighth Army, sub: Air Defense of Korea, 7 Aug. 1952.
  245. Ltr., Riley to CG FEAF, sub: Operational Control of Non-Divisional Antiaircraft Artillery, 5 Oct. 1952.
  246. Msg. AX-1672-D/O, CG FEAF to CG FAF, 22 Jan. 1953; ltr., Col. D. R. LeMaster, AG FEAF to CG FAF, sub: Employment of AAA for Ground Defense, 14 Jan. 1953.
  247. Hist. D/Opns. FAF, Jan. 1953, p. 19.
  248. Ltr., Maj. Gen. Paul D. Adams, C/S EUSAK to CO 10th AAA Gp., sub: Letter of Instructions, 2 Feb. 1953.
  249. Disp. Form, Col. E. F. Carey, Jr., C/Plans & Rqmts. Div. FAF to C/Opns. FAF, sub: Propose LOI EUSAK to CO 10th AAA Group, 16 Jan. 1953.
  250. *Ibid.*
  251. AHS-72, p. 136.
  252. Ltr., Col. R. C. Lewis, AG FAF to CG Eighth Army, sub: Air Defense Conference, 1 July 1952.
  253. Ltr., CG FAF to CG FEAF, sub: M-55 Quad Mount Requirements, 16 Sept. 1952.
  254. Ltr., Lt. Col. C. S. Mangan, Asst AG FAF to CG FEAF, sub: AAA Deployment, 19 Oct. 1952; Hist. D/Opns. FAF, Jan. 1953, p. 19.
  255. Ltr., Col. G. R. Carey to CG FAF, sub: AAA Defense of Cho-do Island, 6 Dec. 1952; msg. OPP-P-11427, CG FAF to CG EUSAK, 8 Dec. 1952; Hist. FAF, July-Dec. 1952, I, 121.
  256. Ltr., CG FAF to CG FEAF, sub: M-55 Quad Mount Requirements, 19 Sept. 1952.
  257. Ltr., Col. W. B. Riley, Jr., AG FAF to CG FEAF, sub: Antiaircraft Weapons Location Report, 26 Dec. 1952.
  258. D/Hist. Serv. ADC, Hist. Study No. 4, p. 63.
  259. FEC Comd. Rpt., Feb. 1953, pp. 3-5.
  260. Ltr., FAF to CG FEAF, sub: AAA Weapons Requirements, 12 May 1953; ltr., Capt. R. B. Randle, Asst. AG FEAF to CG FAF, sub: AAA Weapons Requirement, 21 May 1953.
  261. FAF INTSUM, 20 Nov. 1952, p. 55.
  262. Msg. OPP-11142, CG FAF to Comdr. 17th Bomb. Wg., 28 Nov. 1952.
  263. Ltr., Barcus to Comdrs. 4th and 51st Ftr.-Intr. Wgs., sub: Increased Intercept Capability (Project "Door-stop"), 23 Jan. 1953; FAF Opns. Plan No. 116-53, 12 Apr. 1953; Hist. FAF, Jan.-June 1953, I, 365-66.
  264. Hist. FAF, Jan.-June 1953, I, 362.
  265. Ltr., Barcus to Wg. Comdrs., sub: Air Defense, 5 Jan. 1953.
  266. Hist. FAF, Jan.-June 1953, I, 366-67.
  267. Rpt., Col. E. F. Carey, Jr., sub: Rpt. of Base Defense Conference, 23 Aug. 1952.
  268. Hist. FAF, Jan.-June 1953, I, 207-08.
  269. FAF Reg. #355-7, sub: Air Defense Geographical Subdivisions, 20 June 1953, and FAF Reg. #355-8, Responsibilities for Air Defense, 15 Feb. 1953.
  270. AHS-72, pp. 132-35; FEAF Rpt., II, 100.
  271. Hist. 502d Tac. Cont. Gp., July-Dec. 1952, p. 42; FEAF Intel. Roundup #111, 17 Oct. 1952, sect. II, pp. 9-10.
  272. FAF Daily INTSUM #196, 18 Nov. 1952.
  273. Hist. D/Opns. FAF, Dec. 1952, p. 17.
  274. Hist. 502d Tac. Cont. Gp., Jan.-June 1953, pp. 37, 44; FAF Daily INTSUM #345, 16 Apr. 1953.
  275. FAF Daily INTSUM #353, 24 Apr. 1953.
  276. *Ibid.*
  277. *Ibid.* #352, 23 Apr. 1953; Hist. 67th Tac. Recon. Wg., Jan.-June 1953, p. 54.
  278. FAF Daily INTSUM #386, 27 May 1953.
  279. *Ibid.* #399, 9 June 1953; COMNAVFE Comd. and Hist. Rpt., May-June 1953, sect. I, pp. 49-50; FEAF Intel. Roundup #139, 27 June 1953, sect. I, pp. 1-2.
  280. Hist. D/Opns. FAF, Dec. 1952, p. 17; FAF Daily INTSUM #366, 7 May 1953.
  281. Hists. D/Commun. FAF, Feb. 1953, p. 12 and Apr. 1953, p. 10.
  282. Hist. FAF D/Opns., Dec. 1952, p. 17.
  283. FAF Daily Journal, D/Opns. entry, 9/10 Jan. 1953; FAF Opns. Prgm. Bk., Jan. 1953, p. 24.
  284. COMNAVFE Comd. & Hist. Rpt., Dec. 1952, sect. I, p. 26; Hist. 319th Ftr.-Intr. Sq., Jan.-June 1953; FAF Daily INTSUM #363, 4 May 1953.
  285. Disp. Form, Col. H. D. Sutterlin, C/Plans & Rqmts. Div. FAF to D/Opns. FAF, sub: Air Defense Procedures, Current and Proposed, 9 June 1952; FAF Daily Journal, D/Opns. entry, 27/28 June 1953; FEAF Rpt., II, 101-02.
  286. FAF Daily Journal, D/Opns. entry, 24/25 Apr. 1953; FAF Opns. Prgm. Bk., May 1953, pp. 27-28; Hist. D/Opns. FAF, Apr. 1953, pp. 24-25.
  287. FEAF Rpt., II, 101-02; FAF Daily INTSUM #407, 17 June 1953; Hist. D/Opns. FAF, June 1953, p. 21.
  288. FAF Daily Journals, D/Opns. entries, 27/28 June, 2 July, and 16 July 1953; COMNAVFE Comd. and Hist. Rpt., May-June 1953, sect. I, p. 50 and July 1953, sect. I, pp. 3-4.
  289. D/Intel. FAF, Estimate of Enemy Capabilities, 15 July 1953.
  290. FAF INTSUM, 20 July 1953, p. 3.
  291. FEAF Rpt., II, 102.

*Chapter IV*

1. Msg. HNC-1509, CINCUNC (ADV) to CINCUNC, 12 Sept. 1952.
2. Msg. DA-374322, DEPTAR to CINCUNC, 12 Nov. 1952.
3. Msg. CX-68135, CINCFE to JCS, 8 May 1952; Dept. of State *Bulletin*, 25 Aug. 1952, p. 328.
4. *Facts on File*, vol. XII (1952), p. 357.
5. Msg. HNC-1731, CINCUNC (ADV) to CINCUNC, 8 June 1953.
6. Msg. C-54277, CINCFE to JCS, 27 Aug. 1952.
7. Minutes, FEAF Formal Tgt. Com. Mtg., 7 Apr. 1953.



8. Memo for Depy. for Opns. FEAF from Banfill, sub: Utilization of Air Power in Korea, 29 Aug. 1952.
9. Introductory Remarks for FEAF Target Conference, 1 Mar. 1954, in Hist. Depy. for Intel. FEAF, Jan.-June 1954.
10. Daily diary, Cmbt. Opns. Div. FEAF, 10 July 1952; msg. AX-6798-D/O, CG FEAF to CG FAF and CG FEAF BC, 11 July 1952.
11. FEAF Comd. Rpt., July 1952, p. 24; Hist. FEAF, July-Dec. 1952, I, 115-18; D/Intel. FAF, Tactical Air Intelligence Activities in Korea, 11 Nov. 1952, vols. I and IV.
12. Minutes, FEAF Formal Tgt. Com. Mtg., 4 Nov. 1952.
13. Ltr., CG FEAF to CG FEAF BC, sub: Multiplex Coordinate Determination, 27 Jan. 1953.
14. Hist. FEAF BC, July-Dec. 1952, I, 90-91.
15. Depy. for Intel. FEAF, Selection of Air Targets at Proper Command Level, in FEAF Comd. Rpt., Nov. 1953, vol. II.
16. Hists. FEAF BC, July-Dec. 1952, I, 90-91 and Jan.-July 1953, I, 14-20.
17. Depy. for Intel. FEAF, Selection of Air Targets at Proper Command Level, in FEAF Comd. Rpt., Nov. 1953, vol. II.
18. Ltr., CWO Alfred Goldfarb, Asst. AG FEAF to CG FAF, sub: Precise Location of Shoran Targets, 5 June 1952.
19. Hist. 98th Bomb. Wg., Sept. 1952, p. 9; FEAF Comd. Rpt., Aug. 1952, pp. 22-23.
20. Hist. FEAF, July-Dec. 1952, I, 102-03.
21. Ltr., CG FEAF to CG FEAF BC, sub: Multiplex Coordinate Determination, 27 Jan. 1953.
22. Ltr., Capt. R. B. Randle, Asst. AG FEAF to CG FAF, sub: Multiplex Coordinate Determination, 14 May 1953.
23. See minutes, FEAF Formal Tgt. Com. Mtgs., 22 July 1952 through 22 July 1953.
24. Ltr., Col. Don Z. Zimmerman, Depy. for Intel. FEAF, to Brig. Gen. C. Y. Banfill, Actg. D/Intel. USAF, 23 Mar. 1953, in Hist. FEAF, Jan.-June 1953, chap. II, doc. 18.
25. Msg. C-51615, CINCFE to JCS, 9 July 1952.
26. FEC Comd. Rpt., July 1952, pp. 5-7.
27. FEC INTSUM #3633, 20 Aug. 1952.
28. FEC Comd. Rpt., Aug. 1952, p. 7, citing Telegram #516, U. S. Secy of State to AmEmbassy, Tokyo, 21 Aug. 1952.
29. Minutes, FEAF Formal Tgt. Com. Mtg., 21 Aug. 1952.
30. Msg. C-54338, CINCFE to JCS, 28 Aug. 1952; FEC Comd. Rpt., Sept. 1952, p. 25.
31. FEC INTSUM #3661, 17 Sept. 1952.
32. Msg. JCS-919368 to CINCFE, 25 Sept. 1952.
33. Msg. CX-56022, CINCUNC to JCS, 29 Sept. 1952.
34. Msg. JCS-919368 to CINCFE, 25 Sept. 1952.
35. Minutes, FEAF Formal Tgt. Com. Mtg., 13 May 1952.
36. FEC Comd. Rpt., July 1952, pp. 3-4.
37. Ltr., Brig. Gen. Jacob E. Smart, Depy. for Opns. FEAF, to CG FAF, sub: Targets in Pyongyang, n. d., in Hist. FEAF, July-Dec. 1952, II, doc. 1, chap. 2; FAF INTSUM, 21 July 1952; FEAF Comd. Rpt., July 1952, pp. 1-2; COMNAVFE Comd. and Hist. Rpt., July 1952, sect. I, pp. 22-23; FAF Daily INTSUM #107, 21 Aug. 1952; minutes, FEAF Tgt. Com. Mtg., 12 Aug. 1952.
38. FAF INTSUM, 20 Aug. 1952.
39. Minutes, FEAF Formal Tgt. Com. Mtg., 21 Aug. 1952; FAF INTSUM, 31 Aug. 1952; FAF Opns. Plan 85-52, 26 Aug. 1952; Hist. D/Opns. FAF, Aug. 1952, pp. 1-2; Hist. D/Intel. FAF, Aug. 1952, pp. 14-15.
40. Hist. D/Intel. FAF, July 1952, pp. 1-3.
41. FEC Comd. Rpt., Sept. 1952, pp. 29-31.
42. Minutes, FEAF Formal Tgt. Com. Mtg., 11 Sept. 1952.
43. Hist. D/Opns. FAF, July 1952, p. 2; FAF Opns. Plan 72-52, 31 July 1952.
44. Hist. D/Opns. FAF, July 1952, p. 2.
45. Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9.
46. Minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1952.
47. Daily diary, Cmbt. Opns. Div. FEAF, 26 July 1952.
48. FAF INTSUM, 31 July 1952, pp. 74-76.
49. Msg., CG FAF to CG FEAF, 25 Oct. 1952, in Hist. D/Opns. FAF, Oct. 1952, incl. 36; rpt., Capt. M. J. McCarthy, sub: Fifth Air Force Status of Bombing Accuracy, ca. 4 Nov. 1952, in Hist. FAF, July-Dec. 1952, appen. 5; USAF Rpt. of Night Intruder Conference, 18-20 Nov. 1952, sect. I, pp. 33-38.
50. FAF INTSUM, 7 Aug. 1952; FAF Daily INTSUM #93, 7 Aug. 1953.
51. Minutes, FEAF Formal Tgt. Com. Mtg., 4 Nov. 1952.
52. Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9.
53. FAF INTSUM, 21 July 1952.
54. Msg. BC-9322-DI, CG FEAF BC to CG FEAF, 21 July 1952; FEAF Comd. Rpt., July 1952, p. 3; COMNAVFE Comd. and Hist. Rpt., July 1952, sect. I, pp. 6-8.
55. FEAF Hist., July-Dec. 1952, I, 45-46; minutes, FEAF Formal Tgt. Com. Mtg., 12 Aug. 1952 and 2 Sept. 1952.
56. FAF INTSUM, 21 July 1952.
57. Msg. AX-7157, CG FEAF to CG FEAF BC, 19 July 1952; FEAF Comd. Rpt., July 1952, p. 3; ltr., Weyland to CG FEAF BC, sub: Commendation, 9 Aug. 1952.
58. COMNAVFE Comd. and Hist. Rpt., July 1952, sect. I, pp. 8-9.
59. *Ibid.*, Aug.-Sept. 1952, sect. I, pp. 10-13.
60. Msg. C-54180, CINCFE to JCS, 25 Aug. 1952; msg. JCS-916925 to CINCFE, 26 Aug. 1952.
61. Hist. FEAF BC, July-Dec. 1952, pp. 15-16.
62. Minutes, FEAF Formal Tgt. Com. Mtgs., 23 July and 28 July 1952.
63. *Ibid.*, 22 Aug. 1952.
64. Hist. FEAF BC, July-Dec. 1952, pp. 23-25.
65. Minutes, FEAF Formal Tgt. Com. Mtg., 30 Sept. 1952.
66. FEAF Comd. Rpt., Oct. 1952, pp. 14-15.
67. Hist. FEAF BC, July-Dec. 1952, p. 17.
68. Principles for the Selection of Targets for Air Attack in Korea, 29 Aug. 1953, appen. B, p. 14.
69. Hist. D/Opns. FAF, Sept. 1952, pp. 1-2.
70. FEC Comd. Rpt., July 1952, p. 5; minutes, FEAF Formal Tgt. Com. Mtg., 9 Sept. 1952.
71. Hist. FEAF BC, July-Dec. 1952, pp. 25-26.



- ~~SECRET~~
72. Ltr., Brig. Gen. W. P. Fisher, CG FEAF BC to Maj. Gen. Emmett O'Donnell, Jr., CG Fifteenth AF, 11 Apr. 1952, in Hist. FEAF BC, Jan.-July 1953, doc. JJ.
  73. Hist. FAF, July-Dec. 1952, pp. 22-26.
  74. Minutes, FEAF Formal Tgt. Com. Mtgs., 21 Aug., 9 Sept., and 24 Sept. 1952.
  75. Hist. D/Opns. FAF, Sept. 1952, pp. 1-2.
  76. Hist. FAF, July-Dec. 1952, p. 34; COMNAVFE Comd. and Hist. Rpt., Aug.-Sept. 1952, sect. I, pp. 10-13.
  77. Minutes, FEAF Tgt. Com. Mtg., 3 July 1952.
  78. Memo for Depy. for Opns. FEAF from Banfill, sub: Utilization of Air Power in Korea, 29 Aug. 1952.
  79. Daily diary, FEAF Combat Opns. Div., 1 Aug. and 13 Aug. 1952; minutes, FEAF Formal Tgt. Com. Mtg., 21 Aug. 1952.
  80. Ltrs., Fisher to O'Donnell, 9 Feb. and 11 Apr. 1953, and Fisher to LeMay, 4 Feb. 1953.
  81. FEAF Comd. Rpt., Sept. 1952, p. 2; Hist. 19th Bomb. Gp., Sept. 1952, pp. 4-5.
  82. Minutes, FEAF Formal Tgt. Com. Mtg., 18 Aug. 1952.
  83. Msg. C-54495, CINCUNC to JGS, 1 Sept. 1952.
  84. FEC Comd. Rpt., Sept. 1952, pp. 29-31.
  85. Memo of Conversation, Adm. W. M. Fechteler, C/Naval Opns., sub: State-Defense Conference on Korean Armistice Negotiation, 17 Sept. 1952.
  86. Memo for U. S. Secy. of Defense from Gen. Omar N. Bradley, Chairman JCS, sub: U. S. Position on Korea in the General Assembly of the United Nations, 22 Oct. 1952.
  87. Msg. DA-374322, DEPTAR to CINCUNC, 12 Nov. 1952.
  88. Msg. DA-375922, DEPTAR to CINCUNC, 19 Nov. 1952; see also Chester Bowles, *Ambassador's Report* (New York: Harper & Brothers, 1954), pp. 242-43.
  89. Msg. DA-382742, DEPTAR to CINCFE, 17 Dec. 1952; Richard P. Stebbins, *The United States in World Affairs*, 1952 (New York: Harper & Brothers, 1953), p. 343.
  90. Msg. DA-924820, DEPTAR to CINCUNC, 27 Nov. 1952.
  91. Stebbins, *The United States in World Affairs*, pp. 337-343.
  92. Msg. DA-382400, DEPTAR to CINCUNC, 16 Dec. 1952.
  93. FEC Comd. Rpt., Oct. 1952, pp. 5-7; Clark, *From the Danube to the Yalu*, pp. 98-99.
  94. COMNAVFE Comd. and Hist. Rpt., Oct.-Nov. 1952, sect. I, pp. 1-16.
  95. Clark, *From the Danube to the Yalu*, p. 99.
  96. FEC, Comd. Rpts., Oct. 1952, pp. 4-17 and Nov. 1952, pp. 6-7.
  97. Hist. 315th Air Div. (ComCar), July-Dec. 1952, I, 106-11.
  98. Hist. FEAF BC, July-Dec. 1952, pp. 43-45.
  99. Hist. FAF, July-Dec. 1952, I, pp. 34-36; Hist. D/Opns. FAF, Oct. 1952, pp. 2-3.
  100. Minutes, FEAF Formal Tgt. Com. Mtg., 2 Dec. 1952.
  101. Hist. D/Opns. FAF, Oct. 1952, pp. 2-3.
  102. Ltr., Smart to CG FAF, sub: Kungang Political School, ca. 29 Sept. 1952, in Hist. FEAF, July-Dec. 1952, II, chap. 2, doc. 2; Hist. FEAF, July-Dec. 1952, p. 37.
  103. Hist. D/Opns. FAF, Nov. 1952, p. 13.
  104. Hist. FAF, July-Dec. 1952, I, 43-44.
  105. Minutes, FEAF Formal Tgt. Com. Mtg., 4 Nov. 1952.
  106. *Ibid.*, 30 Sept. 1952.
  107. Hist. FEAF BC, July-Dec. 1952, pp. 39, 52.
  108. Minutes, FEAF Formal Tgt. Com. Mtgs., 30 Sept. and 16 Dec. 1952.
  109. *Ibid.*, 4 Nov. 1952.
  110. *Ibid.*
  111. Narrative Mission Rpt. 969, FEAF BC, 13 Nov. 1952; minutes, FEAF Formal Tgt. Com. Mtg., 13 Jan. 1953.
  112. Hist. FEAF BC, July-Dec. 1952, p. 50.
  113. *Ibid.*, pp. 52-57.
  114. Narrative Mission Report 999, FEAF BC, 13 Dec. 1952; minutes, FEAF Formal Tgt. Com. Mtg., 30 Dec. 1952.
  115. Hist. FEAF BC, July-Dec. 1952, pp. 59-66.
  116. Msg. DA-380983, DEPTAR to CINCFE, 10 Dec. 1952.
  117. Minutes, FEAF Formal Tgt. Com. Mtg., 21 Aug. 1952.
  118. *Ibid.*, 2 Sept. 1952.
  119. Hist. FAF, July-Dec. 1952, I, 27-29.
  120. Memo for Depy. for Opns. FEAF from Banfill, sub: Utilization of Air Power in Korea, 29 Aug. 1952.
  121. Minutes, FEAF Formal Tgt. Com. Mtg., 2 Sept. 1952.
  122. Memo for Depy. for Intel. FEAF from Smart, sub: Utilization of Air Power in Korea, 16 Sept. 1952.
  123. Minutes, FEAF Formal Tgt. Com. Mtg., 9 Sept. 1952.
  124. FAF Staff Mtg. Sum., 7 June 1952.
  125. USAF, Rpt. of Night Intruder Conference, sect. I, pp. 139-40.
  126. Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9.
  127. FAF Opns. Anal. Off., Memo #52: Interim Report on Current Night Intruder Program, 4 Aug. 1952.
  128. USAF, Rpt. of Night Intruder Conference, sect. I, pp. 7-8.
  129. Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9.
  130. FAF, Opns. Anal. Off., Memo #52, 4 Aug. 1952.
  131. Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9; Hist. D/Opns. FAF, Aug. 1952, p. 2; FAF INTSUM, 30 Sept. 1952.
  132. FAF INTSUM, 20 Oct. 1952; USAF, Rpt. of Night Intruder Conference, sect. I, p. 8; Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 5-9.
  133. Rpt., 1st ARDC TG, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-G-2.
  134. Rpt., Capt. M. J. McCarthy, sub: Fifth Air Force Status of Bombing Accuracy, ca. 4-6 Nov. 1952.
  135. 3d Bomb. Gp., Tactical Doctrine, Dec. 1952; USAF, Rpt. of Night Intruder Conference, sect. I, p. 31.
  136. Minutes, FEAF Formal Tgt. Com. Mtg., 4 Nov. 1952.
  137. Hist. D/Opns. FAF, Oct. 1952, pp. 2-3.
  138. FAF INTSUM, 20 Nov. 1952, p. 17.
  139. USAF, Rpt. of Night Intruder Conference, sect. I, pp. 18-19, 151; minutes, FEAF Formal Tgt. Com. Mtgs., 4 Nov. and 2 Dec. 1952.
  140. Minutes, FEAF Formal Tgt. Com. Mtg., 30 Dec. 1952.
  141. FAF, Opns. Anal. Off., Memo #66: A Report on Fighter-Bombers as Night Intruders, 28 July 1953; ltr., FEAF to D/Requirements USAF, sub: Night Tactical Bombardment Systems in the Far East Air



SECRET

- Forces; 1st ind., FAF to FEAF, 14 Jan. 1953, in Hist. D/Opns. FAF, Jan. 1953, incl. 3.
142. Minutes, FEAF Formal Tgt. Com. Mtgs., 9 Sept., 24 Sept., and 30 Sept. 1952.
143. Hist. D/Intel. FAF, Sept. 1952, pp. 11-12.
144. Minutes, FEAF Formal Tgt. Com. Mtg., 24 Sept. 1952.
145. Hist. D/Intel. FAF, Sept. 1952, pp. 11-12.
146. Daily diary, FEAF Cmbt. Opns. Div., 5 Oct. 1952; minutes, FEAF Formal Tgt. Com. Mtg., 4 Nov. 1952; Narrative Msn. Rpt. 968, FEAF BC, 12 Nov. 1952; Hist. D/Intel. FAF, Nov. 1952, p. 12.
147. Hist. D/Opns. FAF, Oct. 1952, pp. 2, 14.
148. Hist. D/Opns. FAF, Nov. 1952, p. 13; minutes, FEAF Formal Tgt. Com. Mtgs., 4 Nov., 2 Dec. and 16 Dec. 1952.
149. Hist. D/Intel. FAF, Nov. 1952, pp. 2, 12.
150. Hist. D/Intel. FAF, Dec. 1952, p. 14; Hist. D/Opns. FAF, Dec. 1952, pp. 3-4; minutes, FEAF Formal Tgt. Com. Mtg., 16 Dec. 1952.
151. Hist. D/Opns. FAF, Nov. 1952, p. 14.
152. Minutes, FEAF Formal Tgt. Com. Mtgs., 2 Dec. and 30 Dec. 1952.
153. Hist. D/Opns. FAF, Dec. 1952, pp. 4-6; FAF INTSUM, 5 Feb. 1953, pp. 59-60.
154. FEAF Comd. Rpt., Dec. 1952, p. 2; minutes, FEAF Formal Tgt. Com. Mtg., 27 Jan. 1953, incl. 3; FEC Comd. Rpt., Jan. 1953, pp. 28-29.
155. FEC Comd. Rpt., Jan. 1953, pp. 16-17.
156. *Ibid.*, pp. 18-19.
157. Ltr., Barcus to CG FEAF, sub: Air Attack Yong-mi-dong-Sinanju-Anju Complex, 2 Jan. 1953; 1st ind., Smart to CG FEAF BC, 3 Jan. 1953.
158. Minutes, FEAF Formal Tgt. Com. Mtg., 16 Dec. 1952.
159. Rpt. of FAF Opns. Plan 100-53, 9-15 Jan. 1953, in FEAF Comd. Rpt., Jan. 1953, II, chap. 1, doc. 3.
160. Rpt., FEAF Attacks against Lines of Communication in the Chongchon River-Sinanju Area, in FEAF Comd. Rpt., Jan. 1953, II, chap. 1, doc. 4.
161. Memo for Zimmerman from Col. John Tyler, D/Tgts. FEAF, sub: New Railway Construction in North Korea from 15 January to 15 April 1953, ca. 12 May 1953; FEAF Intel. Roundup #135, 2 May 1953, sect. I, p. 13.
162. Msg. AX-1815, CG FEAF to C/S USAF, 27 Jan. 1953; FEC Comd. Rpt., Jan. 1953, pp. 28-29.
163. FAF Review, 30 June 1953, p. 49.
164. Hist. D/Opns. FAF, Jan. 1953, pp. 3-6; FAF, Opns. Anal. Off., Memo #61: An Optimum Tactic and Optimum Weapons for B-26 Night Intruders, 15 Jan. 1953.
165. Hist. 3d Bomb. Wg., Jan.-June 1953, pp. 10-15.
166. FAF Review, 30 June 1953, p. 49.
167. Hist. 3d Bomb. Wg., Jan.-June 1953, pp. 10-15.
168. Hist. 17th Bomb. Wg., Jan.-June 1953, pp. 47-48.
169. FEC Comd. Rpt., Jan. 1953, pp. 28-29.
170. AFFE Comd. Rpt., Feb. 1953, p. 7; FEC Comd. Rpt., Feb. 1953, pp. 7-9.
171. Minutes, FEAF Formal Tgt. Com. Mtgs., 13 Jan. and 27 Jan. 1953.
172. Hist. D/Opns. FAF, Jan. 1953, pp. 1-2; FAF NOTAM 6-10.53, sub: Lucrative Targets, 23 Dec. 1952.
173. FAF Opns. Plan 110-53, 26 Feb. 1953; Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 49-50.
174. AFFE Comd. Rpt., Feb. 1953, p. 7.
175. FEC Comd. Rpt., Feb. 1953, pp. 7-9.
176. *Ibid.*
177. Minutes, FEAF Formal Tgt. Com. Mtg., 10 Mar. 1953.
178. FAF Opns. Plan 113-53, 17 Mar. 1953.
179. FAF INTSUM, 5 Apr. 1953, pp. 15-17.
180. Hist. FEAF BC, Jan.-July 1953, V, 44.
181. Ltr., Fisher to LeMay, 8 Apr. 1953.
182. Minutes, FEAF Formal Tgt. Com. Mtg., 24 Mar. 1953.
183. Hist. D/Opns. FAF, Mar. 1953, p. 3.
184. Minutes, FEAF Formal Tgt. Com. Mtg., 24 Mar. 1953.
185. *Ibid.*
186. FEAF BC, Opns. and Intel. Sum., Apr. 1953.
187. Hist. FAF, Jan.-June 1953, I, 399-400; Hist. 17th Bomb. Wg., Jan.-June 1953, p. 49.
188. Hist. 3d Bomb. Wg., Jan.-June 1952, pp. 10-15.
189. FAF Review, 30 June 1953, p. 49.
190. Hist. FAF, Jan.-June 1953, I, 415.
191. *Ibid.*, 415-16.
192. FAF INTSUM, 20 Feb. 1953, pp. 11-12, 24; FEAF Comd. Rpt., Feb. 1953, I, 1; minutes, FEAF Formal Tgt. Com. Mtg., 24 Feb. 1953.
193. Hist. FAF, Jan.-June 1953, I, 417-19.
194. Ltrs., Fisher to O'Donnell, 9 Feb. and 11 Apr. 1953; ltr., Fisher to LeMay, 4 Feb. 1953.
195. Ltr., Fisher to LeMay, 6 Mar. 1953.
196. FEAF BC, Opns. and Intel. Sum., Mar. 1953.
197. Weyland, "The Air Campaign in Korea," p. 24.
198. FAF Daily INTSUM #321, 23 Mar. 1953.
199. William F. Dean, *General Dean's Story* (New York: The Viking Press, 1954), pp. 272-275.
200. Ltr., Fisher to LeMay, 4 Feb. 1953.
201. Dean, *General Dean's Story*, p. 273.
202. Weyland, "The Air Campaign in Korea," p. 25.
203. Ltr., Fisher to O'Donnell, 11 Apr. 1953.
204. Msg. DA-394547, DEPTAR to CINCFE, 6 Feb. 1953.
205. FEC Comd. Rpt., Feb. 1953, pp. 9-10.
206. FEC Comd. Rpts., Mar. 1953, pp. 10-11 and Apr. 1953, p. 12.
207. Minutes, FEAF Formal Tgt. Com. Mtgs., 7 Apr. and 12 May 1953.
208. FEC Comd. Rpt., June 1953, appen. I, pp. 1-2.
209. *Ibid.*, May 1953, pp. 8-10.
210. *Ibid.*, pp. 3-5.
211. *Ibid.*, June 1953, appen. I, pp. 1-2.
212. Msg. HNC-1731, CINCUNC (ADV) to CINCUNC, 8 June 1953.
213. FEC Comd. Rpt., June 1953, pp. 24-25.
214. *Ibid.*, pp. 29-32.
215. *Ibid.*, pp. 8-10.
216. *Ibid.*, July 1953, pp. 5-6.
217. *Ibid.*, pp. 4-5.
218. Rpt., Depy. for Intel. FEAF, sub: Reservoirs and Irrigation Complexes (Hwanghae and South Pyongan Provinces), in minutes, FEAF Formal Tgt. Com. Mtg., 24 Mar. 1953; staff study, Depy. for Intel. FEAF, sub: Proposed Attacks on the Agricultural Reservoir System on the Haeju Peninsula, in FEAF Comd. Rpt., June 1953, II, chap. 2, doc. 1.

SECRET

323



SECRET

219. Staff study, Depy. for Intel. FEAF, sub: Proposed Attacks on the Agricultural Reservoir System on the Haeju Peninsula.
220. Minutes, FEAF Formal Tgt. Com. Mtg., 24 Mar. 1953.
221. *Ibid.*, 7 Apr. 1953.
222. *Ibid.*
223. Staff study, Depy. for Intel. FEAF, sub: Proposed Attacks on the Agricultural Reservoir System on the Haeju Peninsula.
224. Weyland, "The Air Campaign in Korea," p. 25; ltr., Zimmerman to D/Intel. USAF, sub: Destruction of North Korean Irrigation Dams, 7 July 1953.
225. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953; Hist. 58th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 9-10; FAF INTSUM, 5 June 1953, pp. 39-40.
226. FEC Comd. Rpt., May 1953, p. 3.
227. FAF INTSUM, 5 June 1953, pp. 39-40.
228. Hist. D/Opns. FAF, May 1953, pp. 1-2.
229. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953; FAF INTSUM, 5 June 1953, p. 19; Hist. D/Opns. FAF, May 1953, pp. 1-2.
230. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953; minutes, FEAF Formal Tgt. Com. Mtg., 26 May 1953; FEAF BC, Opns. and Intel. Sum., May 1953.
231. Minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953.
232. Hist. D/Intel. FAF, May 1953, pp. 6-7.
233. FEC Comd. Rpt., June 1953, pp. 5-8.
234. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953; minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953.
235. Depy. for Intel. FEAF, Scarcity of Enemy Reaction Studies, in FEAF Comd. Rpt., Nov. 1953, vol. II.
236. Minutes, FEAF Formal Tgt. Com. Mtg., 26 May 1953.
237. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953.
238. Weyland, "The First Jet Air War," p. 75.
239. Ltr., Zimmerman to D/Intel. USAF, 8 July 1953; FEAF Intel. Roundups #137, 30 May 1953, sect. I, pp. 13-22, and #138, 13 June 1953, sect. II, pp. 5-13; FAF INTSUM, 15 July 1953, p. 5; FAF Weekly INTSUM #2, 18 Sept. 1953, supplement.
240. Minutes, FEAF Formal Tgt. Com. Mtgs., 16 Dec. 1952 and 24 Feb. 1953; FEAF BC, Opns. and Intel. Sum., Jan. 1953.
241. Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 59-60.
242. FEC Comd. Rpt., May 1953, pp. 8-10; Hist. 58th Ftr.-Bmr. Wg., Mar.-June 1953, pp. 43-44.
243. FEC Comd. Rpt., May 1953, pp. 8-10.
244. FAF Opns. Plan 131-53, 5 June 1953; Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, p. 64.
245. Minutes, FEAF Formal Tgt. Com. Mtg., 23 June 1953.
246. *Ibid.*, 22 July 1953.
247. Hist. D/Intel. FAF, July 1953, p. 10; minutes, FEAF Formal Tgt. Com. Mtgs., 23 June and 22 July 1953.
248. Minutes, FEAF Formal Tgt. Com. Mtg., 7 Apr. 1953; FEC Comd. Rpt., May 1953, pp. 8-10.
249. FEC Comd. Rpt., May 1953, pp. 8-10.
250. FEAF BC, Opns. and Intel. Sum., May 1953.
251. Minutes, FEAF Formal Tgt. Com. Mtg., 7 Apr. 1953; FEAF BC, Opns. and Intel. Sums., May and June 1953.
252. Minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953; FEC Comd. Rpt., July 1953, pp. 5-6.
253. USAF Statistical Digest, FY 1953, pp. 19, 25.
254. FEC Comd. Rpt., Apr. 1953, pp. 36-38.
255. Hist. FAF, Jan.-June 1953, I, 406.
256. FAF INTSUM, 30 June 1953, p. 20.
257. Hist. D/Opns. FAF, May 1953, pp. 1-2.
258. FEAF BC, Opns. and Intel. Sums., May and June 1953; Hist. D/Opns. FAF, May 1953, pp. 2-5; Hist. 17th Bomb. Wg., Jan.-June 1953, p. 50; Hist. D/Opns. FAF, June 1953, pp. 2-5.
259. FAF Comd. Review, 30 June 1953, p. 16; Hists. D/Opns. FAF, Apr. 1953, pp. 34, May 1953, pp. 2-5, and June 1953, pp. 2-5.
260. Minutes, FEAF Formal Tgt. Com. Mtg., 23 June 1953.
261. COMNAVFE Comd. and Hist. Rpt., July 1953, sect. I, p. 10.
262. Hist. 98th Bomb. Wg., July 1953, pp. 35-38; FEAF Intel. Roundup #140, 11 July 1953; Hist. D/Opns. FAF, July 1953, pp. 1-2; Hist. FAF, July-Dec. 1953, I, 25-26; Hist. D/Intel. FAF, July 1953, p. 8.
263. COMNAVFE Comd. and Hist. Rpt., July 1953, sect. I, p. 10.
264. FAF INTSUM, 31 July 1953.
265. Hist. D/Opns. FAF, July 1953, pp. 2-3.
266. FEAF Intel. Roundup #142, Sept. 1953, pp. 5-15.
267. Depy. for Intel. FEAF, North Korean Airfield Destruction, in FEAF Comd. Rpt., Nov. 1953, vol. II.
268. Narrative Msn. Rpt. 984, FEAF BC, 28 Nov. 1952; Hist. D/Intel. FAF, Dec. 1952, p. 9; FAF INTSUM, 5 June 1953, p. 28.
269. Hist. D/Intel. FAF, Apr. 1953, pp. 7-8; FAF INTSUM, 20 Apr. 1953, p. 6.
270. Minutes, FEAF Formal Tgt. Com. Mtg., 12 May 1953; FAF Opns. Plan 125-53 (Corrected Copy), 10 June 1953.
271. FEC Comd. Rpt., June 1953, pp. 5-8.
272. COMNAVFE Comd. and Hist. Rpt., May-June 1953, sec. I, pp. 27-28.
273. Minutes, FEAF Formal Tgt. Com. Mtg., 26 May 1953.
274. Hist. FEAF BC, Jan.-July 1953, V, doc. G-4.
275. FEC Comd. Rpt., June 1953, pp. 5-8; Hist. FEAF BC, Jan.-July 1953, V, doc. G-4.
276. COMNAVFE Comd. and Hist. Rpt., May-June, sect. I, pp. 27-28.
277. Minutes, FEAF Formal Tgt. Com. Mtg., 23 June 1953.
278. *Ibid.*; FEC Comd. Rpt., June 1953, pp. 5-8.
279. FAF INTSUM, 20 July 1953, p. 3.
280. Hist. D/Intel. FAF, July 1953, pp. 6-7; minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953.
281. Ltr., Brig. Gen. R. H. Carmichael, CG FEAF BC to LeMay, 7 Aug. 1953.
282. FEAF BC, Opns. and Intel. Sum., July 1953; Hist. D/Intel. FAF, July 1953, pp. 6-7.
283. COMNAVFE, Comd. and Hist. Rpt., July 1953, sect. I, p. 11.
284. Hist. D/Opns. FAF, July 1953, p. 2; Hist. 58th Ftr.-Bmr. Wg., July-Dec. 1953, pp. 1-3; Hist. 8th Ftr.-Bmr. Wg., July-Dec. 1953, pp. 44-45.

SECRET



- 85. FEAF Intel. Roundup #142, Sept. 1953, pp. 5-15; FAF INTSUM, 5 Aug. 1953, p. 5.
- 86. FAF Wkly. INTSUM #4, 2 Oct. 1953; Air Interog. Info. Rpt. #195-9-53, Det. #2, 6004th AIS Sq., 24 Sept. 1953.
- 87. Depy. for Intel. FEAF, Failure to Provide Proper Weapons Recommendation, in FEAF Comd. Rpt., Nov. 1953, vol. II.
- 88. FAF, Opns. Anal. Off., Supplement to Memo #38: Assessment of Bomb Damage to Kimpo Air Base, 30 July 1951.

- 289. OSRD Rpt. #6444, Study of Physical Vulnerability of Military Targets to Various Types of Aerial Bombardment, Jan. 1946, pp. 25-41.
- 290. FEAF BC, Opns. and Intel. Sum., Apr. 1953.
- 291. FAF INTSUM, 5 June 1953, p. 28.
- 292. Minutes, FEAF Formal Tgt. Com. Mtg., 12 May 1953.
- 293. FAF INTSUMS, 15 July 1953, p. 28 and 31 July 1953, p. 31; Hist. D/Intel. FAF, July 1953, pp. 6-7.
- 294. FEAF Rpt., II, 168.
- 295. Depy. for Intel., Failure to Provide Proper Weapons Recommendation, in FEAF Comd. Rpt., Nov. 1953, vol. II; FEAF Rpt., I, 132.

Chapter V

- 1. Ltr., Col. Glenn P. Nell, AG SAC to CG's Second and Fifteenth AF's, sub: Movement Orders, 98th and 307th Bombardment Wings, Medium, 8 July 1952.
- 2. Ltr., Brig. Gen. Wiley D. Ganey, CG FEAF BC to CG FEAF, sub: Reorganization of the 19th Bombardment Group (M), 3 Oct. 1952.
- 3. Hist. Rpts. D/Opns. 19th Bomb. Wg., Jan. and Feb. 1953; Hist. 19th Bomb. Wg., June-Dec. 1953, p. iii.
- 4. Hist. FEAF BC, Jan.-July 1953, I, 58.
- 5. AHS-72, p. 84; FEAF BC, Combat Review, 13 July 1950-27 July 1953, p. 40.
- 6. Ltr., LeMaster to CG FAF, sub: Operational Planning Factors, 12 June 1952; Hist. FEAF BC, July-Dec. 1952, I, 110.
- 7. Hists. FEAF BC, July-Dec. 1952, pp. 110-13 and Jan.-July 1953, p. 57; ltr., Fisher to LeMay, 8 Apr. 1953.
- 8. Hist. FEAF BC, July-Dec. 1952, p. 123.
- 9. Rpt., Col. H. C. Dorney, Comdr. 19th Bomb. Wg., sub: Specialized Aircraft Maintenance a la 19th Bomb. Wing (M), in Hist. 19th Bomb. Wg., July-Dec. 1953, doc. D.
- 10. *Ibid.*; msg. BC-2443, Fisher to Dorney, in Hist. 28th Bomb. Sq., Apr. 1953, p. 2.
- 11. FEAF BC, Combat Review, 13 July 1950-27 July 1953, p. 39.
- 12. Ltr., Fisher to LeMay, 8 June 1953.
- 13. Hist. FEAF BC, Jan.-July 1953, I, 58; Bilateral Agreement between Commander, Twentieth Air Force and Commander, FEAF Bomber Command, Provisional, 29 July 1953.
- 14. FEAF BC, Combat Review, 13 July 1950-27 July 1953, p. 19.
- 15. *Ibid.*, 1st ind. (ltr., Col. J. D. Kemp, Depy. IG FEAF to CG FEAF, sub: Report of General Inspection, Headquarters, FEAF Bomber Command, Provisional, 13 May 1953), Fisher to CG FEAF, n. d.
- 16. Hist. FEAF BC, July-Dec. 1952, I, 34.
- 17. Minutes, FEAF Formal Tgt. Com. Mtg., 22 Aug. 1952.
- 18. FEAF BC, Opns. and Intel. Sum., May 1953.
- 19. Hist. FEAF BC, Jan.-July 1953, I, 23-25.
- 20. Hist. FEAF BC, July-Dec. 1952, I, 46; ltr., Fisher to LeMay, 4 Feb. 1951; AHS-72, p. 182; Hist. 98th Bomb. Wg., Oct. 1952, pp. 3-4; Daily journal FAF, D/Org. & Manpower entry, 19/20 Mar. 1953; Hist. 548th Recon. Tech. Sq., Jan.-June 1953, p. 11.

- 21. Hist. D/Commun. FAF, June 1952, p. 14; Hist. 502d Tac. Cont. Gp., July-Dec. 1952, pp. 56-58.
- 22. Hist. D/Commun. FAF, Feb. 1953, p. 18; FEAF BC, Opns. and Intel. Sum., Feb. 1953; Daily journal FAF, D/Commun. entry, 8/9 Mar. 1953.
- 23. Hist. 502d Tac. Cont. Gp., July-Dec. 1952, pp. 56-58.
- 24. *Ibid.*; rpt., 1st ARDC TG, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-C-1.
- 25. Hists. 98th Bomb. Wg., Jan. 1953, p. 11 and Feb. 1953, p. 14.
- 26. FEAF BC, Opns. and Intel. Sum., Jan. 1953; Hist. 307th Bomb. Wg., Feb. 1952, pp. 9-10.
- 27. FEAF BC, Opns. and Intel. Sums., Mar. and Apr. 1953.
- 28. Ltr., Fisher to LeMay, 7 May 1953.
- 29. Daily journal FAF, D/Commun. entry, 24 July 1953.
- 30. FEAF BC, Opns. and Intel. Sum., July 1953.
- 31. Ltr., Fisher to LeMay, 7 May 1953.
- 32. Hist. 307th Bomb. Wg. (Combat Echelon), Mar. 1951.
- 33. Hist. 19th Bomb. Gp., Apr. 1952.
- 34. AHS-72, p. 183.
- 35. Rpt., 1st ARDC TG, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab III-C-1.
- 36. Hist. FEAF BC, July-Dec. 1952, I, 44.
- 37. AHS-72, p. 184; Hist. 98th Bomb. Wg., Aug. 1952, p. 8; Hist. FEAF BC, July-Dec. 1952, I, 77-78; Hist. 21st Air Div., 16 July-31 Aug. 1952; Hists. 90th Strat. Ren. Wg., July and Aug. 1952.
- 38. Hist. FEAF BC, July-Dec. 1952, I, 77-78, 137; ltr., Fisher to LeMay, 4 Feb. 1953.
- 39. Ltr., Fisher to LeMay, 7 May 1953.
- 40. Ltr., Fisher to Maj. Gen. J. B. Montgomery, D/Opns. SAC, 17 Nov. 1952; 1st ind. (FEAF ltr., sub: Report of General Inspection of 98th Bomb. Wing, APO-328, 25 Apr. 1953), Col. C. B. Westover, Comdr. 98th Bomb. Wg., to CG FEAF (through CG FEAF BC), n. d.
- 41. Hist. FEAF BC, July-Dec. 1952, I, 44, 72.
- 42. 1st ind. (FEAF ltr., sub: Report of General Inspection, Headquarters, FEAF Bomber Command, Provisional, 13 May 1953), Fisher to CG FEAF, n. d.; 1st ind. (FEAF ltr., sub: Report of General Inspection of 98th Bomb. Wing, APO-328, 28 Apr. 1953), Westover to CG FEAF, n. d.



SECRET

43. Ltr., Fisher to Comdr. 307th Bomb. Wg., sub: Rotation of Bombardment Combat Crews, 15 Dec. 1952.
44. Ltr., Fisher to LeMay, 8 Apr. 1953.
45. Hist. 93d Bomb. Sq., Apr. 1953, p. 2.
46. FEAF BC, Combat Review, 17 July 1950-27 July 1953, p. 31.
47. FEAF BC, Opns. and Intel. Sum., May 1953.
48. Ltr., Fisher to LeMay, 7 May 1953.
49. Ltr., LeMaster to CG FAF, sub: Operational Planning Factors, 12 June 1952.
50. 1st ind. (ltr., LeMaster to CG FAF, 12 June 1952), CG FAF to CG FEAF, 27 June 1952; Daily journal FAF, D/Opns. entry, 22/23 Sept. 1952.
51. FAF, Opns. Anal. Off., Memo #64: A Study of Ground Fire Attrition in the Korean Theater, 17 June 1953.
52. FAF INTSUM, 20 Aug. 1952; FEAF Rpt., I, 90.
53. Hist. 3d Bomb. Wg., July-Dec. 1952; USAF, Rpt. of Night Intruder Conference, sect. I, p. 49 and sect. III, p. 44.
54. Anal. Div., D/Comptroller FAF, Fifth Air Force Aircraft and Aircrew Attrition Study, June 1950-July 1953.
55. Daily journal FAF, D/Opns. entry, 26 June 1953.
56. COMNAVFE Comd. and Hist. Rpt., Aug.-Sept. 1952, sect. I, pp. 22-23.
57. FAF, Opns. Anal. Off., Memo #64, 17 June 1953.
58. Daily journal FAF, D/Opns. entry, 26 June 1953; USAF Statistical Digest, FY 1953, p. 56.
59. 1st ind. (ltr., Smart to CG FAF, 17 July 1952), Barcus to CG FEAF, 27 July 1952.
60. FAF Reviews, 30 June and 31 July 1953.
61. Memo for Maj. Gen. W. F. McKee from Maj. Gen. Roger M. Ramey, D/Opns. USAF, sub: Air Staff Comments on "Relationship of Production to Korean Operations," 29 Nov. 1951.
62. 82d Cong. 1st Sess., Military Situation in the Far East, pp. 1378-79.
63. Hist. Air Materiel Command, Jan.-June 1952, I, 144.
64. FAF Reviews, 1 June 1952, 1 Jan. 1953, and 31 July 1953.
65. Daily diary D/Opns. FEAF, 21 Aug. 1952.
66. Msg. A-2632-D/O, CG FEAF to CG FAF, 12 Nov. 1952.
67. Hists. D/Opns. FAF, Nov. 1952, p. 4 and Jan. 1953, pp. 11-12.
68. USAF, Rpt. of Night Intruder Conference, 18-20 Nov. 1952, sect. I, p. 141.
69. Hist. WADC, Jan.-June 1952, II, pp. 218-20.
70. FAF Staff Mtg. Sum., 20 Feb. 1952; rpt., Col. Charles E. Jordan, C/Maint. Div. FAF, sub: Report on Evaluation of F-84D (Modified) Aircraft 31 Mar. 1952.
71. Hist. FAF, Jan.-June 1952, pp. 189-91.
72. Hist. 58th Ftr.-Bmr. Wg., July-Dec. 1952, pp. 10, 21, 22, 28.
73. Hist. AMC, July-Dec. 1952, I, 213.
74. Hist. FAF, July-Dec. 1952, pp. 175-81; Hist. 49th Ftr.-Bmr. Wg., July-Dec. 1952; Hist. 49th Ftr.-Bmr. Gp., Sept. 1953.
75. FEAF Comd. Rpt., Apr. 1952.
76. Ltr., CG FAF to CG FEAF, sub: Suitability of the F-86 used in Interdiction and Close Support Missions, 9 July 1952.
77. Memo for Depy. CG FAF from Brig. Gen. Dudley D. Hale, sub: F-86 Conversion and Movement to Osan Air Base of 18th Fighter-Bomber Wing and 2d Squadron SAAF, 14 Aug. 1952.
78. Hists. 18th Ftr.-Bmr. Gp., July-Dec. 1952, p. 33 and 18th Maint. Sq., July-Dec. 1952, pp. 8-9; FAF Staff Mtg. Sum., 22 July 1952.
79. Hist. 18th Ftr.-Bmr. Wg., Jan.-June 1953, Opns. sect., pp. 3-8; G. O. 85, FAF, 3 Feb. 1953.
80. Hist. 18th Ftr.-Bmr. Wg., Jan.-June 1953, Opns. sect., pp. 3-8.
81. *Ibid.*, Materiel sect., p. 3.
82. Hist. FAF, July-Dec. 1952, pp. 188-89.
83. Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 2, 11-12, 50.
84. Daily journal FAF, D/Opns. entry, 17 Mar. 1953.
85. Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, p. 55; Hist. 18th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 14-15.
86. Hist. 18th Ftr.-Bmr. Wg., July-Dec. 1953, sect. 2C, pp. 28-29.
87. Msg. AX-5341-CG, CG FEAF to USAF (Personal for White from Weyland), 30 Apr. 1953.
88. Ltr., Lt. Gen. S. E. Anderson, CG FAF to CG FEAF, sub: Combat Evaluation of the F-86F as a Fighter Bomber, 16 Aug. 1953.
89. Rpt., FAF Combat Eval. of the F-86F as a Fighter-Bomber, 16 Aug. 1953.
90. Hist. 18th Ftr.-Bmr. Wg., July-Dec. 1953, sect. 2C, pp. 28-29.
91. Rpt., FAF Combat Eval. of the F-86F as a Fighter-Bomber, 16 Aug. 1953.
92. FAF Reviews, 1 June 1952, 1 Jan. 1953, and 31 July 1953.
93. USAF, Rpt. of Night Intruder Conference, 18-20 Nov. 1952, sect. I, p. 117.
94. ATRC Liaison Team Rpt. #30, 15 Nov. 1952, in Hist. Crew Training AF, July-Dec. 1952, doc. VI-4.
95. USAF, Rpt. of Night Intruder Conference, 18-20 Nov. 1952, sect. I, p. 137.
96. *Ibid.*, sect. I, pp. 39-42.
97. FAF, Opns. Anal. Off., Memo #52: Interim Report on Current Night Intruder Program, 4 Aug. 1952.
98. USAF, Rpt. of Night Intruder Conference, 18-20 Nov. 1952, sect. I, p. 141.
99. Hist. FAF, July-Dec. 1952, p. 279; Hist. 3d Bomb. Wg., July-Dec. 1952, pp. 32-33; Daily diary, Combat Opns. Div. FEAF, 7 Oct. 1952.
100. Hist. D/Pers. FAF, Nov. 1952.
101. Hist. 3d Bomb. Wg., Jan.-June 1953, p. 5.
102. FEAF ltr. AG-200.3, sub: Combat Crews, 7 June 1951.
103. Hist. Sum. D/Mil. Pers. USAF, Jan.-June 1951, pp. 1-2; Staff hist. DC/S Pers. USAF, July-Dec. 1951, pp. 146-51.
104. Hists. FAF, July-Dec. 1951, pp. 280-81 and Jan.-June 1953, pp. 24-26.
105. Hist. D/Pers. FAF, Mar. 1953.
106. *Ibid.*, Apr. 1953.
107. *Ibid.*, June 1953.

SECRET



SECRET

108. FEAF Rpt., II, 153.
109. Hist. 4th Ftr.-Intr. Wg., July-Dec. 1952, pp. 10-11.
110. Hists. D/Pers. FAF, Jan. and Feb. 1953.
111. *Ibid.*, Jan. 1953.
112. Hists. FAF, Jan.-June 1953, pp. 27-29 and 51st Ftr.-Intr. Wg., Jan.-June 1953, p. 14.
113. Hist. FAF, Jan.-June 1953, pp. 27-29; FAF Review, 31 July 1953.
114. FEAF Rpt., II, 152.
115. Hists. 49th Ftr.-Bmr. Gp., June 1951 and 474th Ftr.-Bmr. Wg., July-Dec. 1952, p. 17; Lt. Col. L. G. Taylor, Jr., "Flying Training in Fifth Air Force," in *Air University Quarterly Review*, vol. VI, no. 4 (Winter, 1953-54), pp. 111-13.
116. Taylor, "Flying Training in Fifth Air Force," p. 113.
117. Ltr., Smart to CG FAF, sub: Fighter-Bomber Accuracy, 17 July 1952.
118. 1st ind. (ltr., Smart to CG FAF, 17 July 1952), Barcus to CG FEAF, 27 July 1952.
119. FAF ltr. #122-31, sub: Fighter Dive Bombing Proficiency, 25 Aug. 1952.
120. Hist. FAF, July-Dec. 1952, I, 127-129, II, 72; FAF, Opns. Anal. Off., Memo #54; An Analysis of the Continuation Dive Bombing Training Program, 5 Nov. 1952.
121. FAF, Opns. Anal. Off., Memo #69: History of Bombing Accuracy During the Korea War, pt. 1, Fighter-Bombers, 9 Sept. 1954.
122. Hist. 8th Ftr.-Bmr. Wg., July-Dec. 1952, p. 2.
123. Hist. 12th Ftr.-Bmr. Sq., July 1952.
124. *Ibid.*, Sept. 1952, p. 3.
125. Memo for CG FAF from Brig. Gen. E. K. Warburton, Depy. CG FAF, sub: Reinforced Wing, 22 June 1952.
126. AHS-72, p. 219.
127. *Ibid.*, p. 220.
128. A Study of Operating Efficiency vs Morale of the 8th Fighter-Bomber Wing Maintenance Facilities at Detachment No. 1, in FAF Monthly Analysis, Nov. 1952.
129. Hist. 67th Tac. Recon. Wg., Jan.-June 1953, pp. 94-95.
130. Hist. 17th Bomb. Wg., July-Dec. 1952, p. 5.
131. Hists. 4th Ftr.-Intr. Wg., Maint. sect., Sept. 1952, pp. 5-14; 51st Ftr.-Intr. Wg., July-Dec. 1952, p. 1, and Jan.-June 1953, pp. 23-24; 18th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 18-19.
132. Draft FEAF Korean War Rpt., REMCO Study, n. d.
133. Hist. 51st Ftr.-Intr. Wg., July-Dec. 1952, p. 1.
134. Draft FEAF Korean War Rpt., REMCO Study, n. d.
135. Ltr., Maj. Gen. George W. Mundy, D/Supply, Services and Maint. Eng. AMC to CG AMC, sub: Report of Visit to FEAF, 5 Mar. 1952.
136. Hists. 136th Ftr.-Bmr. Wg., Dec. 1951; 51st Supply Sq., Mar. 1952; and 4th Ftr.-Intr. Wg., July 1952, Supply sect., p. 55.
137. Ltr., Lt. H. A. Shoup, Asst. AG FAF to Comdr. FEAF, sub: Data for REMCO Study, 15 Sept. 1953.
138. A Study of Operating Efficiency vs Morale of the 8th Fighter-Bomber Wing Maintenance Facilities at Detachment No. 1.
139. Hist. 4th Ftr.-Intr. Wg., Sept. 1952, Maint. sect., pp. 5-14.
140. Ltr., Mundy to CG AMC, sub: Report of Visit to FEAF, 5 Mar. 1952.
141. Hist. 4th Ftr.-Intr. Wg., Maint. sect., Nov. 1952; FAF Monthly Analysis, June 1953, 8th Ftr.-Bmr. Wg. sect.; Hist. D/Materiel FAF, July 1953, p. 20.
142. USAF, Air Force Logistics Lessons Resulting from Conflict in Korea as prepared by FEAF, p. 102.
143. AFR 20-15, Organization of Air Force Combat Wings, 13 Dec. 1948; AHS-72, pp. 38-39.
144. Memo for CG FAF from Warburton, sub: Reinforced Wing, 22 June 1952.
145. Hist. D/Org. & Manpower FAF, Jan. 1953, pp. 1-2.
146. *Ibid.*, p. 6.
147. *Ibid.*, Mar. 1953, pp. 5-6 and Apr. 1953, pp. 1-2; Hist. 49th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 1-2.
148. FAF Monthly Analysis, Mar. 1953, 58th Ftr.-Bmr. Wg. sect.; Hist. 58th Ftr.-Bmr. Wg. (Reinf.), Jan.-June 1953, pp. 1-5.
149. FAF Monthly Analysis, June 1953, 58th Ftr.-Bmr. Wg. sect.
150. Hist. 58th Ftr.-Bmr. Wg., July-Dec. 1953, pp. 17-20.
151. Staff studies, Maj. R. A. Little, Spl. Proj. Off., 58th Ftr.-Bmr. Wg., Sub: Organization—USAF Tactical Wings, 5 Mar. 1954 and 11 Mar. 1954; ltr., Col. A. C. Agan, Jr., Comdr. 58th Ftr.-Bmr. Wg. to Comdr. FAF, sub: Evaluation of Reinforced Wing Plan, ca. 11 Mar. 1953.
152. Hist. 417th EA Bde., July-Dec. 1952, p. 6.
153. *Ibid.*, p. 5, and Jan.-June 1953, pp. 6-7.
154. 930th EA Gp., Rpt. of Logistics Lessons Resulting from Conflict in Korea, in Hist. 417th EA Bde., July-Dec. 1953, vol. I, appen. 5.
155. Hist. 914th EA Bde., June 1952.
156. *Ibid.*, July-Dec. 1952, pp. 186-188.
157. *Ibid.*, Jan.-June 1953, p. 287.
158. Hist. D/Materiel FAF, July 1952, p. 26; Hist. 417th EA Bde., July-Dec. 1952, pp. 205-06.
159. Hist. 417th EA Bde., July-Dec. 1952, pp. 214-15.
160. *Ibid.*, pp. 225-226; Hist. 6147th Tac. Cont. Gp., July-Dec. 1952, p. 54.
161. Hist. 417th EA Bde., July-Dec. 1952, p. 220; Hist. 18th Ftr.-Bmr. Wg., Jan.-June 1953, p. 17.
162. Memo for Depy. CG FAF from Brig. Gen. Dudley D. Hale, V/Comdr. FAF, sub: Rehabilitation of K-1 Airbase, 11 July 1952.
163. Hists. 417th EA Bde., July-Dec. 1952, pp. 160-61 and Jan.-June 1953, pp. 226-231; Hists. 17th Bomb. Wg., July-Dec. 1952, p. 33 and Jan.-June 1953, p. 16; Hist. D/Opns. FAF, Dec. 1952, p. 12.
164. Hists. 417th EA Bde., July-Dec. 1952, p. 146 and Jan.-June 1953, pp. 194-203; Hist. 3d Bomb. Wg., July-Dec. 1953, p. 7.
165. Hists. 417th EA Bd., July-Dec. 1952, pp. 111-120 and Jan.-June 1953, pp. 136-68; Hist. D/Opns. FAF, May 1953; Hist. D/Materiel FAF, May 1953.
166. Hist. 18th Ftr.-Bmr. Wg., July-Dec. 1953, sect. 4A, p. 1.
167. Hist. 417th EA Bde., July-Dec. 1952, pp. 237-73.
168. Hist. D/Instal. FAF, Jan. 1953.
169. Hist. 417th EA Bde., Jan.-June 1953, pp. 333-39, 382.
170. *Ibid.*, Jan.-June 1953, pp. 315-16.



SECRET

171. FEAF Rpt., II, 126-27; Hists. D/Opns. FAF, Feb. 1953 and Apr. 1953; Monthly Analysis FAF, May 1953, 58th Ftr.-Bmr. Wg. sect.
172. Daily journal FAF, D/Materiel entry, 29/30 Dec. 1952.
173. USAF, Air Force Logistic Lessons Resulting from Conflict in Korea as prepared by FEAF, pp. 45-46.
174. FEAF Rpt., II, 123.
175. Memo for CG FAF from Col. George S. Brown, D/Opns. FAF, sub: Installation of Portable Hydrant Refueling Systems at Korean Airfields, 5 Aug. 1952.
176. Ltr., FAF to Comdr. 49th Ftr.-Bmr. Wg., sub: Service Test of Hydrant Refueling Systems, 4 Sept. 1952.
177. Hist. 417th EA Bde., July-Dec. 1952, pp. 82-85.
178. Hists. D/Materiel FAF, Jan. and Apr. 1953; Hist. 49th Ftr.-Bmr. Wg., Jan.-June 1953, p. 12; FAF Staff Mtg. Sums., 31 Jan. and 2 Feb. 1953; FAF Monthly Analysis, Feb. 1953, 49th Ftr.-Bmr. Wg. sect.; Hist. D/Opns. FAF, Mar. 1953, p. 18.
179. USAF, Air Force Logistics Lessons Resulting from Conflict in Korea as prepared by FEAF, pp. 45-46.
180. FEAF Rpt., II, 124; 934th EA Gp., Engineer Aviation Battalions, Logistic Problems, in Hist. 417th EA Bde., July-Dec. 1953, vol. I, appen. 4.
181. Ltr., Capt. Raymond A. Banks, 417th EA Bde., to Comdr. 417th EA Bde., sub: Survey of Butler Hangar Parts, 30 Aug. 1952; Hist. FAF, Jan.-June 1953, I, 204-26.
182. FEAF Rpt., II, 124-25.
183. FEAF Rpt., II, 124-25; FAF Monthly Review, Aug. 1953, 67th Wg. sect.; Hist. 4th Ftr.-Intr. Wg., July-Dec. 1953, pp. 60-61.
184. Hist. 417th EA Bde., July-Dec. 1953, foreword.
185. *Ibid.*, July-Dec. 1952, pp. 8-11; FAF Daily journal, D/Pers. entry, 1/2 Jan. 1953.
186. FEAF Comd. Rpts., Nov. 1952, p. 32 and Feb. 1953, p. 53.
187. Hist. 417th EA Bde., Jan.-June 1953, p. 30.
188. FAF Daily journal, D/Pers. entry, 18/19 Mar. 1953 and D/Instal. entry, 22/23 Mar. 1953.
189. Hist. 417th EA Bde., Jan.-June 1953, pp. 8-11.
190. Hists. 417th EA Bde., July-Dec. 1952, pp. 8-11 and Jan.-June 1953, pp. 8-11.
191. 930th EA Gp., Report of Logistics Lessons Resulting from Conflict in Korea; Hist. 417th EA Bde., Jan.-June 1953, pp. 19-22.
192. Ltr., Capt. Richard O. Wilhour, Adj. 931st EA Gp. to Comdr. 417th EA Bde., sub: Report of Logistics Lessons Resulting from Conflict in Korea, 4 Aug. 1953, in Hist. 417th EA Bde., July-Dec. 1953, appen. 3.
193. 930th EA Gp., Report of Logistics Lessons Resulting from Conflict in Korea.
194. Hist. 417th EA Bde., Jan.-June 1953, p. 339.
195. Hist. 839th EA Bn., Apr. 1952.
196. FAF Staff Mtg. Sum., 4 Nov. 1952.
197. Msg. EX-11969, CG AFFE to Columbus General Depot, Columbus, Ohio, 11 Feb. 1953.
198. Hist. D/Materiel FAF, Apr. 1953.
199. FAF Daily journal, D/Materiel entry, 18/19 June 1953.
200. *Ibid.*, D/Pers. entry, 23 Mar. 1953.
201. Memo for Brig. Gen. D. M. Alkire, Depy. for Materiel FEAF from Lt. Col. U. S. Nero, sub: Effects of Inadequate Runways on Korean Operations, ca. Apr. 1951.
202. Lt. Col. Joseph L. Albert and Capt. Billy C. Wylie, FAF, "Problems of Airfield Construction in Korea," in *Air University Quarterly Review*, vol. V, no. 1 (Winter, 1951-52), pp. 86-92.
203. FAF Monthly Analysis, Aug. 1952, 49th Ftr.-Bmr. Wg. sect.; 49th Ftr.-Bmr. Wg., Project No. 52-14, sub: Analysis of Pierced Steel Planking vs. Concrete Runways, 18 Sept. 1952; memo for Depy. for Comptroller FEAF from Col. J. H. S. Rasmussen, D/Management Anal., sub: Runway Study, 15 May 1953.
204. FAF Monthly Analysis, Jan. 1953, 17th Bomb. Wg. sect.
205. FEAF Rpt., II, 122-23; USAF, Air Force Logistics Lessons Resulting from Conflict in Korea as prepared by FEAF, p. 80.
206. USAF, Air Force Logistics Lessons Resulting from Conflict in Korea as prepared by FEAF, p. 80.
207. *Ibid.*, pp. 75-76.

Chapter VI

1. Clark, *From the Danube to the Yalu*, p. 92.
2. Statement by General Clark at Pentagon Press Conference, 6 Aug. 1953, in *U. S. News and World Report*, 14 Aug. 1953, p. 84.
3. 82d Cong. 1st Sess., Military Situation in the Far East, p. 309.
4. USAF Statistical Digest, FY 1953, pp. 19-20.
5. Weyland, "The Air Campaign in Korea," p. 26.
6. *Ibid.*, p. 20.
7. FEC Comd. Rpts., June 1952, pp. 17-19, 29-32 and July 1952, pp. 21-24.
8. USAF Statistical Digest, FY 1953, pp. 23-24; FEAF Statistical Digest, July 1952, p. 1.
9. Hist. 502d Tac. Cont. Gp., June 1952; Hist. 17th Bomb. Wg., June 1952; FAF INTSUM, 21 July 1952.
10. Hist. 502d Tac. Cont. Gp., July-Dec. 1952, p. 38; Hist. 18th Ftr.-Bmr. Gp., July-Dec. 1952, p. 15; FAF INTSUM, 20 Aug. 1952.
11. Hist. FAF, July-Dec. 1952, I, 58, 63.
12. FEC Comd. Rpt., Aug. 1952, pp. 8-11.
13. Hist. FAF, July-Dec. 1952, I, 58, 63.
14. COMNAVFE Comd. and Hist. Rpt., Aug.-Sept. 1952, sect. I, pp. 36-37.
15. Hist. FAF, July-Dec. 1952, I, 58, 63.
16. COMNAVFE Comd. and Hist. Rpt., Aug.-Sept. 1952, sect. I, pp. 36-37.
17. FAF INTSUM, 20 Sept. 1952.
18. *Ibid.*, 7 Aug. 1952.
19. FAF Daily INTSUM #137, 20 Sept. 1952.
20. *Ibid.* #99, 13 Aug. 1952.
21. Hist. FAF, July-Dec. 1952, I, 66-67; Hist. 6147th Tac. Cont. Gp., July-Dec. 1952, p. 83.



22. 58th Ftr.-Bmr. Wg., Tactical Doctrine, ca. 1954, pp. 65-66; 18th Ftr.-Bmr. Gp., Tactical Doctrine, 25 July 1953, sect. VI.
23. FEC Comd. Rpt., Oct. 1952, pp. 4, 5-7.
24. Daily diary, Combat Opns. Div. FEAF, 11 Oct. 1952.
25. Hist. FAF, July-Dec. 1952, I, 59; FAF INTSUM, 20 Nov. 1952, p. 27.
26. Msg. CG-1004, CG FAF to FAF Wgs., 21 Oct. 1952, in Hist. 502d Tac. Cont. Gp., July-Dec. 1952, incl. 7.
27. COMNAVFE Comd. and Hist. Rpt., Oct.-Nov. 1952, sect. I, pp. 18-20.
28. *Ibid.*, Dec. 1952, sect. I, pp. 12-13; Hist. FAF, July-Dec. 1952, I, 59.
29. Minutes, FEAF Formal Tgt. Com. Mtg., 2 Dec. 1952; FEAF Intel. Roundups #118, 5 Dec. 1952, sect. I, pp. 24-25 and #119, 12 Dec. 1952, p. 19.
30. Hist. FAF, July-Dec. 1952, I, 59; COMNAVFE Comd. and Hist. Rpt., Dec. 1952, sect. I, pp. 12-13.
31. Ltr., Maj. Gen. J. C. Fry, CG 2d Inf. Div. to Comdr. 58th Ftr.-Bmr. Wg., sub: Commendation, 6 Nov. 1952.
32. Minutes, FEAF Formal Tgt. Com. Mtg., 16 Dec. 1952; Hist. FAF, July-Dec. 1952, I, 57.
33. Hist. FAF, July-Dec. 1952, I, 60; minutes, FEAF Formal Tgt. Com. Mtg., 30 Dec. 1952.
34. Daily diary, D/Opns. & Tng. FEAF, 5 Jan. 1953.
35. Hist. FAF, Jan.-June 1953, I, 438.
36. COMNAVFE Comd. and Hist. Rpt., Jan.-Feb. 1953, sect. I, pp. 11-12.
37. USAF Statistical Digest, FY 1953, pp. 19, 25.
38. FEAF Comd. Rpt., Mar. 1953, I, 1.
39. Hist. FAF, Jan.-June 1953, I, 445-46.
40. COMNAVFE Comd. and Hist. Rpt., Mar.-Apr. 1953, sect. I, pp. 10-14.
41. *Ibid.*, May-June 1953, sect. I, pp. 1-5; FEAF BC, Opns. and Intel. Sum., June 1953.
42. Hist. 8th Ftr.-Bmr. Wg., Jan.-June 1953, pp. 64-65; Hist. FAF, Jan.-June 1953, I, 453-54.
43. FEAF Comd. Rpt., June 1953, I, 2; COMNAVFE Comd. and Hist. Rpt., May-June 1953, sect. I, pp. 1-5.
44. Ltr., Col. C. C. Wasem, Comdr. 17th Bomb. Wg. to Comdr. 17th Bomb. Gp., sub: Commendation, 17 June 1953.
45. Hist. D/Opns. FAF, June 1953, p. 1.
46. Ltr., Lt. Gen. S. E. Anderson, Comdr. FAF to Comdr. 502d Tac. Cont. Gp., sub: Letter of Commendation, 2 July 1953; FAF Review, 31 July 1953, p. 42.
47. FEAF Statistical Summary, July 1953, p. 1.
48. Hist. FAF, July-Dec. 1953, I, 33; COMNAVFE Comd. and Hist. Rpt., July 1953, sect. I, pp. 5-9, 22-24; FEAF BC, Opns. and Intel. Sum., July 1953.
49. Hist. 502d Tac. Cont. Gp., July-Dec. 1953, p. 65; FAF Review, 31 July 1953, p. 42.
50. Hist. D/Commun. FAF, July 1953, pp. 25-26.
51. FEAF Comd. Rpt., June 1953, I, 2.
52. Hist. 6147th Tac. Cont. Gp., July-Dec. 1953, p. 30; Hist. D/Opns. FAF, July 1953, p. 3.
53. USAF Statistical Digest, FY 1953, pp. 19, 25.
54. Ltr., Lt. Gen. James A. Van Fleet, CG Eighth Army to CINCFE, sub: Close Air Support, 20 Dec. 1951.
55. ORO-R-3 (FEC), Preliminary Evaluation of Close Air Support Operations in Korea, 1 Feb. 1951.
56. *Ibid.*
57. *Ibid.*
58. See AHS-71, p. 30.
59. 82d Cong. 1 Sess., Military Situation in the Far East, p. 1262.
60. 83d Cong. 1st Sess., Hearings on Ammunition Shortages in the Armed Services, pp. 12, 33, 54.
61. Ltr., Van Fleet to CINCFE, sub: Close Support for 1st Marine Division, 6 Oct. 1951.
62. Memo for record by Lt. Gen. F. F. Everest, CG FAF, ca. 17 Dec. 1951.
63. Ltr., Van Fleet to CINCFE, sub: Close Air Support, 20 Dec. 1951.
64. See AHS-72, pp. 209-11.
65. Rpt., U. S. Joint Tactical Air Support Board, ca. Feb. 1952.
66. FEC Comd. Rpt., Aug. 1952, pp. 8-9, citing memo for C/S FEC from CINCFE, 1 July 1952.
67. Clark, *From the Danube to the Yalu*, pp. 91-92.
68. Ltr., CINCFE to CG's Eighth Army, XVI Corps, FEAF, and COMNAVFE, sub: Air-Ground Operations, 11 Aug. 1952, w/2 incls: Factors Affecting the Close Support Situation in Korea, and Proposed Experiment.
69. Ltr., Brig. Gen. J. J. Burns (U. S. Army), Pres. Jnt. Air-Gnd. Opns. Bd. to CG's Eighth Army and FAF, sub: Analysis of the Air-Ground Operations System in Korea, 26 Mar. 1951; ltr., Lt. Gen. E. E. Partridge, CG FAF to Van Fleet, sub: Joint Air-Ground Operations Board, n. d.; ltr., Maj. Gen. H. I. Hodes, DC/S Eighth Army to Partridge, sub: Joint Air-Ground Operations Board, 23 Apr. 1951.
70. Hist. Depy. for Opns. FAF, Oct. 1951.
71. Hists. Depy. for Opns. FAF and D/Opns. FAF, Sept. 1951 through June 1952.
72. 1st ind. (ltr., FEAF AG 373.21, sub: Air-Ground Operations), Barcus to CG FEAF, 1 Sept. 1952.
73. Rpt., U. S. Joint Tactical Air Support Bd., ca. Feb. 1952.
74. AHS-72, p. 213.
75. Hist. D/Tng. Depy. for Pers. JADF, May 1952; Hist. D/Pers. FAF, Dec. 1952.
76. Hist. D/Opns. FAF, Sept. 1952, p. 22.
77. Ltr., Van Fleet to CINCFE, sub: Air Ground Operations, 7 Sept. 1952; ltr., Weyland to CINCFE, sub: Air Ground Operations, 12 Sept. 1952; 1st ind. (ltr., Smart to CG FAF, sub: Air Ground Operations, 20 Aug. 1952), Barcus to CG FEAF, 1 Sept. 1952.
78. Msg. CX-57060, CINCFE to CG's Eighth Army and FEAF, 16 Oct. 1952.
79. Ltr., Lt. Gen. Glenn O. Barcus and Lt. Gen. Maxwell D. Taylor to CINCFE, sub: Report of Joint Eighth Army-Fifth Air Force Air Ground Operations, 16 Mar. 1953.
80. See ftnt. 77.
81. Msg. CX-57060, CINCFE to CG's Eighth Army and FEAF, 16 Oct. 1952; FEC Comd. Rpt., Oct. 1952, pp. 4-5; msg. A-1917C D/O, CG FEAF to CG FAF, 18 Oct. 1952.



SECRET

82. Ltr., Col. W. B. Riley, AG FAF to CG FEAF, sub: Air Ground Operations, 27 Oct. 1952, w/1 incl: Joint EUSAK-Fifth Air Force Air Ground Operations Experiment.
83. FEC Comd. Rpt., Nov. 1952, p. 5.
84. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
85. *Ibid.*
86. Ltr., Maj. Rufus A. Cox, Jr., ALO 1st British Commonwealth Div. to CG FAF, sub: Joint EUSAK-Fifth Air Force Air Ground Operations Experiment, 16 Feb. 1953.
87. FEC Comd. Rpt., Jan. 1953, pp. 4-7.
88. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
89. Ltr., Gen. John E. Hull, CINCFE to CG AFFE, COMNAVFE, and COMFEAF, sub: Air-Ground Operations, 20 Oct. 1953.
90. Hist. FAF, July-Dec. 1952, I, foreword.
91. Rpt., Col. W. J. Yates, Chairman, sub: Report on Joint Air-Ground Operations Conference held at Headquarters, Fifth Air Force, 8-22 August 1953, 23 Aug. 1953, in Hist. D/Intel. FAF, Aug. 1953, Tab. A. Hereinafter cited as Yates Rpt., 23 Aug. 1953.
92. Naval Liaison Off., JOC Korea, Organization Book, 11 July 1952; FEAF Rpt., II, 82; Barcus Bd. Rpt., vol. I, bk. 2, pp. 75-76.
93. Memo for Stratemeyer from Weyland, 9 Apr. 1951, quoted in Hist. FEAF, July-Dec. 1951, I, 14-15.
94. Serial rpt. 0038, V/Adm. H. M. Martin, Comdr. 7th Flt., to C/Naval Opns., sub: Report of Operations of U. S. Seventh Fleet, 11 Feb. 1951.
95. AHS-71, pp. 28-31.
96. Yates rpt., 23 Aug. 1953.
97. *Ibid.*
98. FEAF Rpt., II, 82.
99. Yates rpt., 23 Aug. 1953.
100. Ltr., Capt. C. T. Fitzgerald, USN, Senior Naval Representative at FAF, to President, Air University, sub: Naval Liaison Office Organization Book, forwarding of, 11 July 1952.
101. Hists. D/Commun. FAF, July 1953, p. 8 and Aug. 1953, p. 5.
102. Rpt., Col. W. N. Snouffer, D/Commun. FAF, Lt. Cdr. Charles N. Joy, British Naval Ln. Off. at FAF, Capt. L. C. Simpler, JOC Naval Ln. Off. to COMFAF, sub: Report of Committee on Naval-Air Communications Requirements, 15 Sept. 1953.
103. AHS-72, pp. 191-92; Hist. 6147th Tac. Cont. Gp., Jan.-June 1953, p. 94.
104. FAF SOP #55-8, sub: Air Liaison Officer, 2 Apr. 1952; Daily journal FAF, D/Opns. entry, 16/17 Sept. 1952; Hist. 6147th Tac. Cont. Gp. SOP #55-12, sub: Operations: Corps Forward Air Controller Flight Commander, 27 Oct. 1952.
105. Rpt., Col. Hugh H. Moreland, *et al.*, to CG's Eighth Army and FAF, sub: Communications Principles Applicable to Joint Operations Involving Combat Air Support of Land Campaigns, 15 June 1953. Hereinafter cited as Moreland rpt., 15 June 1953.
106. Ltr., Col. William B. Reed, Comdr. 6147th Tac. Cont. Gp., to Comdr. FAF, sub: Tactical Air Control in Air Ground Operations, 10 Jan. 1954.
107. Yates rpt., 23 Aug. 1953.
108. Moreland rpt., 15 June 1953.
109. Yates rpt., 23 Aug. 1953.
110. Ltr., Burns to CG's Eighth Army and FAF, 26 Mar. 1951; ltr., Hodes to Partridge, 23 Apr. 1951; Moreland rpt., 15 June 1953.
111. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
112. *Ibid.*
113. Yates rpt., 23 Aug. 1953.
114. *Ibid.*
115. *Ibid.*
116. *Ibid.*
117. AHS-72, p. 192.
118. FAF SOP #55-9, sub: Tactical Air Control Parties, 18 Mar. 1952.
119. FEAF Rpt., II, 86; Hist. 6147th Tac. Cont. Gp., July-Dec. 1952, p. 107; ltr., Lt. Col. C. S. Mangan, Asst. AG FAF to Comdr. 6147th Tac. Cont. Gp., sub: Tactical Air Control Parties, 12 Nov. 1952.
120. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
121. Ltr., Col. John C. Watson, Comdr. 6147th Tac. Cont. Gp. to Comdr. FAF, sub: Operational Requirements for Portable VHF Radio Set, 3 Jan. 1953; Hist. D/Commun. FAF, Apr. 1953, pp. 15-16; Hist. 6147th Tac. Cont. Gp., July-Dec. 1953, p. 123.
122. Ltr., 6147th Tac. Cont. Gp. to Comdr. FAF, sub: Lecture Outlines for ROK Forward Air Control Training, 18 Dec. 1953; 6147th Tac. Cont. Gp., Tactical Doctrine, 19 Dec. 1953.
123. AHS-72, p. 194; Yates rpt., 23 Aug. 1953.
124. Evaluation Staff, Air War College, Requirement for Tactical Air Control Parties, 31 July 1952.
125. AHS-72, pp. 202-05; Yates rpt., 23 Aug. 1953.
126. ORO-R-3 (FEC), Preliminary Evaluation of Close Air Support Operations in Korea, 1 Feb. 1951.
127. AHS-72, pp. 202-05; msg. DA-942830, DEPTAR to CINCEUR and CINCFE, 2 July 1953.
128. Yates rpt., 23 Aug. 1953.
129. AHS-72, p. 192.
130. Yates rpt., 24 Aug. 1953.
131. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
132. Ltr., Hull to CG AFFE, COMNAVFE, and COMFEAF, sub: Air-Ground Operations, 20 Oct. 1953.
133. Disposition form, Col. E. E. Snyder, C/Cmbt. Opns. and Tng. FEAF to Depy. Comdr. FEAF, 19 Dec. 1953.
134. Hist. FEAF, Jan.-June 1953, pp. 47-48.
135. Ltr., Col. W. B. Reed, Comdr. 6147th Tac. Cont. Gp. to Comdr. FAF, sub: Tactical Air Control in Air-Ground Operations, 10 Jan. 1954.
136. Ltr., 6147th Tac. Cont. Gp. to Comdr. FAF, sub: Tactical Doctrine, 19 Dec. 1953.
137. Hist. 6147th Tac. Cont. Gp., June-Dec. 1952, p. 20.
138. 6147th Tac. Cont. Gp. SOP #55-3, sub: Fighter Direction and Control, 1 Mar. 1952.
139. Ltr., Reed to Comdr. FAF, 10 Jan. 1954.
140. *Ibid.*, Yates rpt., 23 Aug. 1953; msg. AX-5563-D/O Rqmts., CG FEAF to USAF, 14 May 1953; msg. AFOOP-AL-56702, USAF to CG FEAF, 20 May 1953; Hist. D/Materiel FAF, May 1953, incl. 6.
141. Ltr., Reed to Comdr. FAF, 10 Jan. 1954.
142. 6147th Tac. Cont. Gp., Tactical Doctrine, 19 Dec. 1953.

330

SECRET



SECRET

143. Ltr., Reed to Comdr. FAF, 10 Jan. 1954.
144. Hist. D/Commun. FAF, May 1952, pp. 12-13; daily diary, D/Rqmts. FEAF, 28 Aug. 1952.
145. Disposition form, Col. James R. McNitt, D/Commun. FAF to D/Opns. FAF, sub: Recommendations for Improving the Effectiveness of TACP Controlled Missions, 14 Mar. 1952.
146. Hist. D/Commun. FAF, Jan. 1953, p. 12 and May 1953, p. 13.
147. Hist. FAF, July-Dec. 1952, p. 72; 18th Ftr.-Bmr. Gp., Tactical Doctrine, 25 July 1953; 58th Ftr.-Bmr. Wg., Tactical Doctrine, ca. 1954, p. 60.
148. Ltr., Capt. E. J. Della, Adj. 8th Ftr.-Bmr. Wg. to CG FAF, sub: Mission Summary, 17 Jan. 1953.
149. Ltr., Van Fleet to CINCFE, sub: Close Air Support, 20 Dec. 1951, and FAF comments thereon.
150. Yates rpt., 23 Aug. 1953.
151. FAF INTSUMS, 5 Jan. 1953, pp. 42-43, 49-57 and 20 Mar. 1953, pp. 21-22.
152. Ltr., Maj. Gen. W. R. Wolfenbarger, D/Joint Tactical Air Support Board, to CG FEAF, sub: Restriction of Artillery During Air Strikes, 17 Sept. 1952.
153. FAF INTSUM, 5 Jan. 1953, pp. 49-57.
154. Ltr., FAF to CG Eighth Army, sub: Results of Thirty Day Flak Suppression Experiment in the IX U. S. Corps, 8 Nov. 1952; FAF INTSUM, 5 Jan. 1953, pp. 49-57.
155. FAF Reg. #55-51, sub: Suppression of Enemy AAA During an Air Strike, 2 Dec. 1952; Hist. D/Opns. FAF, Dec. 1952, p. 25.
156. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953, FAF INTSUMS, 5 Jan. 1953, pp. 49-57 and 20 Jan. 1953, p. 27.
157. FAF Daily INTSUM, 21 July 1953; FAF INTSUM, 5 Aug. 1953, p. 34.
158. Daily journal FAF, D/Opns. entry, 9/10 June 1953.
159. Hist. FAF, Jan.-June 1953, I, 439.
160. Hist. FAF, Jan.-June 1953, I, 444.
161. FAF INTSUM, 20 July 1953.
162. FEAF Intel. Roundup #141, 27 July 1953, sect. I p. 18.
163. Yates rpt., 23 Aug. 1953.
164. FEAF Rpt. II, 40-41.
165. FAF, Opns. Anal. Off., Memo #51: Interim Report on Assessment of Short Range Blind-Bombing System, 25 June 1952, incl. VI.
166. *Ibid.*, incl. XXIV; rpt., 1st ARDC TG, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-B-3.
167. 502d Tac. Cont. Gp., SOP #55-5, sub: Standing Operating Procedure for MPQ-2 and MSQ-1, 4 May 1952.
168. Hist. D/Commun. FAF, June 1952, pp. 13-14.
169. Ltr., Col. Ernest J. White, Jr., Comdg. 502d Tac. Cont. Gp. to CG FAF, sub: Survey of TADP Operations, 4 Nov. 1952.
170. Hist. 18th Ftr.-Bmr. Gp., July-Dec. 1952, pp. 15, 22-23.
171. FAF Reg. #55-33, sub: Attacks Against Heavily Defended Close Support Targets, 9 Nov. 1952.
172. 58th Ftr.-Bmr. Wg., Tactical Doctrine, ca. 1954, pp. 65-66; 18th Ftr.-Bmr. Gp., Tactical Doctrine, 25 July 1953, sect. VI.
173. COMNAVFE Comd. and Hist. Rpt., Mar.-Apr. 1953, sect. I, pp. 40-42, and May-June 1953, sect. I, pp. 19-20.
174. Ltr., White to CG FAF, 4 Nov. 1952.
175. JOC A-3 Log, 9 Dec. 1952, 0010 hours entry; Hist. FAF, July-Dec. 1952, I, 63.
176. 18th Ftr.-Bmr. Gp., Tactical Doctrine, 25 July 1953, sect. VI.
177. COMNAVFE Comd. and Hist. Rpt., May-June 1953, sect. I, pp. 18-20.
178. Brig. Gen. James Ferguson, V/Comdr. FAF, Observations and Recommendations, ca. 1951.
179. FAF, Opns. Anal. Off., Memo #51, 25 June 1952, rpt., 1st ARDC TG, 1 Sep. 1952, Tab. III-B.
180. Minutes, FEAF Formal Tgt. Com. Mtg., 5 Aug. 1952.
181. ORO-T-33 (FEC), Technical Memorandum: Effectiveness of Radar-Controlled Night Bombing, 5 July 1952.
182. Daily diary, D/Opns. & Tng. FEAF, 5 Jan. 1953.
183. Msg. GX-7229-KCG, CG Eighth Army (Adv) to CINCFE, 31 July 1952.
184. Msg. GX-7246-KCG, CG Eighth Army (Adv) to CINCFE, 1 Aug. 1952.
185. FEC Comd. Rpt., Aug. 1952, pp. 8-11.
186. Minutes, FEAF Formal Tgt. Com. Mtg., 5 Aug. 1952.
187. Hist. FAF, July-Dec. 1952, I, 58; minutes, FEAF Formal Tgt. Com. Mtg., 24 Sept. 1952.
189. Ltr., Barcus and Taylor to CINCFE, 16 Mar. 1953.
190. Daily diary, Cmbt. Opns. Div. FEAF, 11 Oct. 1952; minutes, FEAF Formal Tgt. Com. Mtg., 2 Dec. 1952.
191. Daily diary, D/Opns. & Tng. FEAF, 5 Jan. 1953; minutes, FEAF Formal Tgt. Com. Mtgs., 30 Dec. 1952 and 10 Feb. 1953; FEAF BC, Opns. and Intel. Sum., Jan. 1953.
192. Hist. D/Opns. FAF, July 1953, pp. 2-3; Hist. 17th Bomb. Wg., Jan.-June 1953, p. 50; minutes, FEAF Formal Tgt. Com. Mtg., 23 June 1953; FAF Daily INTSUM, 15 July 1953.
193. Minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953.
194. *Ibid.*, 18 Nov. 1952 and 2 Dec. 1952.
195. FAF, Opns. Anal. Off., Memo #70: An Assessment of B-26 Close Support Bombing Accuracy, 10 Oct. 1953.
196. FAF, Opns. Anal. Off., Opns. Anal. Sum. Rpt., 1 Jan.-30 June 1954, p. 4, quoting Memo #78: An Assessment of B-29 Close Support Blind Bombing Accuracy during the Korean War.
197. Minutes, FEAF Formal Tgt. Com. Mtg., 12 May 1953.
198. Yates rpt., 23 Aug. 1953; minutes, FEAF Formal Tgt. Com. Mtg., 22 July 1953.
199. AHS-72, p. 66; FEAF Rpt., II, 58.
200. FAF, Opns. Anal. Off., Memo #70: An Assessment of B-26 Close Support Bombing Accuracy, 10 Oct. 1953.
201. Yates rpt., 23 Aug. 1953.
202. Hist. FAF, Jan.-June 1953, I, 450.



- 203. AHS-72, pp. 165-66.
- 204. Hists. 6167th Air Base Gp., July-Dec. 1952 and Jan.-July 1953; FEAF Rpt., II, 25.
- 205. Combat Doctrine, 6167th Opns. Sq., "B" Flight, 1952.
- 206. FAF Reg. #55-34, sub: Operation of Flare Aircraft, 25 Nov. 1952.
- 207. Combat Doctrine, 6167th Opns. Sq., "B" Flight, 1952.
- 208. Hist. FAF, July-Dec. 1952, I, 80.
- 209. Yates rpt., 23 Aug. 1953.
- 210. Hists. 6167th Air Base Gp., July 1952 through Dec. 1953.
- 211. Yates rpt., 23 Aug. 1953.

Chapter VII

- 1. FEAF Rpt., II, 71.
- 2. Hist. 67th Tac. Recon. Wg., July-Dec. 1953, n. p.
- 3. 67th Tac. Recon. Wg., The Employment of Jet Reconnaissance in the Korean Conflict, pp. 5-8.
- 4. FEAF Rpt., II, 70-71.
- 5. *Ibid.*, II, 75.
- 6. *Ibid.*
- 7. FAF Review, 1 Feb. 1953, p. 32.
- 8. Hists. 91st Strat. Recon. Sq., July and Dec. 1952.
- 9. Hists. 548th Recon. Tech. Sq., July 1952 and Jan.-June 1953, pp. 3-7.
- 10. Rpt., ARDC TG for Tactical Reconnaissance Systems, sub: Tactical Reconnaissance in the Far East Air Forces, 10 Dec. 1952, Tab. B-1-C-(2); staff study, Lt. Col. James F. Brady, Depy. for Intel. FEAF BC, sub: To prepare a plan for utilization of the RB-45 . . . , n. d., in Hist. FEAF BC, July-Dec. 1952, doc. 22; Hist. FEAF BC, Jan.-July 1953, I, 15-16.
- 11. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. B-1-B.
- 12. 67th Tac. Recon. Wg., Jet Reconnaissance in the Korean Conflict, pp. 13-15.
- 13. *Ibid.*, pp. 15-18.
- 14. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. B; 67th Tac. Recon. Wg., Jet Reconnaissance in the Korean Conflict, pp. 13-15.
- 15. 67th Tac. Recon. Wg., Jet Reconnaissance in the Korean Conflict, pp. 11-13; FEAF Comd. Rpt., Apr. 1953, I, 16-19.
- 16. Memo for C/S USAF from Brig. Gen. C. Y. Banfill, sub: Close Support Tactical Reconnaissance Aircraft, 15 Mar. 1952.
- 17. AHS-72, p. 232.
- 18. *Ibid.*, p. 232.
- 19. Hists. 67th Tac. Recon. Wg., July-Dec. 1952, chap. VI and Jan.-June 1953, p. 9; Daily journal FAF, D/Materiel entry, 23/24 Sept. 1952; Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. B-1-b-(2)-(c)-7.
- 20. Hist. 67th Tac. Recon. Wg., July-Dec. 1952, chap. VI; FAF Prgms. Bk., 3 May 1953.
- 21. Hist. FEAF, Jan.-June 1954, pp. 130-133.
- 22. 67th Tac. Recon. Wg., Special Projects Rpt., July 1952, sect. I, p. 5.
- 23. AHS-72, p. 281; FEAF Comd. Rpt., Apr. 1953, pp. 16-19; Hist. FEAF, Jan.-June 1954, pp. 130-33; Hist. 15th Tac. Recon. Sq., June 1952, p. 6; 67th Tac. Recon. Wg., Special Projects Rpt., July 1952, sect. I, p. 5.
- 24. Ltr., FAF to CG FEAF, sub: Modifications of the F-86F to RF-86F, 4 Sept. 1952.
- 25. Msg. AX-1022C-OP-RQMT, CG FEAF to CG FAF, n. d., in Hist. D/Opns. FAF, Sept. 1952, incl. 16.
- 26. Hists. D/Opns. FAF, Nov. 1952, p. 4, Jan. 1953, p. 12, Mar. 1953, p. 15; FAF Opns. Prgms. Bks., Jan. through Apr. 1953.
- 27. FEAF Comd. Rpt., May 1953, I, 14.
- 28. Hist. D/Opns. FAF, Apr. 1953, p. 16; Disposition form, Smart to D/Intel. Recon., sub: RF-86 Photo Reconnaissance Aircraft, 19 May 1953.
- 29. Daily journal FAF, D/Opns. entry, 16 June 1953.
- 30. Rpt., Robert A. Troidl, C/Photo. Equip. Maint. FEAF to Col. H. A. Moody, D/Maint. FEAF, sub: Ash-Tray Projects—Photographic Installation, n. d., in FEAF Comd. Rpt., June 1953, II, chap. 2, doc. 6.
- 31. Memo for D/Recon. FEAF from Maj. Clifton E. James, sub: Camera Installation in RF-86 Aircraft, 22 May 1953.
- 32. Hist. Depy. for Intel. FEAF, Jan. 1954, pp. 5-6.
- 33. FEAF Rpt., II, 78; FEAF Comd. Rpt., Oct. 1953, I, 23-26.
- 34. FEAF Rpt., II, 78.
- 35. Depy. for Intel. FEAF, FEAF Aerial Reconnaissance in the Korean Conflict, in FEAF Comd. Rpt., Nov. 1953, vol. II.
- 36. 67th Tac. Recon. Wg., Special Projects Rpt., 1 July 1952, sect. V.
- 37. Hist. D/Opns. FAF, Feb. 1953, p. 6; Hists. 67th Tac. Recon. Wg., Jan.-June 1953, p. 47 and July-Dec. 1953, n. p.
- 38. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. B-1-b-(2)-(b).
- 39. 67th Tac. Recon. Wg., Rpt. on Jnt. Army-Air Force Recon. Conf., 12-13 Aug. 1952.
- 40. Hist. D/Opns. FAF, Aug. 1952, p. 4.
- 41. 12th Tac. Recon. Sq., Tactical Doctrine, 9 May 1952.
- 42. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. C-3-b-(2).
- 43. *Ibid.*, Tab. B-1-b-(2)-(b).
- 44. AHS-72, p. 233; FEAF Rpt., II, 77; Hist. 12th Tac. Recon. Sq., May 1952.
- 45. FEAF Rpt., II, 77; 67th Tac. Recon. Wg., Special Projects Rpt., 1 July 1952, sect. III.
- 46. Hist. D/Opns. FAF, Oct. 1952, p. 8.
- 47. 67th Tac. Recon. Wg., Special Projects Rpt., 1 July 1952, sect. XI.
- 48. Hist. D/Rqmts. DC/S Development USAF, Jan.-June 1951, p. 83; FEAF Rpt., II, 77.
- 49. Hist. D/Opns. FAF, Aug. 1952, pp. 4, 8-9; Hist. D/Materiel FAF, Aug. 1952, pp. 12-13.
- 50. FAF Monthly Anal., Aug. 1952, 67th Tac. Recon. Wg. sect.



51. Ltr., Maj. Robert D. Hawkins, Photo Off. 67th Tac. Recon. Gp. to Special Projects Off. 67th Tac. Recon. Gp., sub: Project Brownie, 8 Oct. 1953.
52. Depy. for Intel. FEAF, FEAF Aerial Reconnaissance in the Korean Conflict, in FEAF Comd. Rpt., Nov. 1953, vol. II.
53. Ltr., Lt. Col. C. E. Guintier, Adj. 67th Tac. Recon. Wg. to CG FAF, sub: Additional AN/APN-60 Equipment, 18 Oct. 1952; FAF Monthly Anal., Oct. 1952, 67th Tac. Recon. Wg. sect.
54. Hist. D/Opns. FAF, July 1953, p. 13.
55. Hist. 67th Tac. Recon. Wg., Jan.-June 1953, p. 54.
56. Rpt. ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. 1-b-(2)-(b).
57. Yates rpt., 23 Aug. 1953.
58. Hists. 67th Tac. Recon. Wg., June 1951 and July-Dec. 1952.
59. Hist. FEAF BC, Jan.-July 1953, I, 47-50.
60. Memo for record, FEAF BC, sub: Shoran, 27 Jan. 1952, in Hist. FEAF BC, July-Dec. 1952, doc. 29.
61. Hist. 91st Strat. Recon. Sq., May 1953, pp. 12-19; Staff study, Lt. Col. Vincent M. Crane, Comdr. 91st Strat. Recon. Sq. to Comdr. FEAF BC, sub: High Altitude Night BDA Photography, 21 Oct. 1953.
62. Hist. 91st Strat. Recon. Sq., Apr. 1952, pp. 10-11.
63. *Ibid.*, July 1952 and Aug. 1952.
64. Crane staff study, 21 Oct. 1953.
65. Ltr., Maj. L. E. Watson, Photo, Recon. Lab. WADC to Comdr. 91st Sq., sub: Informal Report of Phase II of Your Project ABLE, 9 Sept. 1952.
66. Ltr., Lt. Col. Merle M. Jones, Comdr. 91st Sq., to CG FEAF BC, sub: Experiments in High Altitude Large Scale Photoflash Photography, 22 Nov. 1952; Hist. 91st Strat. Recon. Sq., May 1953, pp. 12-19.
67. Hist. FEAF BC, Jan.-July 1953, I, 47-50.
68. Hist. 91st Strat. Recon. Sq., May 1953, pp. 12-19; Crane staff study, 21 Oct. 1953; Hist. FEAF BC, Jan.-July 1953, I, 47-50.
69. Ltr., Carmichael to LeMay, 6 July 1953.
70. Crane staff study, 21 Oct. 1953.
71. Ltr., Carmichael to LeMay, 6 July 1953; Hist. FEAF BC, Jan.-July 1953, I, 61-62.
72. Memo for record, FEAF BC, sub: Shoran, 27 Jan. 1952.
73. FEAF Comd. Rpt., Aug. 1952, pp. 22-23.
74. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. C-1-b.
75. Hist. FEAF BC, Jan.-July 1953, I, 50-52; Hist. 91st Strat. Recon. Sq., Dec. 1952.
76. Rpt., 1st ARDC TG with FEAF, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-C-2.
77. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. C-1-b.
78. Hist. FEAF BC, Jan.-July 1953, I, 50-52.
79. FEAF BC, Opns. and Intel. Sums., Jan., May, and July 1953.
80. Hists. 19th Bomb. Gp., Feb. 1952, 98th Bomb. Wg., Feb. and Apr. 1952; AHS-72, p. 184.
81. Rpt., 1st ARDC TG with FEAF, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-H-2; Hist. 307th Bomb. Wg., Sept. 1952.
82. Hist. FEAF BC, July-Dec. 1952, pp. 117, 127.
83. Rpt., Col. J. D. Kemp, Depy. IG FEAF to CG FEAF, sub: Report of General Inspection of 98th Bombardment Wing, 25 Apr. 1953; 1st ind., Col. C. B. Westover, Comdr. 98th Bomb. Wg. to CG FEAF, n. d.
84. Rpt., Kemp to CG FEAF, sub: Report of General Inspection 307th Bombardment Wing, 7 May 1953.
85. Hist. FEAF BC, Jan.-July 1953, I, 47-50.
86. Rpt., 1st ARDC TG with FEAF, sub: Night Tactical Bombardment Systems in FEAF, 1 Sept. 1952, Tab. III-K-1.
87. Hist. 3d Bomb. Wg., Jan.-June 1953, pp. 10-15; 3d Bomb. Gp. SOP #60-4, sub: Low Level Combat Tactics, 27 May 1953.
88. FEAF Rpt., II, 50.
89. Rpt., Col. J. F. Garber, Jr., C/ARDC Tac. Recon. Systems TG to CG's FEAF and ARDC, sub: Tactical Reconnaissance in the Far East Air Forces, 10 Dec. 1952.
90. Ltr., Maj. Fred F. Goller, Asst. AG FAF to CG FEAF, sub: FEAF Electronic Countermeasures Policy, 19 Aug. 1951.
91. Ltr., WOJG Alfred Goldfarb, Asst. AG FEAF to CG FAF, sub: Authority to Conduct Radar Countermeasures, 4 Oct. 1951.
92. Ltrs., FAF to CG FEAF, sub: ECM Capability, 13 Oct. and 26 Oct. 1951; Col. E. E. Toro, AG FEAF to CG FAF, sub: Attacks on Enemy Radar Sites, 28 Oct. 1951.
93. Ltr., Maj. J. H. Ross, Adj. 4th Ftr.-Intr. Wg. to CG FAF, sub: Observed Enemy Capability of GCI, 21 May 1952.
94. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tabs. B-1-b-(2)-(b) and C-2-d; Hist. FAF, July-Dec. 1951, I, 200-02; Hist. 67th Tac. Recon. Gp., Oct. 1951.
95. Hist. D/Intel. FAF, Jan. 1952, p. 18.
96. *Ibid.*, Feb. 1952, p. 26.
97. Ltr., Lt. R. B. Carter, Asst. AG FAF to Comdr. 67th Tac. Recon. Wg., sub: Use of B-26B #44-34571 ("Buster") to Destroy Enemy Radars, 22 Apr. 1952; Hist. D/Intel. FAF, Apr. 1952, p. 31; Hist. 67th Tac. Recon. Wg., June 1953.
98. FAF INTSUM, 21 July 1952; Hist. D/Intel. FAF, July 1952, pp. 34-35.
99. Hist. D/Intel. FAF, Dec. 1952, p. 9.
100. Hists. FAF, July-Dec. 1951, I, 200-02, Jan.-June 1952, I, 1953-56, and July-Dec. 1952, I, 156-58; rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tabs. C-2-d and C-2-e; FAF Prgms. Bk., 9 Aug. 1953.
101. Rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. B-1-b-(4); Hist. D/Intel. FAF, Nov. 1952, p. 24.
102. FAF Prgms. Bks., 4 Apr. 1953, p. 31 and 3 May 1953, p. 33; Hist. 67th Tac. Recon. Wg., Jan.-June 1953, p. 47; FAF, Special Intel. Study: Electronics, 11 Mar. 1954, pp. 2-4; Hist. D/Intel. FAF, Aug. 1953, p. 6.
103. Yates rpt., 23 Aug. 1953.



- ~~SECRET~~
104. Hist. 67th Tac. Recon. Wg., July-Dec. 1953.
  105. FAF Opns. Prgm. Bk., 3 Apr. 1953; Daily Journal FAF, D/Opns. entry, 27 Apr. 1953.
  106. Hist. D/Intel. FAF, Aug. 1953, p. 6.
  107. Hist. 67th Tac. Recon. Wg., July-Dec. 1952; Rpt. on Jnt. Army-Air Force Recon. Conf., 12-13 Aug. 1952.
  108. Ltr., CWO Alfred Goldfarb, Asst. AG FEAF to CG FAF, sub: Requirement for a Tactical Radar Destruction Aircraft, 12 Dec. 1952, w/incl: draft ltr., FEAF to D/Rqmts. USAF, sub: Requirement for Tactical Radar Destruction Aircraft.
  109. 1st ind. (ltr., FEAF to FAF, 12 Dec. 1952), FAF to CG FEAF, n. d.
  110. FAF Opns. Prgms. Bks., 3 Mar. and 9 Aug. 1953.
  111. Daily Journal FAF, D/Opns. entry, 8 Apr. 1953; Hist. 67th Tac. Recon. Wg., July-Dec. 1953; Hist. FEAF, July-Dec. 1953, I, 406.
  112. AHS-72, pp. 227-29.
  113. Yates rpt., 23 Aug. 1953.
  114. AHS-72, pp. 227-28; ltr., Col. R. C. Lewis, AG FAF to Comdr. 67th Tac. Recon. Wg., sub: EUSAK Photo Reconnaissance Requirements, 2 June 1952.
  115. Hists. 67th Tac. Recon. Wg., July-Dec. 1952, Jan.-June 1953, and July-Dec. 1953.
  116. 67th Tac. Recon. Wg., Special Projects Rpt., 1 July 1952, sect. II.
  117. Rpt. of Jnt. Army-Air Force Recon. Conf., 12-13 Aug. 1952.
  118. Hist. 67th Tac. Recon. Wg., July-Dec. 1952.
  119. *Ibid.*, Jan.-June 1953, pp. 119-28.
  120. Rpt. of Jnt. Army-Air Force Recon. Conf., 12-13 Aug. 1952.
  121. Hist. D/Opns. FAF, Aug. 1953, pp. 3-4 and Sept. 1952, pp. 4-9 and incl. 2.
  122. Hists. D/Opns. FAF, Sept. 1952, pp. 4-9 and Oct. 1952, pp. 4-9.
  123. *Ibid.*, Sept. 1952, pp. 4-9 and Oct. 1952, pp. 4-9.
  124. *Ibid.*, Jan. 1953, pp. 7-8 and Feb. 1953, pp. 6-7.
  125. Yates rpt., 23 Aug. 1953.
  126. AHS-72, pp. 226-27.
  127. Eighth Army SOP: Tactical Air Reconnaissance, 30 Sept. 1952.
  128. Rpt. of Jnt. Army-Air Force Recon. Conf., 12-13 Aug. 1952; FEAF Rpt., II, 72.
  129. FEAF Rpt., II, 72.
  130. Hist. 67th Tac. Recon. Wg., July-Dec. 1953; 67th Tac. Recon. Wg., Employment of Jet Reconnaissance in the Korean Conflict, p. 8.
  131. Eighth Army SOP: Tactical Air Reconnaissance, 30 Sept. 1952.
  132. Disposition form, G-2 Air JOC to C/Recon. Opns. FAF, sub: Photo Reconnaissance Capabilities, 3 Sept. 1952; comment 2, Capt. J. B. Townsend, Jr., Asst. C/Recon. Opns. FAF to G-2 Air JOC, 6 Sept. 1952.
  133. Minutes, FEAF Formal Tgt. Com. Mtg., 30 Sept. 1952; rpt., ARDC TG for Tac. Recon. Systems, 10 Dec. 1952, Tab. 1-C-(3)-(d).
  134. Hist. 67th Tac. Recon. Wg., July-Dec. 1953; Hist. D/Opns. FAF, Nov. 1952, pp. 15-20.
  135. Yates rpt., 23 Aug. 1953.
  136. Memo, Maj. James B. Townsend, C/Recon. Opns. FAF to G-2 Air JOC, sub: EUSAK Aerial Photographic Requirements, 1 Nov. 1952; Hist. D/Opns. FAF, Nov. 1952, pp. 15-16; memo, Townsend to G-2 Air JOC, sub: Fifth Air Force Operating Policies, 13 Dec. 1952, and comment 2, Col. J. T. Mozley, G-2 Air to Recon. Opns. JOC, 15 Dec. 1952.
  137. Hist. 67th Tac. Recon. Wg., July-Dec. 1952.
  138. Memo for G-2 Air JOC from Townsend, 1 Nov. 1952; memo for Recon. Opns. FAF from G-2 Air JOC, 2 Nov. 1952.
  139. Hist. D/Opns. FAF, Nov. 1952, pp. 15-20.
  140. Disposition form, Col. G. F. Blood, C/Combat Opns. Div. FAF to D/Opns. FAF, sub: Photo Coverage, 10 Nov. 1952.
  141. Ltr., Maj. Gen. R. F. Ennis, AC/S G-2 FEC to Depy. for Intel. FEAF, sub: Aerial Photo Requirements in Korea, 27 Nov. 1952; 1st ind., Banfill to AC/S G-2 FEC, n. d.
  142. Hist. D/Opns. FAF, Mar. 1953, pp. 6-8.
  143. FAF Reviews, 30 June and 31 July 1953; FAF Monthly Anals., Jan. through July 1953, 67th Tac. Recon. Wg. sects.
  144. Hist. D/Opns. FAF, Mar. 1953, pp. 6-8.
  145. *Ibid.*, June 1953, p. 6; Hist. 67th Tac. Recon. Wg., July-Dec. 1953.
  146. Hist. D/Opns. FAF, Dec. 1952, pp. 10-11.
  147. Ltr., Ennis to Depy. for Intel. FEAF, 27 Nov. 1952.
  148. Yates rpt., 23 Aug. 1953.
  149. Depy. for Intel. FEAF, FEAF Aerial Reconnaissance in the Korean Conflict, in FEAF Comd. Rpt., Nov. 1953, vol. II.
  150. FEAF Rpt., II, 18.
  151. Hist. 315th Air Div., Jan.-June 1953, I, 140.
  152. FEAF Rpt., II, 20-21.
  153. 315th Air Div., Flexible Air Transport, 15 Nov. 1951, p. 9.
  154. FEAF Rpt., II, 22.
  155. Hist. 315th Air Div., Jan.-June 1952, I, 7-12.
  156. *Ibid.*, July-Dec. 1952, I, 84-85.
  157. *Ibid.*, pp. 8-9.
  158. *Ibid.*, pp. 9, 134-35.
  159. Hist. 483d TC Wg. (M), Jan.-June 1953, p. 1; Hist. 403d TC Wg. (M), July-Dec. 1952, pp. 1-10.
  160. Hist. 315th Air Div., Jan.-June 1953, I, 4.
  161. Flexible Air Transport, pp. 32-35.
  162. AHS-72, p. 246; Hist. 374th TC Wg., July-Dec. 1952, pp. 45-46.
  163. AHS-72, p. 246.
  164. Hist. 374th TC Wg., July-Dec. 1953, pp. 45-84.
  165. Memo for CG 315th Air Div. from Col. D. E. Daniel, D/Opns. 315th Air Div., sub: Factors Affecting Operation of C-124 Aircraft in Far East, 31 Aug. 1952.
  166. Staff study, 315th Air Div., sub: C-124 Aircraft Spares Report, n. d., in Hist. 315th Air Div., July-Dec. 1952, II, doc. C-4; msg. A-8327 OP-RQMT, CG FEAF to CG 315th Air Div., 27 Aug. 1952.
  167. Hist. 374th TC Wg., July-Dec. 1952, pp. 103-04.
  168. Ltr., Brig. Gen. Chester E. McCarty, CG 315th Air Div. to Weyland, 25 Sept. 1952.
  169. Ltr., McCarty to CG FEALOGFOR, sub: Supply Support for C-124 Type Aircraft, 2 Dec. 1952.



SECRET

70. Ltr., McCarty to Weyland, 25 Sept. 1952.
71. Ltr., Weyland to McCarty, n. d., in Hist. 315th Air Div., July-Dec. 1952, II, doc. B-3.
72. Hist. 315th Air Div., July-Dec. 1952, I, 49, 63-64; Hist. 374th TC Wg., July-Dec. 1952, pp. 103-04.
73. Hist. 315th Air Div., July-Dec. 1952, I, 132-33.
74. 315th Air Div., Monthly Statistical Sums., July 1952 through July 1953; Hist. 315th Air Div., Jan.-June 1953, I, 58.
75. Hists. 374th TC Wg., July-Dec. 1952, pp. 95-96 and Jan.-June 1953, pp. 32-34.
76. *Ibid.*; Hist. 315th Air Div., Jan.-June 1953, I, 157-58.
77. Hist. 374th TC Wg., Jan.-June 1953, pp. 74-79.
78. *Ibid.*, pp. 64-73; Hist. 315th Air Div., Jan.-June 1953, I, 89-92.
79. Msg. W-3-558, Comdr. 374th TC Wg. to McCarty, 18 June 1953; msg. GX-MCMTA-C-124-5369, Comdr. AMC to Comdr. FEAF, 18 June 1953; msg. AX-7050, CG FEAF to CG AMC, 28 June 1953.
80. Hist. 374th TC Wg., July-Dec. 1953, p. 21; FEAF Comd. Rpt., July 1953, I, 37-38.
81. Hist. 315th Air Div., July-Dec. 1952, I, 84-93; D/Management Anal. FEAF, Our Story of the C-124, 25 July 1953.
82. Hist. D/Materiel FAF, May 1953, pp. 22-23.
83. Daily diary, Combat Opns. Div. FEAF, 18 Oct. 1952; Hist. D/Opns. FAF, June 1952, pp. 6-7.
84. Hist. D/Materiel FAF, Apr. 1953, pp. 32-33.
85. Hist. 315th Air Div., July-Dec. 1952, I, 87.
86. D/Management Anal. FEAF, Our Story of the C-124, 25 July 1953.
87. FEAF Rpt., II, 28.
88. Hist. D/Materiel FAF, May 1953, pp. 22-23.
89. FEAF Rpt., II, 19.
90. D/Management Anal. FEAF, Our Story of the C-124, 25 July 1953.
91. Hist. D/Materiel FAF, May 1953, pp. 22-23.
92. AHS-72, pp. 246-47.
93. FEAF Statistical Digest, Dec. 1952, p. 44; msg. AX-6102-D/O, CG FEAF to CG AMC (Personal to White and Mundy from Brentnall), 20 June 1952; msg. A-6060-D/O, CG FEAF to CG 315th Air Div., 19 June 1952.
94. Ltr., Maj Andrew Diantonio, AG 315th Air Div. to CG FEAF, sub: Condition of Type C-119 Aircraft, 5 Apr. 1951; 1st ind., Maj. J. P. Crim. Asst. AG FEAF to CG AMC, 11 Apr. 1951.
95. Msg. AX-6102-D/O, CG FEAF to CG AMC, 20 June 1952; AHS-72, p. 245.
96. Ltr., Diantonio to CG FEAF, 5 Apr. 1951; 1st ind., Crim to CG AMC, 11 Apr. 1951.
97. Ltr., CG FEAF to D/Rqmts. USAF, sub: Requirement for C-119 Type Aircraft, 29 Feb. 1952.
98. Msg. AFOOP-OC-T-57418, USAF to TAC, FEAF, AMC, 16 Apr. 1952; msg. TCOMMT-3205, TAC to AMC, FEAF, MATS, 22 May 1952.
99. Msg. AX-6102-D/O, CG FEAF to AMC, 20 June 1952.
100. Hist. AMC, July-Dec. 1952, I, 413-15.
101. Hist. 483d TC Wg., Jan.-June 1953, p. 91.
102. Ltr., Col. Richard W. Henderson, Comdr. 314th TC Gp. to Brig. Gen. J. P. Henebry, CG 315th Air Div., sub: Cannibalization of Aircraft, 29 July 1951; 1st ind., Henebry to Comdr. 315th TC Gp., 26 Sept. 1951; Hist. 37th TC Sq., Jan. 1952.
203. Hist. 483d TC Wg., Jan.-June 1953, pp. 79-81.
204. Msg. AX-6102-D/O, CG FEAF to AMC, 20 June 1952.
205. Hist. AMC, July-Dec. 1952, I, 413-15.
206. Hist. 315th Air Div., July-Dec. 1952, I, 49; 403d TC Wg. Reviews, July 1952, pp. 13-15 and Aug. 1952, pp. 12-15; Hist. AMC, July-Dec. 1952, I, 540.
207. Hist. 315th Air Div., July-Dec. 1952, I, 49; Hist. 403d TC Wg., July-Dec. 1952, pp. 28-32, 48-50.
208. Hist. 315th Air Div., Jan.-July 1953, I, 64-65; Hist. 483d TC Wg., Jan.-June 1953, pp. 78-90.
209. Hists. 314th TC Gp., Jan. and Mar. 1952.
210. Memo for Comdr. 483d TC Wg. from Col. Richard P. Carr, sub: Unsatisfactory Propeller, 23 Mar. 1953.
211. Hist. 315th Air Div., Jan.-June 1953, I, 143.
212. *Ibid.*, pp. 66-67.
213. Hist. 315th Air Div., Jan.-June 1953, I, 155-56.
214. Hist. 315th Air Div., July-Dec. 1952, I, 49-50; Hist. 315th TC Wg., Jan.-June 1953, p. 40.
215. Hist. 315th TC Wg., Jan.-June 1953, p. 40.
216. *Ibid.*, July-Dec. 1952.
217. Hist. 315th Air Div., Jan.-July 1953, I, 143.
218. Ltr., McCarty to CG FEAF, sub: Conversion of 315th Troop Carrier Wing, 2 Dec. 1952.
219. Msg. A-3230-OP-RQMT, CG FEAF to CG 315th Air Div., 10 Mar. 1953.
220. Msg. AX-4343-D/O, CG FEAF to C/S USAF, 24 Mar. 1953.
221. Msg. AFOOP-OC-T, USAF to CG FEAF, 17 Apr. 1953.
222. AHS-80: Air Force Participation in Joint Army-Air Force Training Exercises, 1947-1950, p. 22.
223. AHS-72, pp. 235-36; Hist. 6127th Air Terminal Gp., Mar. 1951.
224. Hist. 6127th Air Terminal Gp., Nov. 1951.
225. *Ibid.*
226. Hist. 315th Air Div., Jan.-June 1951, I, 30-31 and II, doc. B-23.
227. Hist. 6127th Air Terminal Gp., Feb. 1951.
228. *Ibid.*, June 1951 and Nov. 1951; FEAF Rpt., II, 25.
229. Flexible Air Transport, 15 Nov. 1951, pp. 58-59.
230. Hist. 374th TC Wg., July-Dec. 1952, pp. 76-77.
231. Ltr., McCarty to Comdr. 6127th Air Terminal Gp., sub: Operational Delays, 22 Oct. 1952.
232. Hist. 315th Air Div., Jan.-June 1953, I, 4-5.
233. *Ibid.*; Hist. 6127th Air Terminal Gp., Jan.-June 1953, pp. 1-7; 315th Air Div. Reg. 20-3, Missions of Wings, Separate Groups and Squadrons, 16 Feb. 1953; Hist. 374th TC Wg., Jan.-June 1953, pp. 41-55.
234. Ltr., Henebry to CG FEAF, sub: Plan and Schedule for Assuming Air Terminal Responsibility, 29 Jan. 1951.
235. Hist. 315th Air Div., July-Dec. 1951, I, 161-63.
236. Ltr., Lt. John W. Upp, Asst. AG 315th Air Div. to Comdr. 6127th Air Terminal Gp., sub: Mission Letter, 6 Nov. 1951; 1st ind., Lt. Col. R. B. Nowell, Comdr. 6127th Gp. to CG 315th Air Div., 5 Dec. 1951; 2d ind., Lt. Dale L. Tryon, Asst. AG 315th Air Div. to Comdr. 6127th Gp., 4 Jan. 1952.



237. Flexible Air Transport, 15 Nov. 1951, p. 9.
238. Ltr., Maj. Gen. W. E. Farthing, D/Trans. DCS/M USAF to CG TAC, sub: Aerial Port Responsibilities, 29 June 1951.
239. Hist. 1st Aerial Port Opns. Sq., July 1951-Mar. 1952.
240. Decision on JCS 1891/31, 5 Dec. 1951, quoted in memo for CG FEAF from Henebry, sub: Report of Visit to USAF, 19 Jan. 1952.
241. Ltr., Henebry to CG FEAF, sub: Policy on Establishment and Operation of Air Terminals, 20 Feb. 1952, w/draft AFR, sub: Aerial Ports and Air Terminals.
242. Msg. TNODR-A 3-9502, CG TAC to Maneuver Director, Exercise "Long Horn," 11 Mar. 1952.
243. AF Ltr. 55-8, sub: Memorandum of Understanding Relating to the Operation of Air Force Air Terminals, 23 Jan. 1953.
244. Ltr., Maj. E. E. Ewing, Asst. AG FEAF to CG 315th Air Div., sub: Aerial Port Operations Squadron Deployment, 15 Apr. 1953.
245. Hist. 315th Air Div., July-Dec. 1954, I, 20.
246. AHS-71, p. 108.
247. Ltr., Col. C. B. Warden, AG FEC to CG's Eighth Army, *et al.*, sub: Air Transportation of Patients Within the Far East Command and Korea, 18 Dec. 1951.
248. Col. Adriel N. Williams, Aeromedical Evacuation in a Theater of Operations (Air War College thesis, Mar. 1953), pp. 9-12; TAC, Project Vicksburg Blue, phase I, July 1952.
249. FEAF Rpt., II, 24.
250. DAF, Office of Surgeon General (OSG), First Report of the USAF Medical Service, 1 July 1949-30 June 1952, p. 237.
251. FEAF Opns. Hist., I, 35.
252. Draft rpt. of U. S. Secy. of Defense, Operations in Korea, 25 June 1950-8 July 1951, pt. III, pp. 28-29.
253. AHS-71, p. 108; FEAF Rpt., II, 23.
254. Msg. ADV-OPS-B496, CG FAF ADV to Air Rescue Service, 1 Aug. 1950; msg. AX-4205, CG FEAF to C/S USAF, 14 Aug. 1950.
255. Memo for Maj. Gen. R. M. Ramey, D/Opns. USAF from Overseas Div. D/Opns. sub: Helicopter for Front-Line Evacuation, 20 Aug. 1950; FEAF Opns. Hist., I, 119.
256. DA Teletype TT-3710, CINCFE to DA, 31 Aug. 1950.
257. Ltr., Maj. G. D. Specht, AG ARS to CG TAC, sub: Notes on Combat Helicopter Operations, 1 Mar. 1951.
258. AHS-72, pp. 247-50.
259. Ltr., Gen. N. F. Twining, Vice C/S USAF to CG FEAF, sub: Helicopter Requirements, 23 Feb. 1951.
260. Msg. A-4735CG, CG FEAF to C/S USAF (Personal to Vandenberg from Stratemeyer), 11 Mar. 1951.
261. Msg. AFOOP-OD 57097, C/S USAF to CG FEAF, 15 Mar. 1951; USAF Daily Staff Digest, 1 May 1951; G. O. 507, FAF, 27 July 1951; ltr., Brig. Gen. James Ferguson, V/Comdr. FAF to Comdr. 10th Liaison Sq., sub: Mission Letter, 17 Aug. 1951.
262. Ltr., Col. E. E. Toro, AG FEAF to D/Rqmts. USAF, sub: Helicopter and Liaison Aircraft Requirements, 24 July 1951; 1st ind., Maj. Gen. R. M. Ramey, D/Opns. DC/S Opns. USAF, to CG FEAF, 23 Aug. 1951.
263. Joint Army and Air Force Adjustment Regulations 5-10-1, Combat Joint Operations, Etc.: Employment of Aircraft for Performance of Certain Missions, 20 May 1951, cited in R. Earl McLendon, *Army Aviation, 1947-1953* (Air University Documentary Research Study, May 1954), pp. 6-7.
264. McLendon, *Army Aviation*, p. 29.
265. Msg. CX-60724, CINCFE to DEPTAR, 20 Aug. 1950.
266. Hist. Headquarters USAF, 1 July 1950 to 30 June 1951, p. 70.
267. McLendon, *Army Aviation*, pp. 32-33.
268. D/Plans and Hosp. OSG USAF, Theater Aeromedical Evacuation System, ca. Mar. 1951, p. 20.
269. FEAF Rpt., II, 44-45.
270. McLendon, *Army Aviation*, pp. 21-28.
271. Hist. 801st MAE Sq., Apr. 1951; Hist. Command Surgeon FEAF, Jan.-June 1953, p. 9.
272. Medical Air Evacuation Requirements, in Hist. 315th Air Div., July-Dec. 1951, II, doc. H-11; FEAF Opns. Hist., II, 107.
273. 315th Air Div. Reg. 60-5, sub: Standing Operating Procedure for Air Evacuation Flights, 27 July 1951.
274. Hist. 801st MAE Sq., Oct. 1951, appen. 1: Utilization of the C-124A for Medical Air Evacuation in the Far East Theater.
275. Hist. 315th Air Div., July-Dec. 1952, I, 90.
276. Hists. 374th TC Wg. and 315th TC Wg., Jan.-June 1953.
277. Hists. 801st MAE Sq., Apr. and June 1951; DAF OSG, First Report of the USAF Medical Service, 1 July 1949-30 June 1952, pp. 35-37.
278. FEAF Rpt., II, 23-24.
279. Ltr., Henebry to CG FEAF, sub: Medical Air Evacuation, Far East Command, 22 Feb. 1951.
280. Hists. 801st MAE Sq., Feb. through June 1951.
281. Ltr., Warden to CG's Eighth Army, *et al.*, sub: Air Transportation of Patients Within the Far East Command and Korea, 18 Dec. 1951.
282. DAF OSG, First Report of the USAF Medical Service, 1 July 1949-30 June 1952, pp. 33-34.
283. Hist. 315th Air Div., Jan.-June 1953, I, 3-4.
284. FEAF Rpt., II, 24.
285. *Ibid.*, II, 23.
286. Capt. Annis G. Thompson, *The Greatest Airlift, the Story of Combat Cargo* (Tokyo, 1954), p. 234.
287. OSG USAF, Theater Aeromedical Evacuation System, appen. 1.
288. 315th Air Div., Flexible Air Transport, 15 Nov. 1951, pp. 40-41, quoting Brig. Gen. E. D. Churchill (MC-Res.) in *Journal of the American Medical Association*, 17 Mar. 1951.
289. TAC Project Vicksburg Blue, Introduction and Phase I, p. iii.
290. Rpt. of Opns., First Aeromedical Group, Activation through Exercise Long Horn, pp. 38-40; Williams thesis, p. 17.
291. Hist. 315th Air Div., July-Dec. 1952, I, 144-45.
292. 315th Air Div., Forms 125A, July 1952 through July 1953.



- SECRET
293. Hist. 315th Air Div., July-Dec. 1952, I, 144-45.  
 294. *Ibid.*, Jan.-June 1953, I, 161.  
 295. AHS-72, pp. 241-42.  
 296. Hist. 315th Air Div., Jan.-June 1953, I, 167-168.  
 297. *Ibid.*, July-Dec. 1952, I, 142-43.  
 298. *Ibid.*, Jan.-June 1953, I, 163-64; Hist. 483d TC Wg., Jan.-June 1953, pp. 29-34.  
 299. Hist. 315th Air Div., Jan.-June 1953, I, 164-66; Hist. 483d TC Wg., Jan.-June 1953, pp. 34-35.  
 300. FEAF Comd. Rpt., June 1953, I, 9-10.  
 301. Hist. 315th Air Div., July-Dec. 1952, I, 120-29.  
 302. 315th Air Div., Opns. Plan 56-52, 8 Oct. 1952.  
 303. Hist. 315th Air Div., July-Dec. 1952, I, 106-11; Thompson, *The Greatest Airlift*, pp. 251-58.  
 304. Hist. 315th Air Div., Jan.-June 1953, I, 116-39.  
 305. FEAF Rpt., II, 30.  
 306. Msg. A-2186B, CG FEAF to COMNAVFE, 12 Oct. 1950; Hist. FEAF Combat Cargo Command (P), 10 Sept. 1950-24 Jan. 1951, p. 126.  
 307. FEAF Rpt., II, 27.  
 308. AHS-72, p. 234; ltr. McCarty to Dr. Albert F. Simpson, C/USAF Hist. Div., 25 Apr. 1956.  
 309. FEAF Rpt., II, 18.  
 310. AHS-72, p. 13.  
 311. Msg. CX-60724, CINCFE to DEPTAR, 20 Aug. 1950.  
 312. Hist. AMC, July-Dec. 1952, p. 258; DA, TO&E 55-57, Transportation Helicopter Companies, Army, 24 Oct. 1950.  
 313. Col. C. B. Bunker, C/Air Trans. Service Div. Off. of C/Trans., Helicopters and the Army, 10 Aug. 1951, p. 4.  
 314. McLendon, *Army Aviation*, pp. 21-24.  
 315. Ltrs., Maj. Gen. Glenn O. Barcus, CG TAC to CG CONAC, sub: Helicopter Assault Transport Squadron, 10 Aug. 1950; and TAC to D/Rqmts. USAF, sub: T/O&E for Helicopter Assault Transport Squadrons, 23 Sept. 1950.  
 316. USAF Statistical Digest, FY 1953, p. 190.  
 317. *Ibid.*, FY 1952, p. 159.  
 318. Hist. Hqs. USAF, July 1950-June 1951, p. 46; Williams thesis, pp. 36-37.  
 319. FEC Comd. Rpt., Sept. 1951, p. 68; Lynn Montross, *Cavalry of the Sky* (New York, 1954), pp. 156-79.  
 320. FEC Comd. Rpt., Nov. 1951, pp. 88-89.  
 321. Lt. Col. Benjamin A. Lentz, USA (TC), The Employment of Army Transportation Corps Helicopter Units in Forward Areas (AWC thesis, Mar. 1953), p. 3.  
 322. Hist. Joint Air Transportation Board, 2 July 1951-3 Mar. 1955, pp. 30-31; McLendon, *Army Aviation*, pp. 24-26.  
 323. McLendon, *Army Aviation*, pp. 26-27.  
 324. USAF Stat. Digests, FY 1952, p. 154 and FY 1953, p. 182; Hist. AMC, July-Dec. 1952, p. 258.  
 325. Harry A. Jacobs, "Cargo 'Copters Carry the Day," in *Aviation Age*, vol. 21, June 1954, pp. 16-19.  
 326. USAF Stat. Digest, FY 1953, pp. 180, 190.  
 327. Hist. 315th Air Div., July-Dec. 1952, I, 163.  
 328. Barcus Bd. Rpt., bk. 2, pp. 387-88.  
 329. AHS-72, pp. 66-67.  
 330. Ltr., Maj. Gen. George W. Mundy, D/Supplies, Services, and Maint. Engineering AMC to CG AMC, sub: Report of Visit to FEAF, 5 Mar. 1952.  
 331. Hist. D/Materiel FAF, Aug. 1952, p. 25.  
 332. Daily diaries, Comb. Opns. Div. FEAF, 16 Sept. and 25 Oct. 1952.  
 333. Daily Journal FAF, D/Materiel entry, 21 June 1953.  
 334. Hist. D/Materiel FAF, June 1953, pp. 37-38.  
 335. Ltr., McCarty to Simpson, 25 Apr. 1956.  
 336. Hist. Air Rescue Service [ARS], July-Dec. 1952, pp. 9-21.  
 337. *Ibid.*, Jan.-June 1953, p. 48.  
 338. Hists. Twentieth AF, Jan.-June 1952, p. 145 and July-Dec. 1952, pp. 323-26.  
 339. Hist. 2d Air Resc. Gp., July-Dec. 1952, pp. 16-17.  
 340. Col. Klair E. Back, Comdr. 3d Air Resc. Sq., What Air Rescue Can Mean to You, ca. Mar. 1952, in Hist. 3d Air Resc. Sq., Mar. 1952, doc. 4.  
 341. Ltr., Lt. Col. F. E. McCoy, Comdr. 91st Strat. Recon. Sq. to Comdr. 3d Air Resc. Sq., sub: Commendation, 20 Sept. 1951.  
 342. Hist. 3d Air Resc. Gp., July-Dec. 1952.  
 343. *Ibid.*  
 344. Major Operational Problems Encountered During the Korean Conflict by the Third Air Rescue Group and Solutions Thereto, in Hist. 3d Air Resc. Gp., July-Dec. 1953, doc. 1.  
 345. AHS-72, p. 247; FAF SOP: Combat Search and Rescue, 31 Aug. 1952.  
 346. Hist. 3d Air Resc. Sq., Oct. 1951, p. 94.  
 347. Ltr., Comdr. 3d Air Resc. Sq. to Comdrs. All Flts., sub: Detachment One, SA-16 Korean Element Directive, 23 Nov. 1951; Hist. 3d Air Resc. Sq., Dec. 1951, p. 88.  
 348. Hist. 3d Air Resc. Sq., Jan. 1952, p. 76.  
 349. *Ibid.*, Feb. 1952, pp. 77-82 and Mar. 1952, pp. 74-79.  
 350. FAF SOP: Combat Search and Rescue, 31 Aug. 1952.  
 351. Hists. 3d Air Resc. Sq., Feb. 1952, p. 77 and 3d Air Resc. Gp., July-Dec. 1952, Det. 1 sect., n. p.  
 352. Hists. D/Opns. FAF, Oct. 1952, p. 7 and Nov. 1952, pp. 14-15; Hist. 3d Air Resc. Gp., July-Dec. 1952; FAF Opns. Prgms. Bk., Jan. 1953, pp. 12, 14.  
 353. Ltr., FAF to CG FEAF, sub: Helicopter Requirements, 19 Dec. 1952.  
 354. FAF Opns. Prgms. Bk., Mar. 1953, p. 11.  
 355. Hist. D/Intel. FAF, Jan. 1953, p. 4; Hist. D/Opns. FAF, Mar. 1953, pp. 13-14.  
 356. Hist. ARS, July-Dec. 1952, pp. 98-107.  
 357. Hist. 3d Air Resc. Gp., July-Dec. 1952.  
 358. Hist. ARS, Jan.-June 1953, pp. 111-12.  
 359. Hist. 3d Air Resc. Gp., Jan.-June 1953.  
 360. USAF Personnel Rpt.: Casualties, Worldwide, 30 Sept. 1954, p. 1; ARS Combat Opns. Sum. Rpt. (ARS-VI), 25 June 1950-27 July 1953.  
 361. FEAF Rpt., II, 46.  
 362. Msg. A-4735-CG, CG FEAF to C/S USAF (Personal for Vandenberg from Stratemeyer), 11 Mar. 1951.  
 363. Ltr., FAF to CG FEAF, sub: Helicopter Requirements, 19 Dec. 1952; "Tactical Air Rescue in Korea," in *Air University Quarterly Review*, vol. VI, no. 3 (Fall 1953), p. 123.  
 364. FEAF Rpt., II, 46.



SECRET

- 365. Tokyo Weather Central, Korean Weather Throughout the Year, Nov. 1951, pp. 1-6.
- 366. Hist. Air Weather Service [AWS], Jan.-June 1952, pp. 268-71.
- 367. 30th Weather Sq., Policy Folder for Staff Weather Officers, May 1952.
- 368. *Ibid.*
- 369. Hist. 56th Strat. Recon. Sq., Weather, July-Dec. 1952.
- 370. 30th Weather Sq., Policy Folder for Staff Weather Officers, May 1952.
- 371. Ltr., Lt. Col. Carl E. Wagner, Comdr. 30th Weather Sq. to All Forecasters, 30th Weather Sq., sub: Unity of Weather Forecasts, 28 May 1952.
- 372. Hist. 30th Weather Sq., July-Dec. 1952, pp. 23, 33-34.
- 373. *Ibid.*, Jan.-June 1953, p. 2.
- 374. *Ibid.*, July-Dec. 1952, pp. 28-29.
- 375. *Ibid.*, pp. 29-32; 67th Tac. Recon. Wg., Rpt. on Joint Army-Air Force Recon. Cong., 12-13 Aug. 1952.
- 376. Hist. 30th Weather Sq., Jan.-June 1953, pp. 38-40.
- 377. *Ibid.*, p. 39 and July-Dec. 1953, p. 3.
- 378. FAF SOP 55-31: Weather Reconnaissance, 4 Sept. 1952.
- 379. Hist. 30th Weather Sq., Jan.-June 1953, pp. 38-40.
- 380. *Ibid.*, pp. 47-52.
- 381. *Ibid.*, July-Dec. 1952, pp. 40-44.
- 382. Hist. AWS, Jan.-June 1952, pp. 272-83.
- 383. Hist. 30th Weather Sq., July-Dec. 1952, appens. 1-4.
- 384. *Ibid.*, pp. 11-13; memo for Comdr. 30th Weather Sq. from EUSAK Ln. Off., sub: Ground Forces Weather Support Program Monthly Report, 12 Jan. 1953.
- 385. FAF INTSUM, 5 Jan. 1953, pp. 64-66; memo for Comdr. 30th Weather Sq. from EUSAK Ln. Off., 12 Jan. 1953; Hist. 30th Weather Sq., Jan.-June 1953, pp. 7-8.
- 386. Memo for Comdr. 30th Weather Sq. from EUSAK Ln. Off., 12 Jan. 1953.
- 387. Ltr., Lt. Col. Eugene H. Karstens, Comdr. 30th Weather Sq. to CG Eighth Army, sub: Weather Support to Eighth Army, 23 Mar. 1953; 2d ind., CG Eighth Army to CG FAF, 19 Apr. 1953.
- 388. Hists. 30th Weather Sq., Jan.-June 1953, pp. 6-8 and July-Dec. 1953, pp. 7-9.
- 389. Hist. AWS, July 1953-June 1954, pp. 103-05.
- 390. Hist. 30th Weather Sq., Jan.-June 1953, pp. 29-32.
- 391. *Ibid.*, pp. 32-35.
- 392. Ltr., Capt. J. H. MacWilliam, Jr., Asst. Adj. FAF to Comdr. FEAF, sub: Release of AN/GRC-26 Equipment for 30th Weather Squadron Communications, 20 July 1953; Hist. 30th Weather Sq., July-Dec. 1953, pp. 33-34.

SECRET



SECRET

GLOSSARY OF TERMS

AAA.....	Antiaircraft artillery	D/F.....	Direction finder
AACS.....	Airways and Air Communications Service	DIR.....	Depot inspection and repair
AC&W.....	Aircraft control and warning	DZ.....	Drop zone
ADC.....	Air Defense Command	EA.....	Engineer aviation
AF.....	Air Force	ECM.....	Electronics countermeasures
AFB.....	Air Force base	ETA.....	Estimated time of arrival
AFF.....	Army Field Forces	EUSAK.....	Eighth U. S. Army in Korea
AFFE.....	Army Forces Far East	EW.....	Early warning
AFR.....	Air Force regulation	EWP.....	Emergency war plan
AG.....	Adjutant General	FAC.....	Forward air controller
AGF.....	Army Ground Forces	FAF.....	Fifth Air Force
AI.....	Airborne intercept	FAFIK.....	Fifth Air Force in Korea
ALO.....	Air liaison officer	FEAF.....	Far East Air Forces
AMC.....	Air Materiel Command	FEAGOS.....	Far East Air-Ground Operations School
ANFE.....	Aircraft not fully equipped	FEALogFor.....	Far East Air Logistics Force
AOCP.....	Aircraft out of commission parts	FEAMCom.....	Far East Air Materiel Command
APGC.....	Air Proving Ground Command	FEC.....	Far East Command
APR.....	Aerial Photo Reproduction	FM.....	Frequency modulation
ARDC.....	Air Research and Development Command	FSCC.....	Fire support coordination center
ARS.....	Air Rescue Service	GBR.....	Gun, bomb, and rocket
ATRC.....	Air Training Command	GCA.....	Ground-controlled approach
AW.....	Automatic weapons	GCI.....	Ground-controlled interception
AWS.....	Air Weather Service	GHQ.....	General Headquarters
BC.....	Bomber Command	GLO.....	Ground liaison officer
BDA.....	Bomb damage assessment	GO.....	General order
Bde.....	Brigade	GP.....	General purpose
C/.....	Chief	HVAR.....	High velocity aircraft rocket
CAS.....	Close air support	IFF.....	Identification, friend or foe
CAP.....	Combat air patrol	IFR.....	Instrument flight rules
CAT.....	Civil Air Transport	IMC.....	Image motion compensation
CCAF.....	Chinese Communist Air Force	INTSUM.....	Intelligence summary
CCF.....	Chinese Communist Forces	IP.....	Initial point
CCRAK.....	Covert, Clandestine and Related Activities in Korea	JAAF.....	Joint action Armed Forces
CCTS.....	Combat crew training school	JADF.....	Japan Air Defense Force
CEP.....	Circular probable error	JALCO.....	Joint airlift liaison control
CG.....	Commanding general	JATO.....	Jet-assisted takeoff
CIA.....	Central Intelligence Agency	JCS.....	Joint Chiefs of Staff
CINCFE.....	Commander-in-Chief Far East	JOC.....	Joint Operations Center
CINCUNC.....	Commander-in-Chief United Nations Command	JSPOG.....	Joint Strategic Plans and Operations Group
ComNavFE.....	Commander Naval Forces Far East	KComZ.....	Korean Communications Zone
CONAC.....	Continental Air Command	KVA.....	Kilovolt-ampere
C/S.....	Chief of Staff	KW.....	Kilowatt
CW.....	Continuous wave	LOI.....	Letter of instructions
D/.....	Director	LW.....	Lightweight
DAF.....	Department of Air Force	MAE.....	Medical air evacuation
DEPTAR.....	Department of Army	MATCon.....	Military air traffic control
DC/S.....	Deputy chief of staff	MATS.....	Military Air Transport Service
		MAW.....	Marine air wing
		MLR.....	Main line of resistance
		MPC.....	Manual pip control

SECRET



M & S.....	Maintenance and supply	SAAF.....	South African Air Force
MSR.....	Main supply route	SAC.....	Strategic Air Command
MTI.....	Moving target indicator	SAR.....	Search and rescue
NAVFE.....	Naval Forces Far East	SCAP.....	Supreme Commander Allied Powers
NKAF.....	North Korean Air Force	SCARWAF.....	Special category Army personnel with Air Force
NKPA.....	North Korean People's Army		
NMJ.....	Naval Member, Joint Operations Center	SOP.....	Standing operating procedure
NNRC.....	Neutral Nations Repatriation Commission	TAC.....	Tactical Air Command
		TACC.....	Tactical Air Control Center
ORO.....	Operations Research Office	TACP.....	Tactical Air Control Party
OSG.....	Office of Surgeon General	TAD.....	Tactical air direction
OSRD.....	Office of Scientific Research and Development	TADC.....	Tactical Air Direction Center
		TADP.....	Tactical Air Direction Post
PI.....	Photo interpreter	TAR.....	Tactical air request
PIREPS.....	Pilot reports	TC.....	Troop carrier
POL.....	Petroleum, oil, and lubricants	TG.....	Task group
POW.....	Prisoner of war	TMC.....	Transport Movement Control
PSP.....	Pierced steel plank	UHF.....	Ultra high frequency
RAAF.....	Royal Australian Air Force	UN.....	United Nations
REMCO.....	Rear echelon maintenance combined operation	UNC.....	United Nations Command
		USAF.....	United States Air Force
ResCap.....	Rescue combat air patrol	UTM.....	Universal transverse Mercator
RCC.....	Rescue Control Center	V.....	Vice
RCT.....	Regimental combat team	VHF.....	Very high frequency
RHAF.....	Royal Hellenic Air Force	VT.....	Proximity fuse
RIO.....	Reporting-in-and-out	WADC.....	Wright Air Development Center
ROK.....	Republic of Korea	ZI.....	Zone of Interior
R & R.....	Rest and recreation		



## INDEX

## A

able" project, 243-44  
 es, jet, 60-62  
 heson, Dean, 1, 3  
 lams, Maj. Donald E., 61  
 eromedical evacuation, 262  
 gan, Col. Arthur C., Jr., 172  
 rborne assault operations, 105, 262-63, 292  
 r Cargo Resupply Squadron (Provisional), 280  
 rerevs: Communist, 45-47; superiority of Sabre pilots, 59-62; night intruder, 111; medium bomber, 148-51; tactical aircrews possessed, 160; Fifth Air Force problems, 160-66  
 Airdale," 298-99  
 r Defense Command, 52  
 r Divisions (numbered):  
   21st, 149  
   314th, 18  
   315th, 169, 175, 304; mission and organization, 18; Koje amphibious demonstration, 105, 292; provides additional flare aircraft, 228; commanders, 280; concept of operations, 260-63, 293-97; deployment of units, 263-67; problems of aircraft utilization, 267-77; air terminal operations, 277-81; aeromedical evacuation, 281-89; operations, 289-93  
 r Facilities, construction and maintenance in Korea, 172-83  
 r Force Council, 280  
 r Force Photo Lab (numbered):  
   No. 1, 252  
   No. 2, 252  
 r-Ground Operations Course, Fifth Air Force, 200-01  
 r Liaison Officer, 208  
 r Materiel Command, 64-66, 159, 169, 235-36, 268, 270, 273-74, 276  
 r pressure campaign: effect of FEAF's limited air striking power, 23; planning the air strategy, 24-27; operational policy directive, 34-35; further refinement of air strategy, 35-37; development of air targets, 95-96; coordination of FEAF effort, 96-97; operations, 97-140  
 r Proving Ground Command, 64, 66, 79, 294  
 r Rescue Service, 297-304  
 r Research and Development Command, 67, 148, 235-36, 238n, 245-46  
 r Route Traffic Control Center, 92  
 r superiority: 27, 35, 38-92; records of Red aircraft destroyed, 58  
 r Targets Division, Fifth Air Force, 95  
 r Training Command, 65-66, 162, 182  
 rways and Air Communications Service, 310-11  
 r Weather Services, 304-11  
 eutians, 1  
 lexander, Lord Harold of Tunis, 33-34  
 nak airfield, 136

Anderson, Lt. Gen. Samuel E., 17; on air superiority, 58, 69; waives minimum attack altitudes, 152, 190; evaluates F-86 fighter-bomber, 158; calls for all-out close support, 190  
 Anju, 71, 115  
 Anshan, 33  
 Antiaircraft artillery: Communist, 41-43; United Nations, 84-88; suppression of Communist frontline, 219-22  
 Antung, 32, 41, 43, 45, 49, 69-70, 132, 230  
 Aoji, 101  
 Armistice negotiations: begin at Kaesong, 5; adoption of agenda, 6; debates, 7-8; U. S. recesses, 9; deadlock over POW repatriation, 93-94; debates in United Nations, 104-05; restriction of Communist convoys, 114; resumption and conclusion, 122-26  
 Army Field Forces, 8, 280  
 Army Forces Far East, 9, 11, 62, 87, 225, 236  
 Army Ground Forces, 84-85  
 Ashiya Air Base, 18-19, 262, 265-67, 272-77, 279, 291, 298  
 "Ashtray" project, 235-38  
 Atlee, Clement R., 3, 33

## B

B-26: FEAF allocation and utilization, 21-22; 154-55; attack attitudes, 70; air defense usage, 90; night intruders, 110-12; USAF designates replacement for, 154; MPQ-bombing techniques, 222-23  
 B-29: FEAF allocation and utilization, 21-22, 142-43; vulnerability, 70-81; MPQ-bombing techniques, 222-23  
 B-36, 98  
 Baker, Col. Royal N., 61  
 "Baker" project, 245-46  
 Baldwin, Col. Robert P., 61  
 Banfill, Brig. Gen. C. Y., 94, 108  
 Barcus, Lt. Gen. Glenn O., 17, 33, 50, 113, 116, 120, 160, 186, 225; announces towns to be bombed, 37, 100; flies combat missions, 57, 131-32; on air superiority, 58; orders passive defense and dispersion, 87-88; orders B-25 communications center attacks, 99-100; orders changes in night intruder tactics, 110; orders fighter-bomber night harassment, 112; plans coordinated interdiction, 114-20; fixes minimum attack altitudes, 152; orders dive-bombing training, 153, 164-65; views on air-ground training and experimentation, 201-02; evaluates air-ground experiments, 205; evaluates MPQ-bombing, 226; establishes minimum altitudes for reconnaissance aircraft, 257; recommends assault transport wing (1950), 294  
 Battalions (numbered):  
   1st Marine AAA Gun, 86  
   21st Port, 89  
   24th AAA Gun, 86  
   30th AAA AW, 87  
   50th AAA AW, 86



Battalions (numbered)—Continued

64th Engineer Base Topographical, 98  
 68th AAA Gun, 86  
 76th AAA AW, 86  
 78th AAA Gun, 86  
 366th Engineer Aviation, 172, 175-76  
 398th AAA AW, 87  
 773d AAA Gun, 87  
 802d Engineer Aviation, 172-73  
 808th Engineer Aviation, 172, 176, 181n  
 809th Engineer Aviation, 172, 175, 177  
 811th Engineer Aviation, 172, 175  
 822d Engineer Aviation, 172, 178, 180  
 839th Engineer Aviation, 172, 176  
 840th Engineer Aviation, 172, 176-77  
 841st Engineer Aviation, 172, 176  
 865th AAA AW, 86  
 933d AAA AW, 86-87  
 1903d Engineer Aviation, 172, 175-76  
 Becker, Capt. Richard S., 61  
 Bedcheck Charlie, 89-92, 291  
 Berlin Airlift, 277  
 Bettinger, Maj. Stephen L., 61  
 Bevan, Aneurin, 33  
 Big Nori hill, 188  
 BIG SWITCH, 287  
 "Bird Dog" project, 250  
 BLAST, 96, 99  
 Blesse, Maj. Frederick C., 61, 302  
 Bolt, Maj. John F., 61  
 Bon Homme Richard, 32, 105  
 Bonin-Volcano islands, 1, 17  
 Bordelon, Lt. Guy, 91, 91n  
 Bozer, 32  
 "Buster," 248-49  
 Bradley, General Omar N., 9  
 Brady Air Base, 18, 262, 265, 276, 279  
 Brigades (numbered):  
     417th Engineer Aviation, 172-81  
 Briscoe, Vice Adm. Robert P., 32  
 BUCKSHOT, 8, 185  
 Burchett, Wilfred, 121-22  
 Buttelmann, Lt. Henry, 61  
 "Buzzard King (Kilo)," 305

C

C-46, 276-77, 286-87  
 C-47, 276, 286  
 C-54, 276, 286  
 C-119, 272-76, 286  
 C-124, 265, 267-72, 287  
 Canadair, 21  
 Carey, Col. George B., 85  
 Carmichael, Brig. Gen. Richard H., 18, 245  
 Caribbean Air Command, 283  
 Central Intelligence Agency, 10  
 Changjin River, 29  
 Changyon, 100  
 "Charlie" project, 244-45  
 Chasan irrigation dam, 129-31, 134  
 Cheju-do, 81, 305  
 Cherokee attacks, 15, 188-91

Chigyong, 103  
 Childre, Col. Cecil H., 260  
 China, Communist: 97; refuses to accept Indian peace proposal, 104-05; eager to end hostilities, 122-23  
 Chinese Communist Air Force, 20, 32, 39-40, 81-82  
 Chinese People's Volunteers, 2, 7, 93, 121  
 Chinhae Airfield (K-10), 17, 19, 22, 156, 291  
 Chinnampo, 53, 100  
 Chinwi-chon (river), 176  
 Chipyeong, 283  
 Chitose Air Base, 19  
 Choak-tong, 71, 107, 121  
 Cho-do: 53, 56, 71, 88, 187, 208, 249, 306; establishment of TADC, 54, 82; limits on GCI, 75; antiaircraft artillery defenses, 86-87; air attacks against, 89-92; air rescue base, 299-302  
 CHOKE, 113  
 Chongchon estuary, 114-20, 134-35  
 Chongjin, 101  
 Chongjin airfield, 136-37  
 Chongju, 71, 115, 130  
 Chongnyong-ni, 115  
 Chorwon, 105, 134, 292  
 Chosen hydroelectric complex, 27-34, 100-01, 132, 236  
 Chou En-lai, Premier, 97, 123  
 Chunchon Airfield (K-47), 17, 87, 90, 175, 209, 267, 291  
 Chunggangjin airfield, 136, 139  
 Churchill, Prime Minister Winston S., 33-34, 93  
 CINCFE. See MacArthur, Ridgway, or Clark.  
 CINCUNC. See MacArthur, Ridgway, or Clark.  
 Civil Air Transport, 265  
 Clark, General Mark W.: assumes command of UNC/FEC and diagnoses situation, 8; approves FEAF plans, 8; military victory requirements, 9; reorganizes UNC/FEC headquarters, 11-12; on unification of air effort, 13; approves hydroelectric facilities attacks, 31; names British deputy, 33-34; states importance of hydroelectric facilities, 34; limits air attack to military targets, 37; reports conscientious observance of air combat restrictions, 49; on operation MOOLAH, 62-63; views on air pressure, 93; objects to Soviet good offices, 97; forwards CCRAK report to JCS, 103; Koje amphibious demonstration, 105; restricts Communist convoys, 114; requests intensive reconnaissance, 116; resumption of armistice negotiations, 123; approves air attack against sensitive targets, 124, 132; alert to Communist ground attack, 125, 134; irrigation dam attacks, 127-31; comprehensive air attacks against North Korean airfields, 138-39; statements on air support for ground forces, 184; orders air-ground training and experiments, 197-205; unwilling to divert B-29's for MPQ-bombing, 225; orders airlift of ground troops to Korea, 291-92  
 Clark AFB, 19, 282, 297  
 Collins, General J. Lawton, 36, 85, 195  
 Columbus General Depot, 181  
 Commands (numbered):  
     XIX Tactical Air, 15  
 Communist air capabilities: order of battle, 39-40; airfields, 40; antiaircraft artillery, 41-43; warning and control, 43-44, 69-70; aircraft and aircrews, 45-46; strategic concepts, 46-49; Bedcheck Charlie attacks, 89-92



SECRET

Companies (numbered):

- 6th Transportation (Helicopter), 295-96
- 13th Transportation (Helicopter), 295-96
- 82d Engineer Petroleum, 178
- 98th Engineer Aerial Photo Reproduction, 252, 256
- 622d Engineer Aviation Maintenance, 172, 180
- 733d Engineer Aviation Supply Point, 173
- 919th Engineer Aviation Maintenance, 172, 180
- 2348th QM Airborne Air Supply Packaging, 279

Congress, 34

Continental Air Command, 172

Corps (numbered):

- I ROK, 15, 89, 309
- I US, 125, 134, 185-86, 203, 222, 301, 309
- II ROK, 125, 134-35, 190-91, 193, 226-27
- IX US, 8, 105-6, 125, 134, 185, 188, 191, 203, 220, 222, 226, 301, 309
- X US, 9, 12, 15, 185, 195, 197, 203, 222, 227, 293, 301, 309
- XVI US, 105, 200, 291

Covert, Clandestine and Related Activities in Korea, 10-12, 99, 103, 131, 186-87

CRASH, 181

Creighton, Lt. Col. Richard D., 61

Crew Training Air Force, 149

Curtin, Capt. Clyde A., 61

Czechoslovakia, 7, 123

D

Dairen, 30, 33, 41

Davis, Maj. George A., Jr., 61

Dean, Maj. Gen. William F., 122

Defense Department, 34

Dentist Charlie TADC, 54

Department of the Army: responsibilities for antiaircraft artillery, 84-87; provides engineer aviation troops, 172; agreement on photo reproduction, 251-52; agreement on air terminals, 280-81; procures Army helicopters, 285, 293-96; agreements on organic aviation, 284-86, 295-96; organizes helicopter transportation companies, 293-96; accepts USAF weather services, 310

Department of State: on UN objectives in Korea (1950), 2; attitude toward North Korean hydroelectric facilities, 29-30; deplors pre-strike civilian warnings, 37; proposes to seek Russian good offices, 97; tentatively favors Mexican armistice proposals, 104

Detachments:

Royal Hellenic Air Force, 18, 265, 272

Royal Thai Air Force, 18, 265

Divisions (numbered):

- 1st ROK, 188
- 1st US Marine, 213, 285, 294
- 1st US Cavalry, 105
- 2d ROK, 8, 188
- 2d US, 185, 188, 203, 283
- 3d US, 203
- 7th US, 8, 188, 203-05, 292
- 24th US, 291-92
- 25th US, 203
- 37th Soviet, 107
- 40th US, 203
- 43d US, 289
- 45th US, 203, 299, 301

Doorstop, 87-88

Douglas Aircraft Corporation, 269

Doyle, Brig. Gen. John P., 19

E

Edwards Air Force Base, 68

Eighteenth Air Force, 280

Eighth Army: 5, 8-9, 11, 15, 27, 31, 125, 175, 206; mission, 4; control of AAA, 85-87; operation SHOW-DOWN, 105; air-ground operations in last year of war, 184-93; views on tactical air doctrine, 193-97; air-ground operational training, 200-01; air-ground experiments, 203-05; air-ground operations system, 209-11; views on TACP's, 213-14; air observers, 215; tests artillery flak suppression, 219-22; MPQ-bombing, 224-28; requirements for aerial reconnaissance, 253-60; airlift support for, 261-62; use of aeromedical evacuation, 282-89; undertakes frontline aeromedical evacuation, 285; R&R airlift, 290; secures transport helicopters, 293-96; provision of weather services for, 308-11

Eighth Army-Fifth Air Force Indoctrination Team, 201

8055th Mobile Army Surgical Hospital, 286, 299

Electronics countermeasures, 71, 73-74, 77-79, 248-51

Everest, Lt. Gen. Frank F.: 17, 155; discusses tactical air doctrine, 195-96

F

F3D: escort for medium bombers, 75-76; air defense, 90-92

F4U, 91

F7E, 75

F-51: FEAF allocation and utilization, 21-22; replaced with F-86's, 156-57

F-80: FEAF allocation and utilization, 21-22; replaced with F-86's, 156-57

F-84: FEAF allocation and utilization, 21-22, 155-56; effort to provide night escort, 74-75

F-86: requirements for, 20; increased allocation and utilization, 21-22; planning factor, 50; performance comparison with MIG-15, 50-53, 68-69; destruction of MIG-15's, 57-58; modifications, 63-69; as a fighter-bomber, 66, 156-60

F-94: fire control system, 74; escort for medium bombers, 75-76; air defense, 90-92

Fairchild Aircraft Corporation, 256n, 274

Far East Air Forces: air component of FEC, 1; mission, 4-5; change in mission and operations policy, 8; relations with NAVFE, 12-15; status in mid-1952, 15-19; aircraft problems, 19-22; combat capabilities, 22-23; needs new doctrines, 25; states new operations policy, 25, 34-35; coordination of hydroelectric facilities attacks, 31-32; study on Sabre pilots, 60; evaluation of MOOLAH, 63; requests solid-leading-edge F-86 wings, 68; restricts medium bomber operations, 72; policy on HAIL, 73; evaluated searchlight suppression, 74; authorizes tests of night fighter escort, 74; evaluates bomber stream compression, 77; evaluates ECM, 79; evaluates air defense, 92; pioneers beyond existing air doctrines, 94; targeting for air pressure, 95-96; orders attacks against North Korean mines, 102; intensifies air operations during Kojé amphibious demonstrations, 105-06; night intruder organization, 112; fears Com-

SECRET



- munist ground offensive, 116; irrigation dam attacks, 126-31; orders attack against Pyongyang Radio, 131; neutralization of Red airfields, 135-40; requirement for target vulnerability study, 140; on deviations from combat replacement crew schedules, 162; evaluates REMCO, 169; plans runway arresting barrier, 177; states air facilities lessons, 183; statistics of air support sorties, 184, 192; evaluates artillery flak suppression, 221-22; on reconnaissance requirements, 231, 260; on fighter escort for reconnaissance planes, 134; plans RF-86 modifications, 236-38; policy on ECM, 248; ideas on electronics reconnaissance unit, 251; tests C-124 transports, 268-72; states need for a primary air transport airfield in a combat airfield complex, 271; seeks solution to C-119 problems, 273-74; prepares for aeromedical evacuation, 282; requests additional helicopters, 283-84; evaluates air rescue, 304
- Far East Air-Ground Operations Course, 200-201
- Far East Air Logistics Force, 19, 65-66, 79, 143, 156, 168-69, 177, 235-38, 240, 245, 250, 269, 271, 276, 296-97
- Far East Air Materiel Command, 19, 237, 249, 252, 269, 296
- Far East Command: mission and theater area (1950), 1; additionally designated United Nations Command, 2n, 9; organization, 9-12; area responsibilities reduced, 17; orders on control of AAA units, 85-86; states AAA requirements, 86; estimates Communist supplies, 117; notes Red troop movements, 126; directive on aeromedical evacuation, 281-82, 288
- Fast Shuffle, 88
- FEAF Bomber Command (Provisional): 17, 29; organizational and mission, 18; aircraft strength, 20-21; target systems for attack, 27; responsibilities in air pressure campaign, 35; solves problem of Communist night air defenses, 70-81; difficulties with targets for shoran bombing, 95-96, 102-03; standard ordnance, 107; participation in coordinated interdiction, 112-20; continues to attack communications centers, 120-21; irrigation dam attacks, 127-31; attacks sensitive targets, 132-33; coordinated attack against Chongchon estuary bridges, 135; participation in airfield attack, 135-39; weapons selection for airfield neutralization, 139-40; increased combat effectiveness, 141-51; lends bombardiers to Fifth Air Force, 161; support for ground operations, 185-91; MPQ-bombing, 224-28; reconnaissance capabilities, 232, 242-47; search and rescue support of, 298-99
- FEAF Bomber Command, Detachment No. 1, 142
- FEAF Combat Cargo Command, 260-61, 277, 282-83, 286, 293
- FEAF Formal Target Committee, 13, 15, 25, 34-36, 96-97, 106, 108-10, 123, 127, 134-35
- FEC Joint Air Priorities Board, 260-61, 290
- Feng-cheng, 41
- Ferguson, Brig. Gen. James, 7, 30
- Fernandez, Capt. Manuel J., Jr., 6
- Field Manual 31-35, *Air-Ground Operations*, 194
- Fifth Air Force: mission, 12, 17; coordination with Seventh Fleet, 15; organization and composition, 16; relations with JADF, 18-19; aircraft possessed, 20; aircraft utilization, 22-23; hydroelectric attacks, 32; responsibilities in air pressure campaign, 35; planning factor for Sabres, 50; report on F-86F fighter-bomber, 66, 157-60; restrictions on B-26 attack altitudes, 70; seeks to suppress enemy searchlights, 73-74; evaluates searchlight suppression, 74, conference on support for night-flying bombers, 75-76; responsible for air defense in Korea, 81, 88; control of AAA units, 85-86; states AAA requirements, 86; establishes AAA priorities, 86-87; air defense procedures, 90-91; air targets division, 95; attacks Communist troop concentrations, 102; intensified operations during Koje amphibious demonstration, 106; devises night intruder tactics, 110-12; implements SPRING THAW, 117-20; irrigation dam attacks, 127-31; emphasizes armed reconnaissance, 133-35; coordinated attacks against Chongchon estuary bridges, 134-35; participation in airfield attack, 135-39; study of weapons selection, 140; adherence to planning factors, 151-53; receives new aircraft, 153-57; aircrew problems, 160-66; declining fighter-bomber accuracy, 165-66; develops REMCO, 166-69; service tests a reinforced air wing, 169-72; air facilities problems, 172-83; support of Eighth Army operations, 184-93; air-ground operational training, 200-01; air-ground experiments, 203-05; air-ground operations system, 208-09; views on TACP's, 214; tests artillery flak suppression, 219-22; MPQ-bombing, 224-28; employment of flare aircraft, 228-29; reconnaissance capabilities, 232-42, 248-60; reconnaissance conference, 251, 253-56; makes airfields available to C-124's, 267, 271; criticizes Globemaster transports, 272; provides frontline aeromedical evacuation, 283-84; R&R airlift, 290; seeks organic airlift, 296-97; search and rescue system and operations, 299-304; weather forecast capabilities and operations, 305-11
- Finletter, Secretary of Air Force Thomas K., 294
- "Firefly," 116, 228-29
- Firefly fighter, 91
- Fischer, Lt. Harold E., Jr., 61
- Fisher, Brig. Gen. William P.: 18, 43, 79, 145, 150; states vulnerability of B-29's, 71-72; adjusts B-29 attacks to weather conditions, 73; urges camouflage painting of B-29's, 79; on Communist air defense, 80-81; on Communist bridge repair, 119; encouraged by communications center attacks, 120-22; control of shoran beacon units, 147; institutes remedial bombing training, 149; value of volunteer and career crews, 149
- Fithian, Capt. Ben L., 75
- Flare support, 228-29
- Flight Commander Forward Air Controller, 208
- Flyaway kits, 143
- Forbes Air Force Base, 149
- Formosa and Pescadores Islands, 17
- Fort Monmouth, New Jersey, 309
- Forward Air Controller, 208, 214-15
- Foster, Capt. Cecil G., 61
- Funchun, 33
- Funei hydroelectric complex, 27-34
- Fusen hydroelectric complex, 27-34, 133



G

Gabreski, Col. Francis S., 61  
 Ganey, Brig. Gen. Wiley D: 18; deploras combat restrictions on B-29's, 72; requests searchlight suppression, 73; requests B-29 flash suppressors, 79; states requirement for tail warning radar, 79; recommends reorganization of 19th Bombardment Wing, 142; on shoran CEP, 148  
 Garrison, Lt. Col. Vermont, 61  
 GHQ Target Group, 10, 13  
 GHQ Target Selection Committee, 10, 13  
 Gibson, Capt. Ralph D., 61  
 "Glow Worm," 80  
 Great Britain: attitude toward extension of Korean hostilities, 3; controversy regarding hydroelectric attacks, 33-34  
 Groups (numbered):  
     2d Air Rescue, 297-98  
     3d Air Base, 228  
     3d Air Rescue, 297-304  
     4th Fighter-Interceptor, 51, 60-61, 67, 156  
     5th Communications, 208  
     8th Fighter-Bomber, 56  
     10th AAA, 85-87  
     12 Marine Aircraft, 17, 32, 176  
     18th Fighter-Bomber, 22, 56, 156, 175  
     19th Bombardment (Medium), 18, 69, 71, 80, 142, 144, 148, 150, 246, 298  
     33 Marine Aircraft, 17, 32  
     49th Fighter-Bomber, 170-71  
     51st M&S, 167  
     58th Fighter-Bomber, 170-71  
     58th M&S, 167, 170-71  
     61st Troop Carrier, 18, 263, 265, 268, 272  
     98th Bombardment (Medium), 142  
     307th Bombardment (Medium), 142  
     314th Troop Carrier, 18, 265, 272-74  
     374th Troop Carrier, 263  
     403d Troop Carrier, 265  
     443d Troop Carrier, 280  
     474th Fighter-Bomber, 171  
     502d Tactical Control, 81-84, 146, 191, 208-09, 222, 292  
     930th Engineer Aviation, 172-73  
     931st Engineer Aviation, 172-73  
     934th Engineer Aviation, 172-73, 176, 179  
     6127th Air Terminal, 18, 277-81, 290  
     6147th Tactical Control, 17, 163, 175, 208-09, 211-17  
     6167th Air Base, 116, 225  
     6481st Medical Air Evacuation, 288  
 Ground Liaison Officers, 209  
 Guam, 304  
 Gun-Bomb-Rocket sighting systems, 64-66  
 GUN-VAL, 63-64

H

H-5, 283-84, 299-304  
 H-19, 294-96, 299-304  
 H-21, 294-96  
 H-23, 295  
 Haeju airfield, 136

Haeju peninsula, 37, 55, 106, 114-16, 126, 146, 249, 302  
 Hagerstrom, Maj. James P., 61  
 HAIL, 73  
 Hale, Brig. Gen. Dudley D., 17  
 Hamhung airfield, 136, 139  
 "Hammer" aircraft, 234, 255  
 Han River, 125, 175, 179  
 Haneda Airfield, 265  
 Hapocham, 115  
 Harrison, Lt. Gen. W. K., 9, 103  
 Harvard University Russian Research Center, 62  
 "Haymaker" project, 237-38  
 Henebry, Brig. Gen. John P., 260, 278; requests Globemaster transports, 267; urges Air Force control of air-drop supply mechanism, 279-80; reports irregularities in medical holding facilities, 288  
 Higashi Fuchu, 18  
 "Highlight" project, 240-41  
 Hocchang Ore Processing Plant, 102  
 Hoemun airfield, 136, 139  
 Hoengsong Airfield (K-46), 22, 87, 156, 175, 291  
 Hoeryong, 46, 102  
 Hoeryong airfield, 136, 139  
 Hokusen Cement Plant, 107  
 HOLY LAND, 6, 114  
 Hot pursuit, 49  
 Huichon, 49, 112, 122, 135  
 Hull, Gen. John E., 205, 215, 295  
 Hungnam, 29  
 "Hunter-Killer" operations, 111-13  
 Hwanghae province, 126  
 Hwangju airfield, 136  
 Hyangbyong-san, 81-82, 146  
 Hydroelectric facilities attacks: description of targets, 27-29; indecision as to air attack, 29-31; air strikes, 31-32; evaluation, 32-34; continued neutralization, 101-02, 120, 132  
 Hyesanjin airfield, 136-37

I

IL-28, 41, 45, 47, 81  
 Imjin River, 125  
 Inchon, 82, 86-87, 89-92  
 India, 104, 123  
 Interdiction operations: 23; evaluation of rail interdiction, 25-26; interdiction as air pressure, 108-22; against hostile ground forces, 133-35  
 Itazuke Air Base, 19, 142, 155, 166-70, 291  
 Iwakuni Air Base, 19

J

Jabara, Maj. James, 61  
 Japan, 1, 13, 98  
 Japan Air Defense Force, 18-20, 22, 74, 144, 167, 170, 200-201, 250, 284, 297, 304  
 Japan Logistical Command, 11, 277, 286  
 Jarewski, Lt. Franciszek, 63  
 JAYBIRD, 65-66  
 "Jenkins Limiter," 66  
 JOC Present Weather Section, 307-08  
 JOC Weather Forecast Center, 305-11  
 Johnson, Col. James K., 61, 68



Johnson Air Base, 19, 177, 200, 298  
 Joint Action Armed Forces, 85, 284, 293  
 Joint Air-Ground Operations Conference (1953), 206, 210, 214, 219, 221, 228-29  
 Joint Airlift Liaison Control, 261, 290  
 Joint Amphibious Task Force, 77, 105  
 Joint Chiefs of Staff: 5, 132; authorize air operations in North Korea, 2; issue new directives to MacArthur, 2; provide codification of directives to Ridgway, 3; evolve politico-military restrictions on air operations, 4; disapprove massive air attack against Pyongyang, 5, 25; convinced ground offensives are fruitless, 8; favor recess in armistice negotiations, 8; direct maximum air pressure against Communists, 9, 93; reorganize theater commands in Pacific, 17; suspend air attacks against North Korean industry, 29; changing attitude toward hydroelectric facilities attacks, 30-31; emphasize that air pressure strikes be against military targets, 37; agree to consider air strikes against Manchuria, 38; consider "hot pursuit," 49; approve MOOLAH, 62; allow one-time air attack near Siberian border, 101; favor settlement of POW status before armistice, 104; direct exchange of sick and wounded POW's, 123; concur in irrigation dam attacks, 130; make MATS air terminals an Air Force responsibility, 280; order transoceanic medical air evacuation (1949), 281  
 Joint Eighth Army-Fifth Air Force Air Support Board (1951), 200, 210  
 Joint Operations Center (Korea): 12-15, 17, 33, 119, 299, 303; naval member, 15, 206-07; functions, 205-08; communications, 207-08; air-ground operations section, 209; reconnaissance branch, 253-54  
 Joint Psychological Committee, 62  
 Joint Strategic Plans and Operations Group, 10  
 Joint Training Directive for Air-Ground Operations, 194, 205, 210, 252-53  
 Joint US Tactical Air Support Board (1952), 200, 213  
 Jolley, Capt. Clifford D., 61  
 Jones, Lt. Col. George L., 61  
 Joy, Vice Adm. C. Turner, 9n

## K

Kachiapa, 41  
 Kadena Air Force Base, 18-19, 142, 144, 267, 297-98  
 Kadena Rescue Control Center, 298  
 Kaesong, 4, 114-16, 124, 301  
 Kandong airfield, 136  
 Kanggye, 106, 122  
 Kanghai-do, 187  
 Kangnung Airfield (K-18), 175, 208, 301  
 Kasler, Lt. James H., 61  
 Kaya-san, 146  
 Kennan, Ambassador George F., 97-98  
 Kijang-ni, 27  
 Kilchu airfield, 136-37  
 Kim Il Sung, 63, 123  
 Kimpo Airfield (K-14), 17, 62, 71, 81-84, 86-87, 89-92, 139, 170, 173-75, 177-79, 208, 232, 252, 267, 271  
 "Kimpo MIG," 52-53  
 Kincheloe, Capt. Iven C., 61  
 Koje amphibious demonstration, 105-06, 292  
 Koje-do, 31, 292

346

Kokura general depot, 265  
 Komaki Air Base, 19, 268, 298  
 Kompodong, 71  
 Kongosan hydroelectric complex, 27-34  
 Korean Air Defense Region, 81, 84, 88  
 Korean Bay, 41, 49  
 Korean Communications Zone, 85-87, 286  
 Korean Targets Analysis Division, FEAF, 96  
 Kowon, 105, 113  
 Kuan-tien, 41  
 Kuksa-bong, 81-82, 146, 208  
 Kungang Political School, 106  
 Kumbwa, 8, 134, 190  
 Kumsong River, 125  
 Kunsan Airfield (K-8), 17, 22, 81, 86, 164, 170, 179, 291, 301  
 Kunuri, 108, 115, 130  
 Kusong, 115, 130  
 Kusong irrigation dam, 130  
 Kuwonga irrigation dam, 129  
 Kwaksan, 71-72, 77, 79-80, 114-15  
 Kwantung peninsula, 41  
 Kyodong-do, 187  
 Kyomipo, 120  
 Kyosen hydroelectric complex, 27-34, 132

## L

Langley AFB, Virginia, 160  
 Langley Combat Crew Training School, 160  
 Latshaw, Capt. Robert T., Jr., 6  
 LAZY DOG, 73  
 Le Bailey, Col. E. B., 74  
 Lilley, Capt. Leonard W., 61  
 Little Nori hill, 188  
 LITTLE SWITCH, 123, 133, 287  
 "Longhorn" exercise, 280  
 Love, Capt. Robert J., 61  
 Low, Lt. James F., 60-61  
 Luke AFB, Phoenix, Arizona, 162  
 Lynn, Maj. Gen. Roy H., 18  
 Lyons, Lt. Sam R., 75

## M

MacArthur, General Douglas: 9, 11; commander of FEC and UNC, 2; authorizes air operations in North Korea, 2; critical of accordion fashion fighting, 3; relieved from command, 3; considers ground force decisive, 4; attitude toward hydroelectric facilities attacks, 29-30; on air support for ground operations, 184; directs FEAF to operate aerial ports, 277; requests Army helicopters, 285  
 McCarty, Maj. Gen. Chester E., 18, 260, 281; pilots first operational C-124 flight to Korea, 265; apprehensive about C-124 supply support, 268-69; asks investigation of C-124 generators, 270; opposes conversion of 315th Wing, 276-77; directs command change in air terminal detachments, 278-79; questions practicability of air-lifting Army division to Korea, 291; defends unity of airlift, 297  
 McConnell, Capt. Joseph, Jr., 61, 302  
 McHale, Lt. Col. Robert V., 90  
 McNitt, Col. James R., 217-18



SECRET

Jaenjung-dong, 115  
 Maintenance: medium bomber, 143-44; Fifth Air Force, 153; engineer aviation, 181. See also REMCO.  
 Janpojin, 43, 94, 108, 115  
 Jao Tze-tung, 56n  
 Jarianas islands, 1, 17, 304  
 Marshall, General George C.: explains politico-military restrictions, 4; on North Korean hydroelectric facilities, 30  
 Marshall, Lt. Col. Winton W., 61  
 Marshall Islands, 304  
 IATCon, 91, 298  
 Mayo, Lt. Col. B. I., 25-27  
 ME-109, 49  
 Menon, Krishna, 107-08  
 Meteor-8, 20, 50, 55  
 Meyer, Col. J. C., 67-68  
 MIG-15: range estimates, 45, 47; models, 45; armament, 45; Chinese discontent with, 47; Russian testing in combat, 47-49; performance comparison with F-86, 50-53; vulnerability, 63  
 MIG Alley, 49, 53-54, 58, 61, 64  
 Miho Air Base, 166-68  
 Military Air Transport Service, 274, 280-81, 283, 300, 304  
 Misawa Air Base, 19, 170, 291, 298  
 Mitchell, Col. John W., 45, 58  
 MOOLAH, 62-63  
 Moore, Maj. Gen. Ernest, 11, 19  
 Moore, Capt. Lonnie R., 61  
 Moore, Capt. Robert H., 61  
 Mosquito control, 15, 215-19  
 Mukden, 30, 41, 45  
 Mundy, Maj. Gen. George W., 296  
 Munsan-ni, 284, 292, 299  
 Musan, 29, 101

## N

Naktong bombing range, 164-65  
 Nakwon Munitions plant, 101  
 Nam Il, Lt. Gen., 7, 55, 93, 123-24  
 Nam River, 8, 185  
 Namchonjom, 100  
 Namsan-ni, 69, 74, 76, 98, 102  
 Namsi, 114, 136-39, 148  
 National Security Council, 4  
 Naval Forces Far East: 9-10; relations with FEAF, 12-15; Koje amphibious demonstration, 105-06; participation in airfield attack, 135-39; provides close support, 186-91; operates separate airlift, 293  
 Nehru, Jawaharal, 104  
 Nellis AFB, Las Vegas, Nevada, 162  
 Nellis Combat Crew Training School, 162-63  
 Neutral National Repatriation Commission, 93, 123-25  
 Nigata Air Base, 19  
 Ninth Air Force, 231  
 NO-GLO, 75  
 North American Company, 64-68, 236  
 Northern Air Defense Area (Korea), 88-89  
 North Korean Air Force: 39, 63, 81, 139  
 North Korean irrigation dams: 124; destruction of, 126-31  
 North Korean Military Academy, 54-55, 102  
 North Korean People's Army, 1-2, 41, 93

North Korean Tank and Infantry School, 120  
 Noryong-Jim Pumping Station, 179

## O

Ocean, 91  
 O'Donnell, Maj. Gen. Emmett, Jr., 24-25  
 Okung Lead and Zinc Mill, 107  
 "Old Baldy," 185, 190, 229  
 Ongjin airfield, 136  
 Onjong-ni airfield, 136  
 Opari, 114  
 "Operation Feint," 105, 292  
 Operations analysis, 112, 116, 139, 152, 165, 228  
 Oriental Light Metals Company, 72, 101  
 Oryong-dong, 106  
 Osan (K-55), 86-87, 156-57, 173, 176-79, 267, 271, 291  
 "Outpost Vegas," 190  
 Overton, Capt. Dolphin, III, 61

## P

Pace, Secretary of Army Frank, 294  
 Pacific Command, 17  
 Paengnyong-do, 62, 82, 86-88, 146, 187, 300-301, 305  
 Pakchon, 114  
 Panmunjom, 6, 97-98, 114, 123, 126  
 "Paraphib" exercise, 293  
 Parr, Capt. Ralph S., 58, 61  
 Partridge, Lt. Gen. Earle E., 67  
 "Pathfinder," 218  
 Peking, 41, 103-04, 121, 131  
 Philippines, 1, 17, 304  
 Philippine Sea, 32, 224, 238  
 Pingjang-ni, 131  
 "Pin point" project, 224-25  
 Plan Negat, 219  
 Plan Suppress, 220  
 PO-2, 89-92  
 Pochon, 81  
 Pohang Airfield (K-3), 17, 81, 232, 291, 301  
 Poland, 7, 123  
 Pomhwa-dong, 100  
 Port Arthur, 33, 98  
 Potong River, 127  
 Pravda, 103  
 PRESSURE PUMP, 98-99  
 Primer, 224  
 Princeton, 32, 91, 177  
 Psychological warfare: early thoughts of psychological attributes of airpower, 24-25; plans for in pressure operations, 36-37; stirs MIG's into action, 56-57; project MOOLAH, 62-63; BLAST, 98; STRIKE, 100; evaluation of pre-strike warnings, 103-04; attack against Pyongyang Radio, 131-32  
 Pugwon, 115  
 Pujon-gang River, 29  
 Pukchong, 102  
 Pukhan valley, 125, 190-91  
 Pungha-Dong, 121  
 Pusan, 86-87  
 Pusan Airfield (K-1), 87-88, 175-76, 291  
 Pusan East Airfield (K-9), 17, 87, 175-76, 262, 282, 287, 291

SECRET



Pyongyang airfield, 136  
 Pyong-ni, 136, 139  
 Pyongtaek Airfield (K-6), 17, 146, 175-76, 291  
 Pyongyang: 5, 25, 36, 41, 43, 53, 57, 69-70, 79, 96, 106, 111, 113-14, 120, 122, 127, 133, 135, 234, 256, 301; massed air attacks against targets in, 98-99; attacks against  
 Pyongyang Radio, 131-32  
 Pyongyang airfields, 91-92, 136-40  
 Pyoro-ri, 100

## R

Radar: Communist, 43-44, 69; establishment of TADC on Cho-do, 54; Fifth Air Force control and warning, 81-84; IFF, 84; infra-red detector, 110n; MPQ-2 and MSQ-1, 185-91, 222-28; AN/APN-60 beacons, 239, 241-42; shoran. See separate entry.  
 Radio Corporation of America, 147  
 Randolph, Col. R. L., 25-27  
 Randolph AFB, 149  
 RB-26: 239-42; ferrets, 249-50  
 RB-29, 232, 242-46  
 RB-45, 232, 298  
 RB-50, 298  
 Reconnaissance, aerial: electronics, 43, 248-51; shoran targeting, 96, 242, 245-46; role in Korea, 230-31; organizations, 231-33; problems, 233-47; weather, 250-51, 305-07; photographic technical services, 251; allocation of capabilities, 253-60  
 REDBIRD, 110n, 114, 250  
 RED COW, 187  
 Regimental Combat Teams (numbered):  
   8th Cavalry, 105  
   19th, 291  
   34th, 291  
   187th Airborne, 105, 263, 265, 272, 284, 291-93, 297  
 REMCO, 17, 166-69, 296-97  
 Republic of Korea Air Force, 155, 175, 211-12  
 Res CAP, 301  
 RF-51, 234-35  
 RF-80, 233-35, 233  
 RF-86, 235-38  
 Rhee, President Syngman, 62, 89, 125  
 Ridgway, General Matthew B.: 9, 11; assumes command of UNC/FEC, 3; assigns missions to subordinate commands, 4; thinks air reinforcements should await outcome of truce negotiations, 5; fears Communist reinforcements, 5; characterizes Communist truce negotiators, 6; plans for hostilities if armistice negotiations fail, 7-8; informs JCS of challenge to UNC air superiority, 20; on preparedness of Communist ground forces, 27; disapproves hydroelectric facilities attacks, 30-31; requests Army helicopter transportation companies, 295  
 Risner, Capt. Robinson, 61  
 "Road Block Buddy," 116  
 Rogers, Maj. Gen. Elmer J., 11  
 Ro Kum Suk, Lt., 46, 63  
 Ruddell, Lt. Col. George I., 61  
 Ruestow, Maj. Gen. Paul E., 19  
 Ryukyus, 1, 18, 304

348

## S

SA-16, 300-304  
 Saamcham, 136-39, 148  
 Sakchu, 55  
 Sanwang-dong, 112  
 Sariwon, 113, 234, 249, 301  
 Sariwon airfield, 136  
 SB-29, 298-99  
 SCARWAF troops, 172, 180-83  
 Seoul, 6, 17, 36, 82, 86, 89-92, 173-75, 177, 252, 304  
 Seoul Municipal Airfield (K-16), 17-18, 82, 87, 173-75, 228, 265, 267, 271, 290-91, 293, 299-300, 302  
 Sessums, Brig. Gen. John W., 19  
 Seventh Fleet, 12-15, 33, 96, 101-02, 206-8, 223  
 Shanghai, 41  
 Shantung peninsula, 82  
 Shaw AFB, South Carolina, 254n  
 Shengyang. (See Mukden.)  
 Shoosmith, Maj. Gen. Stephen N., 34  
 Shoran: training, 22, 148-50; vulnerabilities of aircraft employing, 70; bombing system, 95-96, 145-51; ground units, 145-46  
 SHOWDOWN, 8, 105, 188  
 SIGHTLINE, 65-66  
 Signal Corps, US Army, 309-10  
 Simpo-Ri, 292  
 Simpungdong, 240  
 Sinanju, 43, 53, 69, 108, 112, 114-20, 127, 132, 134-39  
 Sinchon, 37, 100  
 Sindok, 101  
 Sinhung-dong, 114  
 Sinmak airfield, 136, 139, 286  
 Sino-Soviet Treaty of 1950, 97-98  
 Sinpyong-ni, 115  
 Sinuiju, 41, 43, 69-70, 72-73, 75, 91, 98, 106-08, 112, 132-33, 136-39, 150  
 Siple, Dr. Paul A., 308  
 "Sitting Duck," 187-88  
 6166th Tactical Reconnaissance Flight, Weather, 232, 250-51, 304  
 "Skyhook" exercise, 295  
 Skysweeper, 87  
 SMACK, 204-05  
 Smart, Brig. Gen. Jacob E., 25, 34, 36, 98, 164; defends air pressure strategy, 108  
 Sniper Ridge, 8, 105, 188, 226  
 "Snowfall" exercise, 280  
 "Snowflake" patrols, 306-07  
 Sohwa-ri, 294-95  
 Soktal-li, 102  
 Sok-to, 187, 302  
 Sonchon, 53, 71, 75, 107, 113, 115  
 Sondok airfield, 136, 139  
 Songgum-ni, 82-83, 146  
 Sopo, 107  
 Southern Air Defense Area (Korea), 38-39  
 "Southern Pine" exercise, 280, 289, 294  
 South Pyongan province, 126  
 Soviet Air Force, 20, 39-41, 46  
 Special Weapons Command, 283  
 Spivey, Maj. Gen. Delmar T., 18  
 SPOTLIGHT, 114, 120, 240, 247



SECRET

RING THAW, 116-20

Squadrons (numbered):

1st Aerial Port Operations, 280-81  
 VMJ-1, 232  
 No. 1 Marine Composite, 249-50  
 1st Marine GCI, 81  
 1st Shoran Beacon, 145-46  
 2d Air Rescue, 19, 297-98, 301  
 2d Marine Tactical Air Control, 81  
 2d South African Air Force, 17, 20, 22-23, 58, 156  
 3d Air Rescue, 17, 19, 283-84, 297-304  
 3d Marine GCI, 81  
 4th Fighter-Interceptor, 19  
 6th Troop Carrier, 263, 270  
 7th Aerial Port, 281n  
 7th Fighter-Bomber, 156, 171  
 8th Fighter-Bomber, 156, 171  
 8th Tactical Reconnaissance, 233  
 9th Fighter-Bomber, 156  
 10th Liaison, 17  
 11th Tactical Reconnaissance, Electronics and Weather, 251, 307  
 12th Fighter-Bomber, 157  
 12th Tactical Reconnaissance, 114, 232, 239-42, 248-51, 254-55  
 13th Bombardment (Light), 110  
 14th Troop Carrier, 265  
 15th Tactical Reconnaissance, 232-39  
 15th Troop Carrier, 265  
 15th Weather, 304  
 20th Weather, 304  
 21st Troop Carrier, 18, 265, 276  
 22d Troop Carrier, 268-70  
 26th Fighter-Interceptor, 19  
 28th Bombardment (Medium), 144  
 30th Weather, 304-11  
 31st Air Rescue, 297  
 32d Air Rescue, 297  
 33d Air Rescue, 297  
 34th Air Rescue, 297-98  
 35th Fighter-Bomber, 157  
 36th Air Rescue, 297  
 36th Fighter-Bomber, 157  
 37th Air Rescue, 297, 299  
 37th Bombardment (Light), 110  
 38th Air Rescue, 297  
 39th Air Rescue, 297  
 39th Fighter-Interceptor, 17, 21-22, 50  
 41st Fighter-Interceptor, 19  
 44th Fighter-Bomber, 19  
 45th Tactical Reconnaissance, 232, 234-35  
 53d Troop Carrier, 18, 265, 275  
 54th Strategic Reconnaissance, Weather, Medium, 304  
 56th Strategic Reconnaissance, Weather, Medium, 304  
 58th Air Police, 171  
 58th Food Service, 171  
 58th Installations, 171  
 58th Motor Vehicle, 171  
 67th Fighter-Bomber, 157  
 67th Maintenance, 235  
 67th Reconnaissance Technical, 95, 232, 252-53  
 68th Fighter-Interceptor, 19

Squadrons (numbered)—Continued

77th Royal Australian Air Force, 17, 20, 23, 50, 58  
 80th Fighter-Bomber, 157  
 91st Strategic Reconnaissance, 18, 71, 96, 232, 242-46, 298  
 93d Bombardment (Medium), 150  
 162d Tactical Reconnaissance, 239  
 196th Fighter-Bomber, 19  
 319th Fighter-Interceptor, 17, 74-76, 90  
 335th Fighter-Interceptor, 51-52  
 339th Fighter-Interceptor, 19  
 343d Bombardment (Medium), 79  
 344th Troop Carrier, 267  
 428th Fighter-Bomber, 171  
 429th Fighter-Bomber, 171  
 430th Fighter-Bomber, 171  
 474th Supply, 171  
 VMF (N)-513, 74-76, 176  
 548th Reconnaissance Technical, 96, 146, 232  
 581st Air Resupply, 302  
 605th Tactical Control, 81, 208  
 606th AC&W, 54, 81-84, 208  
 607th AC&W, 81-84, 208  
 608th AC&W, 54, 81-84, 208  
 801st Medical Air Evacuation, 18, 262, 282, 286-88  
 815th Troop Carrier, 267  
 816th Troop Carrier, 267  
 817th Troop Carrier, 267  
 942d Forward Air Control, 208  
 2157th Air Rescue, 297, 301-02  
 6004th Air Intelligence Service, 95n  
 6148th Tactical Control (Air), 208, 215  
 6149th Tactical Control (Air), 208, 215  
 6150th Tactical Control (Ground), 208  
 6155th Air Base, 175  
 6156th Air Base, 170-71  
 6156th Operations, 171  
 6157th Air Base, 170-71  
 6158th Air Base, 170-71  
 6167th Operations, 228  
 6461st Troop Carrier, 265, 267, 272, 276  
 Marine Helicopter Transport, 161, 294-95  
 Stalin, Premier Joseph, 123  
 Stearley, Maj. Gen. Ralph F., 19  
 STRANGLE, 5  
 Strategic Air Command: 80, 161, 244; retaliatory power, 3; responsibilities regarding FEAF Bomber Command, 18; furnishes rotational fighter wing in Japan, 19, 22; support for Bomber Command, 142-43  
 Stratemeyer, Lt. Gen. George E.: commander of FEAF, 2; seeks operational control of all theater air forces, 12; relieved as FEAF commander, 15; recommends all-out air attack against Pyongyang, 26; requests approval for hydroelectric facilities attacks, 29-30; insists FEAF Combat Cargo Command control Marine transport squadron, 293  
 STRIKE, 38, 100  
 Suan, 27  
 Sui-ho hydroelectric complex, 27-34, 43, 49, 53-54, 61, 71, 73-74, 77, 98, 101-2, 120, 124, 132, 240  
 Sunan airfield, 136  
 Sunchon, 135

SECRET



Sungho-ri, 101  
 Supply: medium bomber, 143; Fifth Air Force, 163, 296-97; engineer aviation, 181-82; C-124 aircraft, 268-69; C-119 aircraft, 272-75  
 Suwon Airfield (K-13), 17, 71, 74, 88-87, 90, 131, 157, 169, 173, 177-79, 271  
 "Swarmer" exercise, 260, 277  
 Sweden, 7, 123  
 "Swing" project, 258  
 Switzerland, 7, 123

## T

T-6: air defense usage, 90; limitations for air controller work, 217; visual reconnaissance capability, 234  
 Tachikawa Air Base, 18-19, 263-71, 278-79, 282, 287, 290-91  
 Tactical Air Command, 15, 273-75, 277, 280, 289, 294  
 Tactical Air Control Center, 49, 81-84, 88-92, 208, 299, 303  
 Tactical Air Control Parties, 208, 211-15  
 Tactical Air Coordinator, 208, 215-19  
 Tactical Air Direction Center, 54, 76, 81-84, 88-92, 112, 147, 208  
 Tactical Air Direction Post, 81, 208; controls close-support bombing, 185-93, 222-28  
 Tactics: air-to-air, 49-58, 63; night air combat, 69-81; light bomber, 100, 110-12; night intruder, 110-12; fighter-bomber night harassment, 112; F-86 fighter-bomber, 158-60; close support experiments, 203-5; forward air control, 212-13; Mosquito control, 216-17; Pathfinder, 218; artillery flak suppression, 219-22; ground radar directed bombing, 222-28; flare, 228-29; search and rescue, 298-304  
 Taechon, 53, 69, 148  
 Taegu, 17  
 Taegu Airfield (K-2), 17, 87, 105, 170-72, 178-79, 252-53, 262, 267, 271, 282, 290, 292  
 Taeryong River, 113-14  
 Taeyudong, 242  
 Ta-ku-shan, 41, 69  
 Tanchon, 102  
 Tang-dong, 27  
 Tapao, 41  
 Tarzon bombs, 131  
 Task Force 77, 12, 32, 46, 91, 98, 102, 134-39, 152, 188-91, 206-08  
 Ta-tung-kou, 32, 41, 69, 230  
 Taylor, Lt. Gen. Maxwell D.: 190-91, 201, 205, 226; evaluates Army helicopters, 296  
 "T-bone" hill, 204-05  
 Third Army, 213, 231  
 Thirteenth Air Force, 11, 19-20, 297  
 Thyng, Col. Harrison R., 61  
 Tientsin, 41  
 Togudong, 81  
 Tokchok-to, 146  
 Toksan irrigation dam, 127-31, 134  
 Toksang irrigation dam, 130  
 Tokyo Weather Control, 304-05, 310  
 Tongchon, 103  
 "Trailer Camp" project, 252-53

Training: shoran bombing, 22, 144, 148-50; Communist pilot, 46; ECM, 78; fighter-bomber conversion, 156-57; light bomber crews, 160-61; theater indoctrination and flying proficiency, 163-64; continuation flying, 164-65; engineer aviation, 180-81; air-ground operational, 200-01; airborne, 292-93

Triangle Hill, 8, 105, 188

"Triple Threat" exercise, 293

Truman, President Harry S.: directs FEC to support the ROK, 2; relieves MacArthur from command and states military objectives, 3; announces changes in UNC/FEC commanders, 8; approves recess in armistice negotiations, 8, 98; approves attack against hydroelectric facilities, 31; opposes forced repatriation of POW's, 93; advises CINCUNC not to lessen military pressure, 98

Tsingtao, 41

Tsuiki Air Base, 166-69

Tumen River, 29

Tunner, Maj. Gen. William H., 260, 277

Twentieth Air Force, 18-20, 142, 144, 297

## U

Uiju, 41, 69, 72, 106-07, 136-39

Underhill, Brig. Gen. E. H., 17

Unhyang-po, 133

United Nations: objectives and policies toward Korea, 1-4, 24; organization of UNC, 9; debates on Korean armistice, 104-05

United Nations Command: organization, 9; military strategy, 24; British deputy, 34

United States: national objectives and policies toward Korea, 1-4; accepts Indian truce proposal, 104

Units (numbered):

8081st Army, 262, 279, 281

8240th Army, 186

Unjong-ni, 71

Unsang-Dong, 133

Upthegrove, Brig. Gen. Fay R., 19

USAF: states need for joint theater staff, 11; logistic support to FEAF, 21, 153-54; states requirement for more powerful jet engine, 51; designs more effective weapons, 64; fixes B-29 strength of FEAF, 142-43; B-29 combat crew training, 149; programs F-86 fighter-bombers, 156-57; unable to provide requisite observers, 161; provides fighter pilots to Fifth Air Force, 162-63; orders wing-base reorganization (1947), 169; establishes Engineer Aviation Force, 172; concept of engineer aviation troop employment, 173; decision on TACP's, 213-14; cannot support RF-80 and RF-51 aircraft, 234; approves modifications of F-86's to reconnaissance configuration, 235-37; develops and procures photoflash bombs, 241; provides C-124 transports, 268; supplies support for C-124's, 268-69; C-119 conference, 273; programs 315th Troop Carrier Wing for conversion to C-119's, 276-77; actions on air terminals, 280-81; assigns helicopters to Air Rescue Service, 283, 294; agreements on Army organic aviation, 284-86, 295-96; delay in meeting aeromedical evacuation requirements, 287-88; aeromedical holding facilities, 288; approves creation of assault transport wings, 294-96; procures helicopters, 294-96



SECRET

SSR: 7, 30, 36; Sino-Soviet aviation agreement (1950), 39; reasons for supporting CCAF, 47-48; vulnerable to psychological warfare, 62-63; negotiations with China, 97-98; refuses to accept Indian truce proposal, 104; termination of Korean hostilities, 122-23

V

Vandenbergh, General Hoyt S.: 5, 85, 154, 284; explains USAF capabilities, 4; calls USAF a "shoe string Air Force," 21; questions radar sighting systems, 66; authorizes F-94 employment over North Korea, 75

Van Fleet, Lt. Gen. James A.: 105, 185-86; views on tactical air doctrine, 193-97; testifies on inadequate artillery, 195; views on air-ground training and experiments, 201-02; criticizes Mosquito control, 218; MPQ-bombing, 225; appreciates flare support, 240

Vector" project, 239, 241-42

Vishinsky, Foreign Minister A. Y., 93, 104

Vladivostok, 43, 46

W

Warburton, Brig. Gen. Ernest K., 17, 170-71

Watchcase, 91

WB-26, 306-07

WB-29, 305

Wescott, Maj. William H., 61

Weyland, General Otto P.: 101, 124-26, 132, 144-45, 154, 185-86, 193, 225, 248; assumes command of FEAF, 5; impatient with armistice negotiations, 7; recommends destruction of hydroelectric complex, 7; notes change in operations policy, 8; necessity for joint theater staff, 11; named "coordinating agent" for hydroelectric attacks, 13; naval representation on FEAF Formal Target Committee, 15; biographical data, 15-16; needs additional air units, 20; emphasizes FEAF's limited striking power, 23; recognizes value of air pressure, 25; records change in operations policy, 27; commands hydroelectric facilities attacks, 29-34; approves air pressure policy directive, 34; questions policy of limiting air attacks to military targets, 37; opinion on Communist air strategy, 46; compares F-86 and MIG-15, 50; favors radar gun sights, 65; wishes to attack Sinuiju and Uiju, 72, 106; agrees to combat limitations on B-29's, 73; AAA defenses, 87; reviews FEAF Formal Target Committee recommendations, 97; recommends massed air attacks against Pyongyang, 98-99; on psywar warnings, 103; suggests use of incendiaries, 107; approves continued air pressure, 123; irrigation dam attacks, 127-31; evaluates irrigation dam attacks, 130-31; accepts some loss of air effectiveness during LITTLE SWITCH, 133; comprehensive airfield attacks, 136-39; concerned over movements of shoran beacon stations, 146; evaluates F-86 fighter-bomber, 157; estimates proportion of close support to total combat effort, 184; views on air-ground training and experiments, 201-02; seeks solution to C-124 supply support, 269; refuses to divide airlift, 297

Whisner, Maj. William T., Jr., 61

White Horse mountain, 240

Wings (numbered):

- 1st Marine Air: 12, 17, 20, 23, 32, 58, 75-76, 81, 175, 195, 197, 223, 291, 301; support for Eighth Army operations, 184-92; coordination control, 205-6
- 3d Bombardment (Light), 17, 74, 110, 116, 134-35, 152, 154, 160-61, 166-67, 170, 192, 223, 228, 247, 301
- 4th Fighter-Interceptor, 17, 50-52, 56, 58-59, 61, 64, 68, 87-88, 131-32, 162-63, 167, 170
- 8th Fighter-Bomber, 17, 22, 88, 112, 131-32, 156-57, 162-63, 166-69, 187, 203, 218
- 17th Bombardment (Light), 17, 116, 134-35, 154, 160-61, 166, 176, 182-83, 191, 247
- 18th Fighter-Bomber, 17, 19, 21-22, 88, 131, 156-57, 162-63, 167, 175, 177, 223, 270n, 291
- 19th Bombardment (Medium), 142
- 31st Fighter-Escort, 19, 75
- 35th Fighter-Interceptor, 19
- 49th Fighter-Bomber, 17, 100, 155-56, 166, 170, 178, 182, 187
- 51st Fighter-Interceptor, 17, 19, 21, 45, 50-54, 56, 60-61, 68, 87-88, 110, 131-32, 162-63, 166-67, 200
- 58th Fighter-Bomber, 22n, 66, 127-29, 139, 155-57, 170-72, 187, 203-05
- 67th Tactical Reconnaissance: 17, 95-96, 101, 116, 133, 166-67, 170, 179, 200, 228, 245, 247, 304, 306; accomplishments, 231; problems and capabilities, 233-42, 248-60
- 90th Strategic Reconnaissance, 149
- 98th Bombardment (Medium), 18, 71, 73, 75-76, 80, 105, 113, 142, 147, 246-47, 298
- 116th Fighter-Bomber, 5, 19, 22, 22n
- 136th Fighter-Bomber, 17, 22n, 155, 166
- 307th Bombardment (Medium), 18, 71, 74, 77, 107, 142, 246-47, 298
- 315th Troop Carrier, 18, 228, 265, 276-77, 292
- 374th Troop Carrier, 18, 263-64, 267-72, 278-79, 282
- 403d Troop Carrier, 18, 265-67, 292-93
- 452d Bombardment (Light), 154, 160, 166
- 474th Fighter-Bomber, 22, 22n, 120, 129, 132, 139, 155-56, 164, 170, 176, 203, 291
- 483d Troop Carrier, 267, 272-76
- 581st Air Resupply and Communications, 19, 232, 302
- 2143d Air Weather, 304-5
- 6160th Air Base, 171
- 6332d Air Base, 142
- 6400th Air Depot, 143
- Wolfpack guerrillas, 187
- Wonsan, 6, 29, 53, 55, 100, 102, 106, 111, 133, 255-56, 299, 301
- Wonsan airfield, 136, 139
- Wright Air Development Center, 52, 64-68, 80, 244
- Wright, Brig. Gen. Stuart P., 17

SECRET



Y

Yak-15, 47, 69, 75  
 Yangsi, 132-33  
 Yellow Sea, 47, 64, 302, 305  
 Yo-do, 299, 301, 306  
 Yokohama, 265  
 Yokota Air Base, 18, 96, 142, 144, 146-47, 232  
 Yonan, 37, 100  
 Yongampo, 125, 133  
 Yongdang-dong airfield, 136

Yongdungpo, 89  
 Yongmi-dong, 112-20, 134-36  
 Yongpong-dong, 125, 133  
 Yong-san, 177  
 Yongyu airfield, 136  
 Yonpo, 103  
 Yonpo airfield, 136, 139

Z

Zimmerman, Brig. Gen. Don Z., 94, 97



